Appendix F

Fate and Transport Modeling Documentation

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Contents

Environmental Calculation

ECF-Hanford-10-0442	Calculation of Nonradiological Soil Concentrations Protective of Groundwater Usin the Fixed Parameter 3-Phase Equilibrium Partitioning Equation for the 100Areas and 300 Area	F-1
ECF-Hanford-11-0165	Evaluation of Hexavalent Chromium Leach Test Data Conducted on Vadose Zone Sediment Samples from the 100 Area	F-54
ECF-Hanford-12-0004	STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas	F-87
ECF-100FR1-11-0085	Comparison of the 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soi Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water	F-175
ECF-100FR1-11-0086	Comparison of the 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Preliminary Remediation Goals Protective of Groundwater and Preliminary Remediation Goals Protective of Surface Water	F-480
ECF-100FR3-11-0116	Modeling of RI/FS Design Alternatives for 100-FR-3	F-500
ECF-100FR1-11-0093	Comparison of 100-IU-2/IU-6 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water	F-645
ECF-100FR1-12-0047	Comparison of 100-IU-2 and 100-IU-6 Source Operable Unit Exposure Point Concentrations to Preliminary Remediation Goals Protective of Groundwater and Preliminary Remediation Goals Protective of Surface Water	F-789

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CHPRC ADMINISTRATIVE DOCUMENT PROCESSING AND APPROVAL

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Calculation of Nonradiological Soil Concentrations Protective of Groundwater Using the Fixed Parameter 3-Phase Equilibrium Partitioning Equation for the 100 Areas and 300 Area	CHPRC EP&SP

Document Number: ECF-Hanford-10-0442 **Revision/Change Number:** 1

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RESPONSIBLE CONTACTS

Name	Phone Number
Author: Kristin Scott	376-7355
Manager: Alaa Aly	376-0300

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REVIEWERS **Others**

Name *(print)*	Organization
Doug Evans	CHPRC

APPROVAL SIGNATURES

Author: Alaa Aly for K. Scott	3/19/12 Date	RELEASE / ISSUE
Name: (Print) K Scott		
Responsible Manager: Alaa Aly	3/19/12 Date	DATE: Apr 10, 2012 HANFORD RELEASE
Name: (print) AH Aly		
Other:	Date	
Name: (print)		

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- [x] Report
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General Counsel	[x]	RT Swenson	Approved via IDMS data file	Y / N
Office of External Affairs	[ ]			Y / N
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APPROVED
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ECF-HANFORD-10-0442
Revision 1

Calculation of Nonradiological Soil Concentrations Protective of Groundwater Using the Fixed Parameter 3-Phase Equilibrium Partitioning Equation for the 100 Areas and 300 Area

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

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DOE/RL-2010-98, DRAFT A
DECEMBER 2012

ECF-HANFORD-10-0442
Revision 1

Calculation of Nonradiological Soil Concentrations Protective of Groundwater Using the Fixed Parameter 3-Phase Equilibrium Partitioning Equation for the 100 Areas and 300 Area

Document Type: ENV Program/Project: EP&SP

K. M. SCOTT
INTERA

Date Published
March 2012

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

APPROVED
By Shauna E. Adams at 10:49 am, Apr 10, 2012

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Environmental Calculation Cover Page

Part 1: Completed by the Responsible Manager

Project: 100 and 300 Areas RI/FS **Date:** 7 March 2012

Calculation Title & Description: Calculation of Nonradiological Soil Concentrations Protective of Groundwater Using the Fixed Parameter 3-Phase Equilibrium Partitioning Equation for the 100 Areas and 300 Area

Preparer: Kristin Scott	**Basis of Qualification:** Education & experience
Checker: Ian Ross	**Basis of Qualification:** Education & experience
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Part 3: Document Review & Approval:

Preparer:
Kristin Scott / Risk Assessor
NAME/POSITION
for K. Scott 3/19/12
SIGNATURE DATE

Checker:
Ian Ross / Risk Assessor
NAME/POSITION
for I. Ross 3/19/2012
SIGNATURE DATE

Senior Reviewer:
Doug Evans / Geologist-Risk Assessor
NAME/POSITION
3/19/2012
SIGNATURE DATE

Responsible Manager:
Alaa Aly / Risk and Modeling Integration Manager
NAME/POSITION
3/19/12
SIGNATURE DATE

Contents

1 Purpose 1
2 Background 1
3 Methodology 2
3.1 Equation 747-1—Fixed Parameter Three-Phase Partitioning Model 3
3.2 Equation 747-2—Distribution Coefficient 3
4 Assumptions and Inputs 3
5 Software Applications 33
6 Calculation 33
7 Results/Conclusions 33
8 References 44

Terms

CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CLARC	Cleanup Levels and Risk Calculations
DF	dilution factor
DOE	U.S. Department of Energy
ECF	environmental calculation file
EPA	U.S. Environmental Protection Agency
K_d	distribution coefficient
MCL	maximum contaminant level
MCLG	maximum contaminant level goal
MRDL	maximum residual disinfectant level
NAPL	non-aqueous phase liquid
ORNL	Oak Ridge National Laboratory
PRG	Preliminary Remediation Goal
RAIS	Risk Assessment Information System
RI/FS	Remedial Investigation/Feasibility Study
WAC	Washington Administrative Code

1 Purpose

This Environmental Calculation documents the methods, assumptions, and results obtained with the fixed parameter three-phase partitioning model as described in the Washington Administrative Code (WAC) Section 173-340-747, "Deriving Soil Concentrations for Ground Water Protection."

Under WAC 173-340-747 the fixed parameter three-phase equation is used to derive soil concentrations protective of groundwater. This Environmental Calculation documents the results from using the equation to derive soil concentrations protective of groundwater. Soil concentrations protective of groundwater are developed in this Environmental Calculation by using the fixed parameter three-phase equation with groundwater cleanup levels rather than surface cleanup levels as specified in WAC 173-340-747. Further details on the calculation methodology are provided in Section 3.

2 Background

Vadose zone transport modeling is performed to estimate concentrations in soil protective of groundwater. Modeling used to develop concentrations in soil for groundwater protection will be developed using a graded approach. In simple terms, the graded approach calls for building models that are only as complex as needed to avoid overly conservative results. The fixed parameter three-phase equation is a highly simplified model with limited data needs, which reflects an initial step in the graded approach. The fixed parameter three-phase equation is drawn from U.S. Environmental Protection Agency (EPA) guidance presented in EPA/540/R-96/018, *Soil Screening Guidance: User's Guide*," and is based on conservative, simplifying assumptions about the release and transport of contaminants in the subsurface.

The concentrations protective of groundwater developed with the fixed parameter three-phase equation may be used as screening levels for data evaluation or as PRGs in the CERCLA RI/FS processes. According to EPA guidance presented in EPA/540/R-92/003, *Risk Assessment Guidance for Superfund, Volume I – Human Health Evaluation Manual, Part B, Development of Risk-Based Preliminary Remediation Goals,* PRGs should be modified, as necessary, as more information becomes available during the RI/FS. State of Washington requirements in WAC 173-340-747(3), "Overview of Methods" provide for a range of methods to calculate concentrations in soil protective of groundwater, and acknowledge that certain methods are tailored for particular types of hazardous substances or sites, which reflect a graded approach.

WAC 173-340-747(3) lists seven methods for deriving soil concentrations. Several of these methods, highlighted in bold below, reflect the graded approach for calculating concentrations in soil protective of groundwater:

- **Fixed parameter three-phase partitioning model** (described in this Environmental Calculation)
- **Variable parameter three-phase partitioning model**
- Four-phase partitioning model (addresses non-aqueous phase liquids or NAPL)
- **Leaching tests**
- **Alternate Fate-and-Transport Model(s)**
- **Empirical demonstration**
- Residual saturation (NAPL)

Depending on site-specific conditions, a more rigorous and detailed modeling approach beyond the fixed parameter three-phase equation may be needed to refine PRGs to support development of final remediation levels or remedial design.

3 Methodology

Soil concentrations for groundwater protection are calculated for nonradiological constituents using Equation 747-1 from WAC 173-340-747(4), "Fixed Parameter Three-Phase Partitioning Model." Default input parameters that are intended to be protective under most circumstances are defined within the equation. In this methodology, soil concentrations protective of groundwater are back calculated from a protective groundwater concentration. The protective groundwater concentration is multiplied by a dilution factor (DF) that represents the reduction in soil leachate concentration caused by mixing in the aquifer, and then a standard linear equilibrium soil/water partitioning equation is used to calculate a soil concentration corresponding to the adjusted groundwater concentration.

Chemical-specific distribution coefficients (K_ds) presented in DOE/RL-96-17, *Remedial Design Report/Remedial Action Work Plan for the 100 Area* are used preferentially in the calculations, and Equation 747-2 from WAC 173-340-747 is used to calculate K_d values for organic constituents if one is not published.

The specific steps taken to calculate soil concentrations protective of groundwater for nonradioactive contaminants using the fixed parameter three-phase equation are as follows:

1. Identify Equation 747-1 and Equation 747-2 from WAC 173-340-747 to derive soil concentrations for groundwater protection.
2. Identify the chemical-specific K_d values from DOE/RL-96-17.
3. For organic contaminants not listed in DOE/RL-96-17, identify the chemical-specific soil organic carbon-water partitioning coefficients for use as an input parameter within Equation 747-2.
4. Identify the input parameters within Equation 747-1 from WAC 173-340-747(4) to calculate soil concentrations for groundwater protection.
5. Identify the lower of the Federal or State MCL or the Standard Method B groundwater cleanup level calculated in accordance with WAC 173-340-720, "Ground Water Cleanup Standards," for each analyte.
6. Calculate soil concentrations for groundwater protection.
7. Document default and chemical-specific input parameters, chemical-specific groundwater cleanup levels, and the primary source in a summary table.

The following sections present the fixed parameter three-phase equation used to derive soil concentrations for groundwater protection and the equation used to calculate chemical-specific K_ds for organic constituents. Definitions of variables and input values for the equations are presented in Table 3-1.

3.1 Equation 747-1—Fixed Parameter Three-Phase Partitioning Model

For nonradiological constituents, soil concentrations for groundwater protection are calculated using Equation 747-1 from WAC 173-340-747 as follows.

$$C_s = C_w(UCF)DF\left[K_d + \frac{(\theta_w + \theta_a H_{cc})}{\rho_b}\right]$$

3.2 Equation 747-2—Distribution Coefficient

For organic constituents, K_ds are calculated using Equation 747-2 from WAC 173-340-747 as follows.

$$K_d = K_{oc} \times f_{oc}$$

Table 3-1. Summary of Parameters Used to Calculate Soil Concentrations for Groundwater Protection

Parameter	Symbol	Value	Units	Source
Contaminant concentration in soil	Cs	Calculated	mg/kg	See Table 4-3
Contaminant concentration in groundwater	Cw	Calculated	µg/L	See Table 4-1
Dilution factor	DF	20	dimensionless	WAC 173-340-747(4) Equation 747-1
Soil fraction of organic carbon	foc	0.001	g/g	WAC 173-340-747(4) Equation 747-2
Henry's law constant	Hcc	Chemical-specific	dimensionless	See Table 4-3
Distribution coefficient	Kd	Chemical-specific	L/kg	DOE/RL-96-17 Rev. 6 Appendix E
Soil organic carbon-water partitioning coefficient	Koc	Chemical-specific	ml/g	See Table 4-3
Dry soil bulk density	ρ_b	1.5	kg/L	WAC 173-340-747(4) Equation 747-1
Unit conversion factor	UCF	0.001	mg/µg	WAC 173-340-747(4) Equation 747-1
Air-filled soil porosity	θ_a	0.13	ml air/ml soil	WAC 173-340-747(4) Equation 747-1
Water-filled soil porosity	θ_w	0.3	ml water/ml soil	WAC 173-340-747(4) Equation 747-1

Notes:

DOE/RL-96-17, *Remedial Design Report/Remedial Action Work Plan for the 100 Area*.

WAC 173-340-747(4), "Model Toxics Control Act—Cleanup, Deriving Soil Concentrations for Groundwater Protection, Fixed Parameter Three-Phase Partitioning Model."

4 Assumptions and Inputs

The fixed-parameter three-phase model involves several simplifying assumptions (EPA/540/R-96/018), which are listed below:

- The source is infinite (i.e., steady-state concentrations will be maintained in ground water over the exposure period of interest).
- Contaminants are uniformly distributed throughout the zone of contamination.
- Soil contamination extends from the surface to the water table.
- There is no chemical or biological degradation in the unsaturated zone.
- Equilibrium soil/water partitioning is instantaneous and linear in the contaminated soil.
- The receptor well is at the edge of the source (i.e., there is no dilution from recharge downgradient of the site) and is screened within the plume.
- The aquifer is unconsolidated and unconfined (surficial).
- Aquifer properties are homogeneous and isotropic.
- There is no attenuation (i.e., adsorption or degradation) of contaminants in the aquifer.
- Non-aqueous phase liquids (NAPLs) are not present at the site.

The default input parameters and chemical-specific parameters used to calculate soil concentrations for groundwater protection are presented in Table 3-1 and Tables 4-1 through 4-3. The key assumptions and inputs for the calculations are as follows:

- Default and chemical-specific parameters are used to calculate soil concentrations for groundwater protection. The sources of the input parameters are listed in Table 3-1.
- Air-filled soil porosity, water-filled soil porosity, dry bulk density, and the dilution factor are default values defined in Equation 747-1 and are listed in Table 3-1.
- The protective groundwater concentration used in Equation 747-1 is the lower of the Federal or State MCL or WAC 173-340-720 Standard Method B groundwater cleanup level.
- Federal MCLs represent MCLs, secondary MCLs, and non-zero maximum contaminant level goals (MCLGs) established under the *Safe Drinking Water Act of 1974* and are listed in Table 4-1.
- State MCLs are published under WAC 246-290-310, "Maximum Contaminant Levels (MCLs) and Maximum Residual Disinfectant Levels (MRDLs)" and are listed in Table 4-1.
- Standard Method B groundwater cleanup levels are calculated in accordance with WAC 173-340-720 as documented in ECF-100NPL-10-0462, *Environmental Calculation of WAC 173-374-720 Method B Groundwater Cleanup Levels for Potable Groundwater in the 100 Areas and 300 Area.* These values are listed in Table 4-1.
- With the exception of arsenic, K_d values are obtained preferentially from Appendix E of DOE/RL-96-17 and are listed in Table 4-2. The arsenic K_d value is obtained from the Ecology CLARC database (Ecology, 2010). For organic constituents not identified in DOE/RL-96-17, K_d values are calculated using Equation 747-2. For inorganic constituents not identified in the DOE/RL-96-17, K_d values are obtained directly from tabulated sources (see next bullet).

- Chemical-specific values for Henry's law constant, soil organic carbon-water partitioning coefficient, and K_d for inorganic constituents not identified in DOE/RL-96-17 are obtained from the following sources, in order of preference, and are listed in Table 4-3:
    - Washington State Department of Ecology's "Cleanup Levels and Risk Calculations (CLARC)" web site (Ecology, 2010) (https://fortress.wa.gov/ecy/clarc/CLARCOverview.aspx)
    - EPA's "Regional Screening Levels for Chemical Contaminants at Superfund Sites" web site (EPA, 2010) (http://www.epa.gov/reg3hscd/risk/human/rb-concentration_table/)
    - Oak Ridge National Laboratory's (ORNL) Risk Assessment Information System (RAIS) (ORNL, 2010) (http://rais.ornl.gov/cgi-bin/tools/TOX_search?select=chem)

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
71-55-6	1,1,1-Trichloroethane	Trichloroethane;1,1,1-	µg/L	--	16,000	--	200	200	--	200	Federal MCLG
79-34-5	1,1,2,2-Tetrachloroethane	tetrachloroethane;1,1,2,2-	µg/L	--	0.22	--	--	--	--	0.22	WAC 173-340-720(4)(b)(iii)
79-00-5	1,1,2-Trichloroethane	trichloroethane;1,1,2-	µg/L	--	0.77	--	3.0	5.0	--	0.77	WAC 173-340-720(4)(b)(iii)
75-34-3	1,1-Dichloroethane	dichloroethane;1,1-	µg/L	--	1,600	--	--	--	--	1,600	WAC 173-340-720(4)(b)(iii)
75-35-4	1,1-Dichloroethene	Dichloroethene;1,1-	µg/L	--	400	--	7.0	7.0	--	7.0	Federal MCLG
120-82-1	1,2,4-Trichlorobenzene	trichlorobenzene;1,2,4-	µg/L	--	1.5	--	70	70	--	1.5	WAC 173-340-720(4)(b)(iii)
95-50-1	1,2-Dichlorobenzene	dichlorobenzene;1,2- (ortho-Dichlorobenzene)	µg/L	--	720	--	600	600	--	600	Federal MCLG
107-06-2	1,2-Dichloroethane	dichloroethane;1,2-	µg/L	--	0.48	--	--	5.0	--	0.48	WAC 173-340-720(4)(b)(iii)
540-59-0	1,2-Dichloroethene (Total)	dichloroethylene,1,2- (mixed isomers)	µg/L	--	72	--	--	--	--	72	WAC 173-340-720(4)(b)(iii)
78-87-5	1,2-Dichloropropane	dichloropropane;1,2-	µg/L	--	1.2	--	--	5.0	--	1.2	WAC 173-340-720(4)(b)(iii)
541-73-1	1,3-Dichlorobenzene	dichlorobenzene;1,3	µg/L	No Cleanup Level	--	--	--	--	--	--	--
106-46-7	1,4-Dichlorobenzene	dichlorobenzene;1,4- (para-Dichlorobenzene)	µg/L	--	8.1	--	75	75	--	8.1	WAC 173-340-720(4)(b)(iii)
93-76-5	2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	Trichlorophenoxyacetic Acid, 2,4,5-	µg/L	--	160	--	--	--	--	160	WAC 173-340-720(4)(b)(iii)
93-72-1	2,4,5-TP(2-(2,4,5-Trichlorophenoxy)propionic acid)Silvex	Trichlorophenoxypropionic acid, -2,4,5	µg/L	--	128	--	50	50	--	50	Federal MCLG
95-95-4	2,4,5-Trichlorophenol	Trichlorophenol;2,4,5-	µg/L	--	800	--	--	--	--	800	WAC 173-340-720(4)(b)(iii)
88-06-2	2,4,6-Trichlorophenol	Trichlorophenol2,4,6-	µg/L	--	4.0	--	--	--	--	4.0	WAC 173-340-720(4)(b)(iii)
94-82-6	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	Dichlorophenoxy)butyric Acid, 4-(2,4-	µg/L	--	128	--	--	--	--	128	WAC 173-340-720(4)(b)(iii)
120-83-2	2,4-Dichlorophenol	dichlorophenol;2,4-	µg/L	--	24	--	--	--	--	24	WAC 173-340-720(4)(b)(iii)

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
94-75-7	2,4-Dichlorophenoxyacetic acid	Dichlorophenoxy Acetic Acid, 2,4-	µg/L	--	160	--	70	70	--	70	Federal MCLG
105-67-9	2,4-Dimethylphenol	dimethylphenol;2,4-	µg/L	--	160	--	--	--	--	160	WAC 173-340-720(4)(b)(iii)
51-28-5	2,4-Dinitrophenol	dinitrophenol;2,4-	µg/L	--	32	--	--	--	--	32	WAC 173-340-720(4)(b)(iii)
121-14-2	2,4-Dinitrotoluene	dinitrotoluene;2,4-	µg/L	--	0.28	--	--	--	--	0.28	WAC 173-340-720(4)(b)(iii)
606-20-2	2,6-Dinitrotoluene	dinitrotoluene;2,6-	µg/L	--	16	--	--	--	--	16	WAC 173-340-720(4)(b)(iii)
78-93-3	2-Butanone	methyl ethyl ketone (MEK; 2-butanone)	µg/L	--	4,800	--	--	--	--	4,800	WAC 173-340-720(4)(b)(iii)
111-76-2	2-Butoxyethanol	ethylene glycol monobutyl ether (EGBE)	µg/L	--	800	--	--	--	--	800	WAC 173-340-720(4)(b)(iii)
91-58-7	2-Chloronaphthalene	beta-chloronaphthalene	µg/L	--	640	--	--	--	--	640	WAC 173-340-720(4)(b)(iii)
95-57-8	2-Chlorophenol	Chlorophenol;2-	µg/L	--	40	--	--	--	--	40	WAC 173-340-720(4)(b)(iii)
591-78-6	2-Hexanone	HEXANONE;2- [MBK, methyl butyl ketone]	µg/L	--	40	--	--	--	--	40	WAC 173-340-720(4)(b)(iii)
91-57-6	2-Methylnaphthalene	methylnapthalene;2-	µg/L	--	32	--	--	--	--	32	WAC 173-340-720(4)(b)(iii)
95-48-7	2-Methylphenol (cresol, o-)	cresol;o-	µg/L	--	400	--	--	--	--	400	WAC 173-340-720(4)(b)(iii)
88-74-4	2-Nitroaniline	nitroaniline, 2-	µg/L	--	160	--	--	--	--	160	WAC 173-340-720(4)(b)(iii)
88-75-5	2-Nitrophenol	nitrophenol;2-	µg/L	No Cleanup Level	--	--	--	--	--	--	--
91-94-1	3,3'-Dichlorobenzidine	dichlorobenzidine;3,3'-	µg/L	--	0.19	--	--	--	--	0.19	WAC 173-340-720(4)(b)(iii)
65794-96-9	3+4 Methylphenol (cresol, m+p)	methylphenol,3+4 (cresol, m+p)	µg/L	No Cleanup Level	--	--	--	--	--	--	--
99-09-2	3-Nitroaniline	nitroaniline, 3-	µg/L	--	4.2	--	--	--	--	4.2	WAC 173-340-720(4)(b)(iii)

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
72-54-8	4,4'-DDD (Dichlorodiphenyldichloroethane)	ddd	µg/L	--	0.36	--	--	--	--	0.36	WAC 173-340-720(4)(b)(iii)
72-55-9	4,4'-DDE (Dichlorodiphenyldichloroethylene)	dde	µg/L	--	0.26	--	--	--	--	0.26	WAC 173-340-720(4)(b)(iii)
50-29-3	4,4'-DDT (Dichlorodiphenyltrichloroethane)	ddt	µg/L	--	0.26	--	--	--	--	0.26	WAC 173-340-720(4)(b)(iii)
534-52-1	4,6-Dinitro-2-methylphenol	dinitro-2-methylphenol;4,6-	µg/L	--	1.3	--	--	--	--	1.3	WAC 173-340-720(4)(b)(iii)
1918-02-1	4-Amino-3,5,6-trichloropicolinic acid	picloram	µg/L	--	1,120	--	500	500	500	500	Federal MCLG
101-55-3	4-Bromophenylphenyl ether	bromodiphenyl ether;4-	µg/L	No Cleanup Level	--	--	--	--	--	--	--
59-50-7	4-Chloro-3-methylphenol	chloro-3-methylphenol;4-	µg/L	--	1,600	--	--	--	--	1,600	WAC 173-340-720(4)(b)(iii)
106-47-8	4-Chloroaniline	chloroaniline;p-	µg/L	--	0.22	--	--	--	--	0.22	WAC 173-340-720(4)(b)(iii)
7005-72-3	4-Chlorophenylphenyl ether	chlorodiphenyl ether;4-	µg/L	No Cleanup Level	--	--	--	--	--	--	--
108-10-1	4-Methyl-2-pentanone	methyl isobutyl ketone	µg/L	--	640	--	--	--	--	640	WAC 173-340-720(4)(b)(iii)
106-44-5	4-Methylphenol (cresol, p-)	cresol;p-	µg/L	--	40	--	--	--	--	40	WAC 173-340-720(4)(b)(iii)
100-01-6	4-Nitroaniline	nitroaniline, 4-	µg/L	--	4.4	--	--	--	--	4.4	WAC 173-340-720(4)(b)(iii)
100-02-7	4-Nitrophenol	nitrophenol;4-	µg/L	--	128	--	--	--	--	128	WAC 173-340-720(4)(b)(iii)
83-32-9	Acenaphthene	acenaphthene	µg/L	--	960	--	--	--	--	960	WAC 173-340-720(4)(b)(iii)
208-96-8	Acenaphthylene	acenaphthylene (Not in CLARC database tables; use acenaphthene as surrogate)	µg/L	No Cleanup Level	--	--	--	--	--	--	--
67-64-1	Acetone	Acetone	µg/L	--	7,200	--	--	--	--	7,200	WAC 173-340-720(4)(b)(iii)

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
107-13-1	Acrylonitrile	Acrylonitrile	µg/L	--	0.081	--	--	--	--	0.081	WAC 173-340-720(4)(b)(iii)
309-00-2	Aldrin	aldrin	µg/L	--	0.0026	--	--	--	--	0.0026	WAC 173-340-720(4)(b)(iii)
319-84-6	Alpha-BHC	hexachlorocyclohexane;alpha (alpha-BHC, HCH)	µg/L	--	0.014	--	--	--	--	0.014	WAC 173-340-720(4)(b)(iii)
5103-71-9	Alpha-Chlordane	Alpha-Chlordane	µg/L	--	0.25	--	--	2.0	--	0.25	WAC 173-340-720(4)(b)(iii)
7429-90-5	Aluminum	Aluminum (soluable)	µg/L	--	16,000	--	--	50	--	50	Federal MCL
120-12-7	Anthracene	anthracene	µg/L	--	4,800	--	--	--	--	4,800	WAC 173-340-720(4)(b)(iii)
7440-36-0	Antimony	antimony	µg/L	--	6.4	--	6.0	6.0	6.0	6.0	Federal MCLG
12674-11-2	Aroclor-1016	aroclor 1016 (PCB)	µg/L	--	1.1	--	--	0.50		0.50	Federal MCL
11104-28-2	Aroclor-1221	aroclor 1221 [PCB]	µg/L	--	0.044	--	--	0.50		0.044	WAC 173-340-720(4)(b)(iii)
11141-16-5	Aroclor-1232	aroclor 1232 [PCB]	µg/L	--	0.044	--	--	0.50		0.044	WAC 173-340-720(4)(b)(iii)
53469-21-9	Aroclor-1242	aroclor 1242 [PCB]	µg/L	--	0.044	--	--	0.50		0.044	WAC 173-340-720(4)(b)(iii)
12672-29-6	Aroclor-1248	aroclor 1248 [PCB]	µg/L	--	0.044	--	--	0.50		0.044	WAC 173-340-720(4)(b)(iii)
11097-69-1	Aroclor-1254	aroclor 1254 (PCB)	µg/L	--	0.044	--	--	0.50		0.044	WAC 173-340-720(4)(b)(iii)
11096-82-5	Aroclor-1260	aroclor 1260 (PCB)	µg/L	--	0.044	--	--	0.50		0.044	WAC 173-340-720(4)(b)(iii)
7440-38-2	Arsenic	arsenic, inorganic	µg/L	--	0.058	--	--	10	10	0.058	WAC 173-340-720(4)(b)(iii)
7440-39-3	Barium, compounds	Barium	µg/L	--	3,200	--	2,000	2,000	2,000	2,000	Federal MCLG
71-43-2	Benzene	Benzene	µg/L	--	0.80	--	--	5.0	--	0.80	WAC 173-340-720(4)(b)(iii)
56-55-3	Benzo(a)anthracene	Benzo(a)anthracene	µg/L	--	0.12	--	--	--	--	0.12	WAC 173-340-720(4)(b)(iii)
50-32-8	Benzo(a)pyrene	Benzo(a)pyrene	µg/L	--	0.012	--	--	0.20	--	0.012	WAC 173-340-720(4)(b)(iii)
205-99-2	Benzo(b)fluoranthene	Benzo(b)fluoranthene	µg/L	--	0.12	--	--	--	--	0.12	WAC 173-340-720(4)(b)(iii)

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
191-24-2	Benzo(ghi)perylene	BENZO(g,h,i)PERYLENE (using pyrene as a surrogate)	µg/L	No Cleanup Level	--	--	--	--	--	--	--
207-08-9	Benzo(k)fluoranthene	Benzo(k)fluoranthene	µg/L	--	0.12	--	--	--	--	0.12	WAC 173-340-720(4)(b)(iii)
7440-41-7	Beryllium	beryllium	µg/L	--	32	--	4.0	4.0	4.0	4.0	Federal MCLG
319-85-7	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	hexachlorocyclohexane;beta-	µg/L	--	0.049	--	--	--	--	0.049	WAC 173-340-720(4)(b)(iii)
108-60-1	Bis(2-chloro-1-methylethyl)ether	bis(2-chloro-1-methyl-ethyl)ether	µg/L	--	0.63	--	--	--	--	0.63	WAC 173-340-720(4)(b)(iii)
111-91-1	Bis(2-Chloroethoxy)methane	bis(2-chloroethoxyl)methane	µg/L	--	48	--	--	--	--	48	WAC 173-340-720(4)(b)(iii)
111-44-4	Bis(2-chloroethyl) ether	bis(2-chloroethyl)ether	µg/L	--	0.040	--	--	--	--	0.040	WAC 173-340-720(4)(b)(iii)
117-81-7	Bis(2-ethylhexyl) phthalate	bis(2-ethylhexyl) phthalate	µg/L	--	6.3	--	--	6.0	--	6.0	Federal MCL
7440-69-9	Bismuth	Bismuth	µg/L	No Cleanup Level	--	--	--	--	--	--	--
7440-42-8	Boron	Boron	µg/L	--	3,200	--	--	--	--	3,200	WAC 173-340-720(4)(b)(iii)
24959-67-9	Bromide	Bromide	µg/L	No Cleanup Level	--	--	--	--	--	--	--
75-27-4	Bromodichloromethane	bromodichloromethane	µg/L	--	0.71	--	--	80	--	0.71	WAC 173-340-720(4)(b)(iii)
75-25-2	Bromoform	bromoform	µg/L	--	5.5	--	80	--	--	5.5	WAC 173-340-720(4)(b)(iii)
74-83-9	Bromomethane	bromomethane	µg/L	--	11	--	--	--	--	11	WAC 173-340-720(4)(b)(iii)
85-68-7	Butylbenzylphthalate	butyl benzyl phthalate	µg/L	--	46	--	--	--	--	46	WAC 173-340-720(4)(b)(iii)
7440-43-9	Cadmium	cadmium	µg/L	--	8.0	--	5.0	5.0	5.0	5.0	Federal MCLG
7440-70-2	Calcium	Calcium	µg/L	Essential Nutrient	--	--	--	--	--	--	--
86-74-8	Carbazole	carbazole	µg/L	--	4.4	--	--	--	--	4.4	WAC 173-340-

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		720(4)(b)(iii)
75-15-0	Carbon disulfide	carbon disulfide	µg/L	--	800	--	--	--	--	800	WAC 173-340-720(4)(b)(iii)
56-23-5	Carbon tetrachloride	carbon tetrachloride	µg/L	--	0.34	--	--	5.0	--	0.34	WAC 173-340-720(4)(b)(iii)
57-74-9	Chlordane	chlordane	µg/L	--	0.25	--	--	2.0	--	0.25	WAC 173-340-720(4)(b)(iii)
16887-00-6	Chloride	chloride	µg/L	--	--	--	--	--	250,000	250,000	State MCL
108-90-7	Chlorobenzene	chlorobenzene	µg/L	--	160	--	100	100	--	100	Federal MCLG
75-00-3	Chloroethane	ethyl chloride	µg/L	No Cleanup Level	--	--	--	--	--	--	--
67-66-3	Chloroform	chloroform	µg/L	--	1.4	--	--	70	--	1.4	WAC 173-340-720(4)(b)(iii)
74-87-3	Chloromethane	chloromethane	µg/L	No Cleanup Level	--	--	--	--	--	--	--
7440-47-3	Chromium	chromium (total)	µg/L	--	24,000	--	100	100	100	100	Federal MCLG
218-01-9	Chrysene	Chrysene	µg/L	--	1.2	--	--	--	--	1.2	WAC 173-340-720(4)(b)(iii)
156-59-2	cis-1,2-Dichloroethylene	dichloroethylene;1,2-,cis	µg/L	--	80	--	70	70	--	70	Federal MCLG
10061-01-5	cis-1,3-Dichloropropene	dichloropropene;1,2-,cis	µg/L	--	0.44	--	--	--	--	0.44	WAC 173-340-720(4)(b)(iii)
7440-48-4	Cobalt	Cobalt	µg/L	--	4.8	--	--	--	--	4.8	WAC 173-340-720(4)(b)(iii)
PCB1242/1016	Co-elution of Aroclor 1242 and Aroclor 1016	Co-elution of Aroclor 1242 and Aroclor 1017	µg/L	No Cleanup Level	--	--	--	--	--	--	--
7440-50-8	Copper	copper	µg/L	--	640	--	1,300	1,300	1,300	640	WAC 173-340-720(4)(b)(iii)
57-12-5	Cyanide	cyanide	µg/L	--	320	--	200	200	200	200	Federal MCLG
75-99-0	Dalapon	Dalapon	µg/L	--	240	--	200	200	--	200	Federal MCLG
319-86-8	Delta-BHC	hexachlorocyclohexane;delta-	µg/L	No Cleanup Level	--	--	--	--	--	--	--
53-70-3	Dibenz[a,h]anthracene	Dibenz[a,h]anthracene	µg/L	--	0.12	--	--	--	--	0.12	WAC 173-340-

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CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
											720(4)(b)(iii)
132-64-9	Dibenzofuran	dibenzofuran	µg/L	--	16	--	--	--	--	16	WAC 173-340-720(4)(b)(iii)
124-48-1	Dibromochloromethane	chlorodibromomethane [dibromochloromethane]	µg/L	--	0.52	--	60	60	--	0.52	WAC 173-340-720(4)(b)(iii)
1918-00-9	Dicamba	Dicamba	µg/L	--	480	--	--	--	--	480	WAC 173-340-720(4)(b)(iii)
120-36-5	Dichloroprop	Dichloroprop	--	No Cleanup Level	--	--	--	--	--	--	--
60-57-1	Dieldrin	dieldrin	µg/L	--	0.0055	--	--	--	--	0.0055	WAC 173-340-720(4)(b)(iii)
60-29-7	Diethyl ether	ethyl ether	µg/L	--	1,600	--	--	--	--	1,600	WAC 173-340-720(4)(b)(iii)
84-66-2	Diethylphthalate	diethyl phthalate	µg/L	--	12,800	--	--	--	--	12,800	WAC 173-340-720(4)(b)(iii)
131-11-3	Dimethyl phthalate	dimethyl phthalate	µg/L	No Cleanup Level	--	--	--	--	--	--	--
84-74-2	Di-n-butylphthalate	di-butyl phthalate	µg/L	--	1,600	--	--	--	--	1,600	WAC 173-340-720(4)(b)(iii)
117-84-0	Di-n-octylphthalate	di-n-octyl phthalate	µg/L	No Cleanup Level	--	--	--	--	--	--	--
88-85-7	Dinoseb(2-secButyl-4,6-dinitrophenol)	Dinoseb	µg/L	--	16	--	7.0	7.0	--	7.0	Federal MCLG
959-98-8	Endosulfan I	Endosulfan I	µg/L	--	96	--	--	--	--	96	WAC 173-340-720(4)(b)(iii)
33213-65-9	Endosulfan II	Endosulfan II	µg/L	--	96	--	--	--	--	96	WAC 173-340-720(4)(b)(iii)
1031-07-8	Endosulfan sulfate	Endosulfan sulfate	µg/L	No Cleanup Level	--	--	--	--	--	--	--
72-20-8	Endrin	endrin	µg/L	--	4.8	--	2.0	2.0	--	2.0	Federal MCLG
7421-93-4	Endrin aldehyde	Endrin aldehyde	µg/L	No Cleanup	--	--	--	--	--	--	--

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
				Level							
53494-70-5	Endrin ketone	Endrin ketone	µg/L	No Cleanup Level	--	--	--	--	--	--	--
141-78-6	Ethyl acetate	Ethyl acetate	µg/L	--	7,200	--	--	--	--	7,200	WAC 173-340-720(4)(b)(iii)
107-21-1	Ethylene glycol	Ethelyne glycol	µg/L	--	16,000	--	--	--	--	16,000	WAC 173-340-720(4)(b)(iii)
100-41-4	Ethylbenzene	ethylbenzene	µg/L	--	4.0	--	700	700	--	4.0	WAC 173-340-720(4)(b)(iii)
206-44-0	Fluoranthene	fluoranthene	µg/L	--	640	--	--	--	--	640	WAC 173-340-720(4)(b)(iii)
86-73-7	Fluorene	fluorene	µg/L	--	640	--	--	--	--	640	WAC 173-340-720(4)(b)(iii)
16984-48-8	Fluoride	fluoride (using fluorine)	µg/L	--	960	--	4,000	4,000	4,000	960	WAC 173-340-720(4)(b)(iii)
58-89-9	Gamma-BHC (Lindane)	lindane [gamma-BHC] (see hexachlorocyclohexane)	µg/L	--	0.080	--	0.20	0.20	--	0.080	WAC 173-340-720(4)(b)(iii)
76-44-8	Heptachlor	heptachlor	µg/L	--	0.019	--	--	0.40	--	0.019	WAC 173-340-720(4)(b)(iii)
1024-57-3	Heptachlor epoxide	Heptachlor epoxide	µg/L	--	0.0048	--	--	0.20	--	0.0048	WAC 173-340-720(4)(b)(iii)
118-74-1	Hexachlorobenzene	hexachlorobenzene	µg/L	--	0.055	--	--	1.0	--	0.055	WAC 173-340-720(4)(b)(iii)
87-68-3	Hexachlorobutadiene	hexachlorobutadiene	µg/L	--	0.56	--	--	--	--	0.56	WAC 173-340-720(4)(b)(iii)
77-47-4	Hexachlorocyclopentadiene	hexachlorocyclopentadiene	µg/L	--	48	--	50	50	--	48	WAC 173-340-720(4)(b)(iii)
67-72-1	Hexachloroethane	hexachloroethane	µg/L	--	3.1	--	--	--	--	3.1	WAC 173-340-720(4)(b)(iii)
18540-29-9	Hexavalent Chromium	chromium(VI)	µg/L	--	48	--	--	--	--	48	WAC 173-340-720(4)(b)(iii)
193-39-5	Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	µg/L	--	0.12	--	--	--	--	0.12	WAC 173-340-720(4)(b)(iii)
7439-89-6	Iron	Iron	µg/L	--	11,200	--	--	300	300	300	Federal MCL
78-59-1	Isophorone	isophorone	µg/L	--	46	--	--	--	--	46	WAC 173-340-

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CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
											720(4)(b)(iii)
7439-92-1	Lead	lead	µg/L	--	--	15	--	15	15	15	Federal MCL
7439-93-2	Lithium	Lithium	µg/L	--	32	--	--	--	--	32	WAC 173-340-720(4)(b)(iii)
7439-95-4	Magnesium	Magnesium (Not in CLARC database Tables)	µg/L	Essential Nutrient	--	--	--	--	--	--	--
7439-96-5	Manganese	manganese	µg/L	--	2,240	--	--	50	50	50	Federal MCL
7487-94-7	Mercury	Mercury (using mercuric chloride)	µg/L	--	4.8	--	2.0	2.0	2.0	2.0	Federal MCLG
72-43-5	Methoxychlor	methoxychlor	µg/L	--	80	--	40	40	--	40	Federal MCLG
75-09-2	Methylene chloride	methylene chloride	µg/L	--	5.8	--	--	5.0	--	5.0	Federal MCL
7439-98-7	Molybdenum	molybdenum	µg/L	--	80	--	--	--	--	80	WAC 173-340-720(4)(b)(iii)
108-38-3	m-Xylene	Xylene, m-	µg/L	--	1,600	--	--	--	--	1,600	WAC 173-340-720(4)(b)(iii)
91-20-3	Naphthalene	naphthalene	µg/L	--	160	--	--	--	--	160	WAC 173-340-720(4)(b)(iii)
7440-02-0	Nickel	nickel soluble salts	µg/L	--	320	--	--	--	100	100	State MCL
14797-55-8	Nitrate	Nitrate	µg/L	--	113,600	--	45,000	45,000	45,000	45,000	Federal MCL
14797-65-0	Nitrite	Nitrite	µg/L	--	4,800	--	3,300	3,300	3,300	3,300	Federal MCL
98-95-3	Nitrobenzene	Nitrobenzene	µg/L	--	16	--	--	--	--	16	WAC 173-340-720(4)(b)(iii)
NO3-N	Nitrogen in Nitrate	Nitrogen in Nitrate	µg/L	--	25,600	--	10,000	10,000	10,000	10,000	Federal MCL
NO2-N	Nitrogen in Nitrite	Nitrogen in Nitrite	µg/L	--	1,600	--	1,000	1,000	1,000	1,000	Federal MCL
NO2+NO3-N	Nitrogen in Nitrite and Nitrate	Nitrogen in Nitrite and Nitrate	µg/L	--	25,600	--	10,000	10,000	10,000	10,000	Federal MCL
621-64-7	n-Nitrosodi-n-dipropylamine	nitroso-di-n-propylamine;N-	µg/L	--	0.013	--	--	--	--	0.013	WAC 173-340-720(4)(b)(iii)
86-30-6	n-Nitrosodiphenylamine	nitrosodiphenylamine;N-	µg/L	--	18	--	--	--	--	18	WAC 173-340-720(4)(b)(iii)
95-47-6	o-Xylene	xylene,o-	µg/L	--	1,600	--	--	--	--	1,600	WAC 173-340-720(4)(b)(iii)
87-86-5	Pentachlorophenol	pentachlorophenol	µg/L	--	0.73	--	--	1.0	--	0.73	WAC 173-340-720(4)(b)(iii)
%MOISTURE	Percent moisture (wet sample)	Percent moisture (wet	µg/L	No	--	--	--	--	--	--	--

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
		sample)		Cleanup Level							
PH	pH Measurement	pH Measurement	µg/L	No Cleanup Level	--	--	--	--	--	--	--
85-01-8	Phenanthrene	Phenanthrene	µg/L	No Cleanup Level	--	--	--	--	--	--	--
108-95-2	Phenol	Phenol	µg/L	--	2,400	--	--	--	--	2,400	WAC 173-340-720(4)(b)(iii)
14265-44-2	Phosphate	Phosphate	µg/L	No Cleanup Level	--	--	--	--	--	--	--
7723-14-0	Phosphorus	phosphorus	µg/L	--	0.16	--	--	--	--	0.16	WAC 173-340-720(4)(b)(iii)
PO4-P	Phosphorus in phosphate	Phosphorus in phosphate	µg/L	No Cleanup Level	--	--	--	--	--	--	--
7440-09-7	Potassium	Potassium	µg/L	Essential Nutrient	--	--	--	--	--	--	--
129-00-0	Pyrene	pyrene	µg/L	--	480	--	--	--	--	480	WAC 173-340-720(4)(b)(iii)
7782-49-2	Selenium	selenium and compounds	µg/L	--	80	--	50	50	50	50	Federal MCLG
7440-21-3	Silicon	Silicon	µg/L	No Cleanup Level	--	--	--	--	--	--	--
7440-22-4	Silver	silver	µg/L	--	80	--	--	100	100	80	WAC 173-340-720(4)(b)(iii)
7440-23-5	Sodium	Sodium	µg/L	Essential Nutrient	--	--	--	--	--	--	--
7440-24-6	Strontium	strontium	µg/L	--	9,600	--	--	--	--	9,600	WAC 173-340-720(4)(b)(iii)
100-42-5	Styrene	styrene	µg/L	--	1,600	--	100	100	--	100	Federal MCLG
14808-79-8	Sulfate	sulfate	µg/L	--	--	--	--	250,000	250,000	250,000	Federal MCL
18496-25-8	Sulfide	Sulfide	--	No Cleanup	--	--	--	--	--	--	--

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		
				Level							
127-18-4	Tetrachloroethene	tetrachloroethylene	µg/L	--	0.081	--	--	5.0	--	0.081	WAC 173-340-720(4)(b)(iii)
7440-28-0	Thallium	Thallium, soluable salts	µg/L	--	--	--	0.50	2.0	2.0	0.50	Federal MCLG
7440-31-5	Tin	tin	µg/L	--	9,600	--	--	--	--	9,600	WAC 173-340-720(4)(b)(iii)
108-88-3	Toluene	Toluene	µg/L	--	640	--	1,000	1,000	--	640	WAC 173-340-720(4)(b)(iii)
TPH	Total petroleum hydrocarbons	Total petroleum hydrocarbons	--		--	500	--	--	--	500	WAC 173-340-720(3)(b)
TPHDIESEL	Total petroleum hydrocarbons - diesel range	Total petroleum hydrocarbons - diesel range	µg/L	--	--	500	--	--	--	500	WAC 173-340-720(3)(b)
TPH/OILH	Total petroleum hydrocarbons - motor oil (high boiling)	Total petroleum hydrocarbons - motor oil (high boiling)	µg/L	--	--	500	--	--	--	500	WAC 173-340-720(3)(b)
8001-35-2	Toxaphene	toxaphene	µg/L	--	0.080	--	--	3.0	--	0.080	WAC 173-340-720(4)(b)(iii)
156-60-5	trans-1,2-Dichloroethylene	dichloroethylene;1,2-,trans	µg/L	--	160	--	100	100	--	100	Federal MCLG
10061-02-6	trans-1,3-Dichloropropene	dichloropropene;1,3-,trans	µg/L	--	0.44	--	--	--	--	0.44	WAC 173-340-720(4)(b)(iii)
126-73-8	Tributyl phosphate	Tributyl phosphate	µg/L	--	9.7	--	--	--	--	9.7	WAC 173-340-720(4)(b)(iii)
79-01-6	Trichloroethene	trichloroethylene (TCE)	µg/L	--	0.49	--	--	5.0	--	0.49	WAC 173-340-720(4)(b)(iii)
75-69-4	Trichloromonofluoromethane	trichlorofluoromethane	µg/L	--	2,400	--	--	--	--	2,400	WAC 173-340-720(4)(b)(iii)
7440-61-1	Uranium	Uranium	µg/L	--	48	--	--	30	--	30	Federal MCL
7440-62-2	Vanadium	vanadium	µg/L	--	80	--	--	--	--	80	WAC 173-340-720(4)(b)(iii)
75-01-4	Vinyl chloride	vinyl chloride [chloroethene; 1-]	µg/L	--	0.061	--	--	2.0	--	0.061	WAC 173-340-720(4)(b)(iii)
1330-20-7	Xylenes (total)	Xylenes (total)	µg/L	--	1,600	--	10,000	10,000	--	1,600	WAC 173-340-720(4)(b)(iii)
7440-66-6	Zinc	zinc	µg/L	--	4,800	--	--	5,000	5,000	4,800	WAC 173-340-720(4)(b)(iii)

Notes:

Table 4-1. Summary of Groundwater Cleanup Levels Used to Calculate Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Units	Basis for Exclusion	WAC 173-340-720[a,b]		National Recommended Water Quality Criteria[c,d,e]		WAC 246-290-310[f]	Final Groundwater Cleanup Level	Final Groundwater Cleanup Level Basis
					Groundwater Method B Unrestricted Land Use	Groundwater Method A Cleanup Levels	Ground Water ARAR - Federal Maximum Contaminant Level Goal (MCLG)	Ground Water ARAR - Federal Primary Maximum Contaminant Level (MCL)	Ground Water ARAR - State Primary Maximum Contaminant Level (MCL)		

a. Standard Method B groundwater cleanup levels calculated per requirements in WAC 173-340-720, "Ground Water Cleanup Standards," as documented in ECF-100NPL-10-0462.
b. WAC 173-340-720(3)(b) Table 720-1, Method A cleanup Levles for Groundwater
c. 40 CFR 141.61, “National Primary Drinking Water Regulations,” “Maximum Contaminant Levels for Organic Contaminants."
d. 40 CFR 141.62, “National Primary Drinking Water Regulations,” “Maximum Contaminant Levels for Inorganic Contaminants."
e. 40 CFR 143.3, “National Secondary Drinking Water Regulations,” “Secondary Maximum Contaminant Levels."
f. WAC 246-290-310, “Group A Public Water Supplies,” “Maximum Contaminant Levels (MCLs) and Maximum Residual Disinfectant Levels (MRDLs)."

Table 4-2. Summary of Soil/Water Distribution Coefficients, DOE/RL-96-17, Rev. 6.

Contaminant	K_d Value (mL/g)	Source
Ag (silver)-108m	90	ANL 1993
Americium-241	200	Hanford Site-specific K_d value: Ames and Serne 1991
Carbon-14	200	Hanford Site-specific K_d value: BHI 2002a
Cesium-137	50	Hanford Site-specific K_d value: Ames and Serne 1991
Cobalt-60	50	Hanford Site-specific K_d value: Ames and Serne 1991
Curium-243	200	Hanford Site-specific K_d value: Kincaid et al. 1998
Europium-152	200	Hanford Site-specific K_d value: Ames and Serne 1991
Europium-154	200	Hanford Site-specific K_d value: Ames and Serne 1991
Europium-155	200	Hanford Site-specific K_d value: Ames and Serne 1991
Iodine-129	1	Hanford Site-specific K_d value: Kincaid et al. 1998
Neptunium-237	15	Hanford Site-specific K_d value: Kincaid et al. 1998
Nickel-63	30	Hanford Site-specific K_d value: Ames and Serne 1991
Niobium-94	200	Hanford Site-specific K_d value: Kincaid et al. 1998
Plutonium-238	200	Hanford Site-specific K_d value: Serne and Wood 1990
Plutonium-239/240	200	Hanford Site-specific K_d value: Serne and Wood 1990
Potassium-40	5.5	Hanford Site-specific K_d value: Kincaid et al. 1998
Sodium-22	10	Hanford Site-specific K_d value: Kincaid et al. 1998
Strontium-90	25	Hanford Site-specific K_d value: Ames and Serne 1991
Technetium-99	0	Hanford Site-specific K_d value: Serne and Wood 1990
Thorium-228	200	Hanford Site-specific K_d value: Ames and Rai 1978
Thorium-232	200	Hanford Site-specific K_d value: Ames and Rai 1978
Tritium (H-3)	0	Hanford Site-specific K_d value: Serne and Wood 1990
Uranium-233/234	2	Hanford Site-specific K_d value: Serne and Wood 1990
Uranium-235	2	Hanford Site-specific K_d value: Serne and Wood 1990
Uranium-238	2	Hanford Site-specific K_d value: Serne and Wood 1990
Metals		
Antimony	3.76	Krupka and Serne 2002
Arsenic	3	Baes and Sharp 1983
Barium	25	Hanford Site-specific K_d value: Ames and Serne 1991
Beryllium	790	Ecology 2009
Boron	3	ORNL 2009
Cadmium	30	Hanford Site-specific K_d value: Ames and Serne 1991

Table 4-2. Summary of Soil/Water Distribution Coefficients, DOE/RL-96-17, Rev. 6.

Contaminant	K_d Value (mL/g)	Source
Chromium, Total	200	EPA 2002
Hexavalent Chromium	0	Hanford Site-specific K_d value: Ames and Serne 1991
Cobalt	50	Hanford Site-specific K_d value: Ames and Serne 1991
Copper	22	Ecology 2009
Lead	30	Hanford Site-specific K_d value: Ames and Serne 1991
Lithium	50	ORNL 2009 (see explanation in text, above)
Manganese	50	Hanford Site-specific K_d value: Ames and Serne 1991
Mercury	30	Hanford Site-specific K_d value: Ames and Serne 1991
Methyl Mercury	0.014	ORNL 2009
Molybdenum	20	ORNL 2009
Nickel	65	Hanford Site-specific K_d value: Ames and Serne 1991
Selenium	5	Ecology 2009
Silver	90	ANL 1993
Strontium	25	Hanford Site-specific K_d value: Ames and Serne 1991
Tin	130	ORNL 2009
Uranium	2	Hanford Site-specific K_d value: Serne and Wood 1990
Vanadium	1,000	Ecology 2009
Zinc	30	Hanford Site-specific K_d value: Ames and Serne 1991
Inorganic Anions and TPH		
Chloride	0	Hanford Site-specific K_d value: Kincaid et al. 1998
Cyanide	9.9	ORNL 2009
Fluoride	150	ORNL 2009
Nitrate	0	(Conservative assumption)
Nitrite	0	(Conservative assumption)
Sulfate	0	(Conservative assumption)
Sulfide	0	(Conservative assumption)
TPH	50	(Conservative assumption)
Volatiles		
Acetone	0.0006	Ecology 2009 (Using K_d = Koc/1000)
Carbon Tetrachloride	0.152	Ecology 2009 (Using K_d = Koc/1000)
Methylene Chloride	0.01	Ecology 2009 (Using K_d = Koc/1000)
Toluene	0.14	Ecology 2009 (Using K_d = Koc/1000)
Xylene	0.233	Ecology 2009 (Using K_d = Koc/1000)
Semivolatiles		
Acenapthene	4.9	Ecology 2009 (Using K_d = Koc/1000)
Acenaphthene	6.12	ORNL 2009 (Using K_d = Koc/1000)
Anthracene	23.5	Ecology 2009 (Using K_d = Koc/1000)

Table 4-2. Summary of Soil/Water Distribution Coefficients, DOE/RL-96-17, Rev. 6.

Contaminant	K_d Value (mL/g)	Source
Benzo(a)anthracene	360	Ecology 2009 (Using K_d = Koc/1000)
Benzo(a)pyrene	5,500	Ecology 2009 (Using K_d = Koc/1000)
Benzo(b)fluoranthene	803	ORNL 2009 (Using K_d = Koc/1000)
Benzo(k)fluoranthene	1,230	Ecology 2009 (Using K_d = Koc/1000)
Benzo(g,h,i)perylene	2,680	ORNL 2009 (Using K_d = Koc/1000)
Bis(2-chloro-1-methylethyl)ether	0.0392	ORNL 2009 (Using K_d = Koc/1000)
Bis(2-chloroethoxy)methane	0.00277	ORNL 2009 (Using K_d = Koc/1000)
Bis(2-chloroethyl) ether	0.076	Ecology 2009 (Using K_d = Koc/1000)
Bis(2-ethylhexyl) phthalate	110	Ecology 2009 (Using K_d = Koc/1000)
Bromophenylphenyl ether; 4-	4.16	ORNL 2009 (Using K_d = Koc/1000)
Butylbenzylphthalate	13.8	Ecology 2009 (Using K_d = Koc/1000)
Carbazole	3.39	Ecology 2009 (Using K_d = Koc/1000)
4-Chloro-3-methylphenol	--	Not available
4-Chloroaniline	0.0725	ORNL 2009 (Using K_d = Koc/1000)
2-Chloronaphthalene	2.98	ORNL 2009 (Using K_d = Koc/1000)
2-Chlorophenol	0.388	Ecology 2009 (Using K_d = Koc/1000)
Chlorophenylphenyl ether; 4-	--	Not available
Chrysene	200	Ecology 2009 (Using K_d = Koc/1000)
Dibenz[a,h]anthracene	1,790	Ecology 2009 (Using K_d = Koc/1000)
Dibenzofuran	11.3	ORNL 2009 (Using K_d = Koc/1000)
1,2-Dichlorobenzene	0.379	Ecology 2009 (Using K_d = Koc/1000)
1,3-Dichlorobenzene	0.434	ORNL 2009 (Using K_d = Koc/1000)
1,4-Dichlorobenzene	0.616	Ecology 2009 (Using K_d = Koc/1000)
3,3'-Dichlorobenzidine	0.724	Ecology 2009 (Using K_d = Koc/1000)
2,4-Dichlorophenol	0.147	Ecology 2009 (Using K_d = Koc/1000)
Diethylphthalate	0.082	Ecology 2009 (Using K_d = Koc/1000)
Dimethylphthalate	0.0371	ORNL 2009 (Using K_d = Koc/1000)
2,4-Dimethylphenol	0.209	Ecology 2009 (Using K_d = Koc/1000)
Di-n-butylphthalate	1.57	Ecology 2009 (Using K_d = Koc/1000)
Di-n-octylphthalate	83,200	Ecology 2009 (Using K_d = Koc/1000)
4,6-Dinitro-2-methylphenol	0.6015	ORNL 2009 (Using K_d = Koc/1000)
2,4-Dinitrophenol	0.00001	Ecology 2009 (Using K_d = Koc/1000)
2,4-Dinitrotoluene	0.0955	Ecology 2009 (Using K_d = Koc/1000)
2,6-Dinitrotoluene	0.0692	Ecology 2009 (Using K_d = Koc/1000)
Ethylene glycol	0.001	ORNL 2009 (Using K_d = Koc/1000)
Fluoranthene	49.1	Ecology 2009 (Using K_d = Koc/1000)

Table 4-2. Summary of Soil/Water Distribution Coefficients, DOE/RL-96-17, Rev. 6.

Contaminant	K_d Value (mL/g)	Source
Fluorene	7.71	Ecology 2009 (Using K_d = Koc/1000)
Hexachlorobenzene	80	Ecology 2009 (Using K_d = Koc/1000)
Hexachlorobutadiene	53.7	Ecology 2009 (Using K_d = Koc/1000)
Hexachlorocyclopentadiene	200	Ecology 2009 (Using K_d = Koc/1000)
Hexachloroethane	1.78	Ecology 2009 (Using K_d = Koc/1000)
Hydrazine	0.0143	ORNL 2009 (Using K_d = Koc/1000)
Indeno(1,2,3-cd)pyrene	3,470	Ecology 2009 (Using K_d = Koc/1000)
Isophorone	0.0468	Ecology 2009 (Using K_d = Koc/1000)
2-Methylnaphthalene	2.98	ORNL 2009 (Using K_d = Koc/1000)
2-Methylphenol (cresol, o-)	0.434	ORNL 2009 (Using K_d = Koc/1000)
4-Methylphenol (cresol, p-)	0.434	ORNL 2009 (Using K_d = Koc/1000)
Naphthalene	1.19	Ecology 2009 (Using K_d = Koc/1000)
2-Nitroaniline	0.0527	ORNL 2009 (Using K_d = Koc/1000)
3-Nitroaniline	0.0516	ORNL 2009 (Using K_d = Koc/1000)
4-Nitroaniline	0.0516	ORNL 2009 (Using K_d = Koc/1000)
Nitrobenzene	0.119	Ecology 2009 (Using K_d = Koc/1000)
2-Nitrophenol	0.309	ORNL 2009 (Using K_d = Koc/1000)
4-Nitrophenol	0.309	ORNL 2009 (Using K_d = Koc/1000)
Nitroso-di-n-propylamine;N-	0.024	Ecology 2009 (Using K_d = Koc/1000)
Nitrosodiphenylamine;N-	1.29	Ecology 2009 (Using K_d = Koc/1000)
Pentachlorophenol	0.592	Ecology 2009 (Using K_d = Koc/1000)
Phenanthrene	23.5	Ecology 2009 (Using K_d = Koc/1000)
Phenol	0.0288	Ecology 2009 (Using K_d = Koc/1000)
Pyrene	68	Ecology 2009 (Using K_d = Koc/1000)
Tributyl Phosphate	1.89	ORNL 2009 (Using K_d = Koc/1000)
1,2,4-Trichlorobenzene	1.66	Ecology 2009 (Using K_d = Koc/1000)
2,4,5-Trichlorophenol	1.6	Ecology 2009 (Using K_d = Koc/1000)
2,4,6-Trichlorophenol	0.381	Ecology 2009 (Using K_d = Koc/1000)
Pesticides and PCBs		
Aldrin	48.7	Ecology 2009 (Using K_d = Koc/1000)
Alpha-BHC	1.76	Ecology 2009 (Using K_d = Koc/1000)
beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	2.14	Ecology 2009 (Using K_d = Koc/1000)
Delta-BHC	3.38	ORNL 2009 (Using K_d = Koc/1000)
BHC, gamma (Lindane)	1.35	Ecology 2009 (Using K_d = Koc/1000)
Chlordane	51	Ecology 2009 (Using K_d = Koc/1000)

Table 4-2. Summary of Soil/Water Distribution Coefficients, DOE/RL-96-17, Rev. 6.

Contaminant	K_d Value (mL/g)	Source
Dalapon	0.00274	ORNL 2009 (Using K_d = Koc/1000)
Db; 2,4-	0.1	ORNL 2009 (Using K_d = Koc/1000)
4,4'-DDD (Dichlorodiphenyldichloroethane)	45.8	Ecology 2009 (Using K_d = Koc/1000)
4,4'-DDE (Dichlorodiphenyldichloroethylene)	86.4	Ecology 2009 (Using K_d = Koc/1000)
4,4'-DDT (Dichlorodiphenyltrichloroethane)	678	Ecology 2009 (Using K_d = Koc/1000)
Dicambra	0.0288	ORNL 2009 (Using K_d = Koc/1000)
Dichlorophenoxyacetic acid; 2,4-	0.0294	ORNL 2009 (Using K_d = Koc/1000)
Dichloroprop	0.0294	ORNL 2009 (Using K_d = Koc/1000)
Dieldrin	25.6	Ecology 2009 (Using K_d = Koc/1000)
Dinoseb (DNBP)	3.54	ORNL 2009 (Using K_d = Koc/1000)
Endosulfan I	2.04	Ecology 2009 (Using K_d = Koc/1000)
Endosulfan II	3.04	Ecology 2009 (Using K_d = Koc/1000)
Endrin	10.8	Ecology 2009 (Using K_d = Koc/1000)
Endrin aldehyde	11.8	Ecology 2009 (Using K_d = Koc/1000)
Heptachlor	9.53	Ecology 2009 (Using K_d = Koc/1000)
Heptachlor epoxide	83.2	Ecology 2009 (Using K_d = Koc/1000)
Methoxychlor	80	Ecology 2009 (Using K_d = Koc/1000)
Polychlorinated Biphenyls	309	Ecology 2009 (Using K_d = Koc/1000)
Aroclor-1016	107	Ecology 2009 (Using K_d = Koc/1000)
Aroclor-1221	10.3	ORNL 2009 (Using K_d = Koc/1000)
Aroclor-1232	10.3	ORNL 2009 (Using K_d = Koc/1000)
Aroclor-1242	44.8	ORNL 2009 (Using K_d = Koc/1000)
Aroclor-1248	43.9	ORNL 2009 (Using K_d = Koc/1000)
Aroclor-1254	75.6	ORNL 2009 (Using K_d = Koc/1000)
Aroclor-1260	822	Ecology 2009 (Using K_d = Koc/1000)
Silvex (tp;2,4,5-)	0.08	ORNL 2009 (Using K_d = Koc/1000)
Toxaphene	95.8	Ecology 2009 (Using K_d = Koc/1000)
Trichlorophenoxyacetic acid;2,4,5-	0.049	ORNL 2009 (Using K_d = Koc/1000)

Notes:

K_d = distribution coefficient

Koc = carbon-water partitioning coefficient

Table 4-2. Summary of Soil/Water Distribution Coefficients, DOE/RL-96-17, Rev. 6.

Contaminant	K_d Value (mL/g)	Source

PCB = polychlorinated biphenyl
TPH = total petroleum hydrocarbons

Table 4-3. Summary of Input Parameters Used for the Fixed Parameter 3-Phse Partitioning Model Calculation

CAS #	Constituent Name	Alternate Constituent Name	Groundwater CUL for Protectiveness (µg/L)	Groundwater CUL for Protectiveness Source	Henry's Law Constant (Dimensionless)	Henry's Law[b,d] Constant Source	RDR/RAWP K_d (DOE/RL-96-17)[a]	K_{oc} (L/kg)	Organic K_d (L/kg) = K_{oc} x f_{oc}	Organic K_d Source[b]	Inorganic K_d (L/kg)	Inorganic K_d Source[b]	Selected K_d (L/kg)	Source of Selected K_d[c]
71-55-6	1,1,1-Trichloroethane	Trichloroethane;1,1,1-	200	Federal MCLG	0.71	CLARC 2010	--	140	0.14	CLARC 2010	--	--	0.14	CLARC 2010
79-34-5	1,1,2,2-Tetrachloroethane	tetrachloroethane;1,1,2,2-	0.22	WAC 173-340-720(4)(b)(iii)	0.014	CLARC 2010	--	79	0.079	CLARC 2010	--	--	0.079	CLARC 2010
79-00-5	1,1,2-Trichloroethane	trichloroethane;1,1,2-	0.77	WAC 173-340-720(4)(b)(iii)	0.037	CLARC 2010	--	75	0.075	CLARC 2010	--	--	0.075	CLARC 2010
75-34-3	1,1-Dichloroethane	dichloroethane;1,1-	1,600	WAC 173-340-720(4)(b)(iii)	0.23	CLARC 2010	--	53	0.053	CLARC 2010	--	--	0.053	CLARC 2010
75-35-4	1,1-Dichloroethene	Dichloroethene;1,1-	7.0	Federal MCLG	1.1	CLARC 2010	--	65	0.065	CLARC 2010	--	--	0.065	CLARC 2010
120-82-1	1,2,4-Trichlorobenzene	trichlorobenzene;1,2,4-	1.5	WAC 173-340-720(4)(b)(iii)	0.058	CLARC 2010	1.7	1,700	1.7	CLARC 2010	--	--	1.7	DOE/RL-96-17
95-50-1	1,2-Dichlorobenzene	dichlorobenzene;1,2- (ortho-Dichlorobenzene)	600	Federal MCLG	0.078	CLARC 2010	0.38	380	0.38	CLARC 2010	--	--	0.38	DOE/RL-96-17
107-06-2	1,2-Dichloroethane	dichloroethane;1,2-	0.48	WAC 173-340-720(4)(b)(iii)	0.040	CLARC 2010	--	38	0.038	CLARC 2010	--	--	0.038	CLARC 2010
540-59-0	1,2-Dichloroethene (Total)	dichloroethylene,1,2- (mixed isomers)	72	WAC 173-340-720(4)(b)(iii)	0.17	EPA 2010	--	40	0.040	EPA 2010	--	--	0.040	EPA 2010
78-87-5	1,2-Dichloropropane	dichloropropane;1,2-	1.2	WAC 173-340-720(4)(b)(iii)	0.12	CLARC 2010	--	47	0.047	CLARC 2010	--	--	0.047	CLARC 2010
541-73-1	1,3-Dichlorobenzene	dichlorobenzene;1,3	--	--	0.11	ORNL 2010	0.43	375	0.38	ORNL 2010	--	--	0.43	DOE/RL-96-17
106-46-7	1,4-Dichlorobenzene	dichlorobenzene;1,4- (para-Dichlorobenzene)	8.1	WAC 173-340-720(4)(b)(iii)	0.10	CLARC 2010	0.62	620	0.62	CLARC 2010	--	--	0.62	DOE/RL-96-17
93-76-5	2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	Trichlorophenoxyacetic Acid, 2,4,5-	160	WAC 173-340-720(4)(b)(iii)	1.9E-06	EPA 2010	0.049	107	0.11	EPA 2010	--	--	0.049	DOE/RL-96-17
93-72-1	2,4,5-TP(2-(2,4,5-Trichlorophenoxy)propionic acid)Silvex	Trichlorophenoxypropionic acid, -2,4,5	50	Federal MCLG	3.7E-07	EPA 2010	0.080	175.3	0.18	EPA 2010	--	--	0.080	DOE/RL-96-17
95-95-4	2,4,5-Trichlorophenol	Trichlorophenol;2,4,5-	800	WAC 173-340-720(4)(b)(iii)	1.80E-04	CLARC 2010	1.6	1,600	1.6	CLARC 2010	--	--	1.6	DOE/RL-96-17
88-06-2	2,4,6-Trichlorophenol	Trichlorophenol2,4,6-	4.0	WAC 173-340-720(4)(b)(iii)	3.20E-04	CLARC 2010	0.38	380	0.38	CLARC 2010	--	--	0.38	DOE/RL-96-17
94-82-6	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	Dichlorophenoxy)butyric Acid, 4-(2,4-	128	WAC 173-340-720(4)(b)(iii)	2.4E-07	EPA 2010	0.10	98.4	0.098	EPA 2010	--	--	0.10	DOE/RL-96-17
120-83-2	2,4-Dichlorophenol	dichlorophenol;2,4-	24	WAC 173-340-720(4)(b)(iii)	1.30E-04	CLARC 2010	0.15	150	0.15	CLARC 2010	--	--	0.15	DOE/RL-96-17
94-75-7	2,4-Dichlorophenoxyacetic acid	Dichlorophenoxy Acetic Acid, 2,4-	70	Federal MCLG	1.4E-06	EPA 2010	0.029	29.63	0.030	EPA 2010	--	--	0.029	DOE/RL-96-17
105-67-9	2,4-Dimethylphenol	dimethylphenol;2,4-	160	WAC 173-340-720(4)(b)(iii)	8.20E-05	CLARC 2010	0.21	210	0.21	CLARC 2010	--	--	0.21	DOE/RL-96-17
51-28-5	2,4-Dinitrophenol	dinitrophenol;2,4-	32	WAC 173-340-720(4)(b)(iii)	1.80E-05	CLARC 2010	1.00E-05	0.010	1.00E-05	CLARC 2010	--	--	1.00E-05	DOE/RL-96-17
121-14-2	2,4-Dinitrotoluene	dinitrotoluene;2,4-	0.28	WAC 173-340-720(4)(b)(iii)	3.80E-06	CLARC 2010	0.096	96	0.096	CLARC 2010	--	--	0.096	DOE/RL-96-17
606-20-2	2,6-Dinitrotoluene	dinitrotoluene;2,6-	16	WAC 173-340-720(4)(b)(iii)	3.10E-05	CLARC 2010	0.069	69	0.069	CLARC 2010	--	--	0.069	DOE/RL-96-17
78-93-3	2-Butanone	methyl ethyl ketone (MEK; 2-butanone)	4,800	WAC 173-340-720(4)(b)(iii)	0.0023	EPA 2010	--	4.5	0.0045	EPA 2010	--	--	0.0045	EPA 2010

Table 4-3. Summary of Input Parameters Used for the Fixed Parameter 3-Phse Partitioning Model Calculation

CAS #	Constituent Name	Alternate Constituent Name	Groundwater CUL for Protectiveness (µg/L)	Groundwater CUL for Protectiveness Source	Henry's Law Constant (Dimensionless)	Henry's Law[b,d] Constant Source	RDR/RAWP K_d (DOE/RL-96-17)[a]	K_{oc} (L/kg)	Organic K_d (L/kg) = K_{oc} x f_{oc}	Organic K_d Source[b]	Inorganic K_d (L/kg)	Inorganic K_d Source[b]	Selected K_d (L/kg)	Source of Selected K_d[c]
111-76-2	2-Butoxyethanol	ethylene glycol monobutyl ether (EGBE)	800	WAC 173-340-720(4)(b)(iii)	6.54E-05	EPA 2010	--	2.8	0.0028	EPA 2010	--	--	0.0028	EPA 2010
91-58-7	2-Chloronaphthalene	beta-chloronaphthalene	640	WAC 173-340-720(4)(b)(iii)	0.013	EPA 2010	3.0	2,478	2.5	EPA 2010	--	--	3.0	DOE/RL-96-17
95-57-8	2-Chlorophenol	Chlorophenol;2-	40	WAC 173-340-720(4)(b)(iii)	0.016	CLARC 2010	0.39	390	0.39	CLARC 2010	--	--	0.39	DOE/RL-96-17
591-78-6	2-Hexanone	HEXANONE;2- [MBK, methyl butyl ketone]	40	WAC 173-340-720(4)(b)(iii)	0.0038	ORNL 2010	--	15	0.015	EPA 2010	--	--	0.015	EPA 2010
91-57-6	2-Methylnaphthalene	methylnapthalene;2-	32	WAC 173-340-720(4)(b)(iii)	0.021	ORNL 2010	3.0	2,480	2.5	ORNL 2010	--	--	3.0	DOE/RL-96-17
95-48-7	2-Methylphenol (cresol, o-)	cresol;o-	400	WAC 173-340-720(4)(b)(iii)	4.90E-05	CLARC 2010	0.43	91	0.091	CLARC 2010	--	--	0.43	DOE/RL-96-17
88-74-4	2-Nitroaniline	nitroaniline, 2-	160	WAC 173-340-720(4)(b)(iii)	2.40E-06	EPA 2010	0.053	111	0.11	EPA 2010	--	--	0.053	DOE/RL-96-17
88-75-5	2-Nitrophenol	nitrophenol;2-	--	--	5.23E-04	ORNL 2010	0.31	297	0.30	ORNL 2010	--	--	0.31	DOE/RL-96-17
91-94-1	3,3'-Dichlorobenzidine	dichlorobenzidine;3,3'-	0.19	WAC 173-340-720(4)(b)(iii)	1.60E-07	CLARC 2010	0.72	720	0.72	CLARC 2010	--	--	0.72	DOE/RL-96-17
65794-96-9	3+4 Methylphenol (cresol, m+p)	methylphenol,3+4 (cresol, m+p)	--	--	--	--	--	--	--	--	--	--	--	--
99-09-2	3-Nitroaniline	nitroaniline, 3-	4.2	WAC 173-340-720(4)(b)(iii)	3.23E-07	ORNL 2010	0.052	109	0.11	ORNL 2010	--	--	0.052	DOE/RL-96-17
72-54-8	4,4'-DDD (Dichlorodiphenyldichloroethane)	ddd	0.36	WAC 173-340-720(4)(b)(iii)	1.60E-04	CLARC 2010	46	46,000	46	CLARC 2010	--	--	46	DOE/RL-96-17
72-55-9	4,4'-DDE (Dichlorodiphenyldichloroethylene)	dde	0.26	WAC 173-340-720(4)(b)(iii)	8.60E-04	CLARC 2010	86	86,000	86	CLARC 2010	--	--	86	DOE/RL-96-17
50-29-3	4,4'-DDT (Dichlorodiphenyltrichloroethane)	ddt	0.26	WAC 173-340-720(4)(b)(iii)	3.30E-04	CLARC 2010	678	680,000	680	CLARC 2010	--	--	678	DOE/RL-96-17
534-52-1	4,6-Dinitro-2-methylphenol	dinitro-2-methylphenol;4,6-	1.3	WAC 173-340-720(4)(b)(iii)	5.70E-05	EPA 2010	0.60	754	0.75	EPA 2010	--	--	0.60	DOE/RL-96-17
1918-02-1	4-Amino-3,5,6-trichloropicolinic acid	picloram	500	Federal MCLG	2.18E-12	EPA 2010	--	39	0.039	EPA 2010	--	--	0.039	EPA 2010
101-55-3	4-Bromophenylphenyl ether	bromodiphenyl ether;4-	--	--	--	--	--	--	--	--	--	--	--	--
59-50-7	4-Chloro-3-methylphenol	chloro-3-methylphenol;4-	1,600	WAC 173-340-720(4)(b)(iii)	1.0E-04	EPA 2010	--	491.8	0.49	EPA 2010	--	--	0.49	EPA 2010
106-47-8	4-Chloroaniline	chloroaniline;p-	0.22	WAC 173-340-720(4)(b)(iii)	1.40E-05	CLARC 2010	0.073	66	0.066	CLARC 2010	--	--	0.073	DOE/RL-96-17
7005-72-3	4-Chlorophenylphenyl ether	chlorodiphenyl ether;4-	--	--	0.0098	ORNL 2010	--	3,080	3.1	ORNL 2010	--	--	3.1	ORNL 2010
108-10-1	4-Methyl-2-pentanone	methyl isobutyl ketone	640	WAC 173-340-720(4)(b)(iii)	0.0056	EPA 2010	--	13	0.013	EPA 2010	--	--	0.013	EPA 2010
106-44-5	4-Methylphenol (cresol, p-)	cresol;p-	40	WAC 173-340-720(4)(b)(iii)	4.10E-05	EPA 2010	0.43	300	0.30	EPA 2010	--	--	0.43	DOE/RL-96-17
100-01-6	4-Nitroaniline	nitroaniline, 4-	4.4	WAC 173-340-720(4)(b)(iii)	5.20E-08	EPA 2010	0.052	109	0.11	EPA 2010	--	--	0.052	DOE/RL-96-17
100-02-7	4-Nitrophenol	nitrophenol;4-	128	WAC 173-340-720(4)(b)(iii)	1.70E-08	ORNL 2010	0.31	291	0.29	ORNL 2010	--	--	0.31	DOE/RL-96-17
83-32-9	Acenaphthene	acenaphthene	960	WAC 173-340-720(4)(b)(iii)	0.0064	CLARC 2010	6.1	4,900	4.9	CLARC 2010	--	--	6.1	DOE/RL-96-17

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208-96-8	Acenaphthylene	acenaphthylene (Not in CLARC database tables; use acenaphthene as surrogate)	--	--	0.0047	ORNL 2010	--	5,030	5.0	ORNL 2010	--	--	5.0	ORNL 2010
67-64-1	Acetone	Acetone	7,200	WAC 173-340-720(4)(b)(iii)	0.0016	CLARC 2010	6.00E-04	0.58	5.80E-04	CLARC 2010	--	--	6.00E-04	DOE/RL-96-17
107-13-1	Acrylonitrile	Acrylonitrile	0.081	WAC 173-340-720(4)(b)(iii)	0.0056	EPA 2010	--	8.5	0.0085	EPA 2010	--	--	0.0085	EPA 2010
309-00-2	Aldrin	aldrin	0.0026	WAC 173-340-720(4)(b)(iii)	0.0070	CLARC 2010	49	49,000	49	CLARC 2010	--	--	49	DOE/RL-96-17
319-84-6	Alpha-BHC	hexachlorocyclohexane;alpha (alpha-BHC, HCH)	0.014	WAC 173-340-720(4)(b)(iii)	4.40E-04	CLARC 2010	1.8	1,800	1.8	CLARC 2010	--	--	1.8	DOE/RL-96-17
5103-71-9	Alpha-Chlordane	Alpha-Chlordane	0.25	WAC 173-340-720(4)(b)(iii)	0.0020	ORNL 2010	51	67,500	68	ORNL 2010	--	--	51	DOE/RL-96-17
7429-90-5	Aluminum	Aluminum (soluble)	50	Federal MCL	0	CLARC 2010	--	--	--	--	1,500	EPA 2010	1,500	EPA 2010
120-12-7	Anthracene	anthracene	4,800	WAC 173-340-720(4)(b)(iii)	0.0027	CLARC 2010	24	23,000	23	CLARC 2010	--	--	24	DOE/RL-96-17
7440-36-0	Antimony	antimony	6.0	Federal MCLG	0	CLARC 2010	3.8	--	--	--	45	CLARC 2010	3.8	DOE/RL-96-17
12674-11-2	Aroclor-1016	aroclor 1016 (PCB)	0.50	Federal MCL	0.0082	EPA 2010	107	110,000	110	CLARC 2010	--	--	107	DOE/RL-96-17
11104-28-2	Aroclor-1221	aroclor 1221 [PCB]	0.044	WAC 173-340-720(4)(b)(iii)	0.030	EPA 2010	10	8,397	8.4	EPA 2010	--	--	10	DOE/RL-96-17
11141-16-5	Aroclor-1232	aroclor 1232 [PCB]	0.044	WAC 173-340-720(4)(b)(iii)	0.030	EPA 2010	10	8,397	8.4	EPA 2010	--	--	10	DOE/RL-96-17
53469-21-9	Aroclor-1242	aroclor 1242 [PCB]	0.044	WAC 173-340-720(4)(b)(iii)	0.0078	EPA 2010	45	78,100	78	EPA 2010	--	--	45	DOE/RL-96-17
12672-29-6	Aroclor-1248	aroclor 1248 [PCB]	0.044	WAC 173-340-720(4)(b)(iii)	0.018	EPA 2010	44	76,530	77	EPA 2010	--	--	44	DOE/RL-96-17
11097-69-1	Aroclor-1254	aroclor 1254 (PCB)	0.044	WAC 173-340-720(4)(b)(iii)	0.012	EPA 2010	76	130,500	131	EPA 2010	--	--	76	DOE/RL-96-17
11096-82-5	Aroclor-1260	aroclor 1260 (PCB)	0.044	WAC 173-340-720(4)(b)(iii)	0.014	EPA 2010	822	820,000	820	CLARC 2010	--	--	822	DOE/RL-96-17
7440-38-2	Arsenic	arsenic, inorganic	0.058	WAC 173-340-720(4)(b)(iii)	0	CLARC 2010	3.0	--	--	--	29	CLARC 2010	29	CLARC 2010
7440-39-3	Barium, compounds	Barium	2,000	Federal MCLG	0	CLARC 2010	25	--	--	--	41	CLARC 2010	25	DOE/RL-96-17
71-43-2	Benzene	Benzene	0.80	WAC 173-340-720(4)(b)(iii)	0.23	CLARC 2010	--	62	0.062	CLARC 2010	--	--	0.062	CLARC 2010
56-55-3	Benzo(a)anthracene	Benzo(a)anthracene	0.12	WAC 173-340-720(4)(b)(iii)	1.40E-04	CLARC 2010	360	360,000	360	CLARC 2010	--	--	360	DOE/RL-96-17
50-32-8	Benzo(a)pyrene	Benzo(a)pyrene	0.012	WAC 173-340-720(4)(b)(iii)	4.60E-05	CLARC 2010	5,500	970,000	970	CLARC 2010	--	--	5,500	DOE/RL-96-17
205-99-2	Benzo(b)fluoranthene	Benzo(b)fluoranthene	0.12	WAC 173-340-720(4)(b)(iii)	0.0046	CLARC 2010	803	1.20E+06	1,200	CLARC 2010	--	--	803	DOE/RL-96-17
191-24-2	Benzo(ghi)perylene	BENZO(g,h,i)PERYLENE (using pyrene as a surrogate)	--	--	1.35E-05	ORNL 2010	--	1.95E+06	1,950	ORNL 2010	--	--	1,950	ORNL 2010
207-08-9	Benzo(k)fluoranthene	Benzo(k)fluoranthene	0.12	WAC 173-340-720(4)(b)(iii)	3.40E-05	CLARC 2010	1,230	1.20E+06	1,200	CLARC 2010	--	--	1,230	DOE/RL-96-17

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CAS #	Constituent Name	Alternate Constituent Name	Groundwater CUL for Protectiveness (µg/L)	Groundwater CUL for Protectiveness Source	Henry's Law Constant (Dimensionless)	Henry's Law[b,d] Constant Source	RDR/RAWP K_d (DOE/RL-96-17)[a]	K_{oc} (L/kg)	Organic K_d (L/kg) = K_{oc} x f_{oc}	Organic K_d Source[b]	Inorganic K_d (L/kg)	Inorganic K_d Source[b]	Selected K_d (L/kg)	Source of Selected K_d[c]
7440-41-7	Beryllium	beryllium	4.0	Federal MCLG	0	CLARC 2010	790	--	--	--	790	CLARC 2010	790	DOE/RL-96-17
319-85-7	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	hexachlorocyclohexane;beta-	0.049	WAC 173-340-720(4)(b)(iii)	3.10E-05	CLARC 2010	2.1	2,100	2.1	CLARC 2010	--	--	2.1	DOE/RL-96-17
108-60-1	Bis(2-chloro-1-methylethyl)ether	bis(2-chloro-1-methyl-ethyl)ether	0.63	WAC 173-340-720(4)(b)(iii)	0.0030	EPA 2010	0.039	83	0.083	EPA 2010	--	--	0.039	DOE/RL-96-17
111-91-1	Bis(2-Chloroethoxy)methane	bis(2-chloroethoxyl)methane	48	WAC 173-340-720(4)(b)(iii)	1.60E-04	EPA 2010	0.0028	14	0.014	EPA 2010	--	--	0.0028	DOE/RL-96-17
111-44-4	Bis(2-chloroethyl) ether	bis(2-chloroethyl)ether	0.040	WAC 173-340-720(4)(b)(iii)	7.40E-04	CLARC 2010	0.076	76	0.076	CLARC 2010	--	--	0.076	DOE/RL-96-17
117-81-7	Bis(2-ethylhexyl) phthalate	bis(2-ethylhexyl) phthalate	6.0	Federal MCL	4.20E-06	CLARC 2010	110	110,000	110	CLARC 2010	--	--	110	DOE/RL-96-17
7440-69-9	Bismuth	Bismuth	--	--	--	--	--	--	--	--	--	--	--	--
7440-42-8	Boron	Boron	3,200	WAC 173-340-720(4)(b)(iii)	0	CLARC 2010	--	--	--	--	3.0	EPA 2010	3.0	EPA 2010
24959-67-9	Bromide	Bromide	--	--	--	--	--	--	--	--	--	--	--	--
75-27-4	Bromodichloromethane	bromodichloromethane	0.71	WAC 173-340-720(4)(b)(iii)	0.066	CLARC 2010	--	55	0.055	CLARC 2010	--	--	0.055	CLARC 2010
75-25-2	Bromoform	bromoform	5.5	WAC 173-340-720(4)(b)(iii)	0.022	CLARC 2010	--	130	0.13	CLARC 2010	--	--	0.13	CLARC 2010
74-83-9	Bromomethane	bromomethane	11	WAC 173-340-720(4)(b)(iii)	0.26	CLARC 2010	--	9.0	0.0090	CLARC 2010	--	--	0.0090	CLARC 2010
85-68-7	Butylbenzylphthalate	butyl benzyl phthalate	46	WAC 173-340-720(4)(b)(iii)	5.20E-05	CLARC 2010	14	14,000	14	CLARC 2010	--	--	14	DOE/RL-96-17
7440-43-9	Cadmium	cadmium	5.0	Federal MCLG	0	CLARC 2010	30	--	--	--	75	EPA 2010	30	DOE/RL-96-17
7440-70-2	Calcium	Calcium	--	--	--	--	--	--	--	--	--	--	--	--
86-74-8	Carbazole	carbazole	4.4	WAC 173-340-720(4)(b)(iii)	6.30E-07	CLARC 2010	3.4	3,400	3.4	CLARC 2010	--	--	3.4	DOE/RL-96-17
75-15-0	Carbon disulfide	carbon disulfide	800	WAC 173-340-720(4)(b)(iii)	1.2	CLARC 2010	--	46	0.046	CLARC 2010	--	--	0.046	CLARC 2010
56-23-5	Carbon tetrachloride	carbon tetrachloride	0.34	WAC 173-340-720(4)(b)(iii)	1.3	CLARC 2010	0.15	150	0.15	CLARC 2010	--	--	0.15	DOE/RL-96-17
57-74-9	Chlordane	chlordane	0.25	WAC 173-340-720(4)(b)(iii)	0.0020	CLARC 2010	51	51,000	51	CLARC 2010	--	--	51	DOE/RL-96-17
16887-00-6	Chloride	chloride	250,000	State MCL	0	ORNL 2010	0	--	--	--	--	--	0	DOE/RL-96-17
108-90-7	Chlorobenzene	chlorobenzene	100	Federal MCLG	0.15	CLARC 2010	--	220	0.22	CLARC 2010	--	--	0.22	CLARC 2010
75-00-3	Chloroethane	ethyl chloride	--	--	4.5E-01	EPA 2010	--	22	0.022	ORNL 2010	--	--	0.022	ORNL 2010
67-66-3	Chloroform	chloroform	1.4	WAC 173-340-720(4)(b)(iii)	0.15	CLARC 2010	--	53	0.053	CLARC 2010	--	--	0.053	CLARC 2010
74-87-3	Chloromethane	chloromethane	--	--	3.6E-01	ORNL 2010	--	6.0	0.0060	CLARC 2010	--	--	0.0060	CLARC 2010
7440-47-3	Chromium	chromium (total)	100	Federal MCLG	0	CLARC 2010	200	--	--	--	1,000	CLARC 2010	200	DOE/RL-96-17
218-01-9	chrysene	Chrysene	1.2	WAC 173-340-	0.0039	CLARC 2010	200	400,000	400	CLARC 2010	--	--	200	DOE/RL-

Table 4-3. Summary of Input Parameters Used for the Fixed Parameter 3-Phse Partitioning Model Calculation

CAS #	Constituent Name	Alternate Constituent Name	Groundwater CUL for Protectiveness (µg/L)	Groundwater CUL for Protectiveness Source	Henry's Law Constant (Dimensionless)	Henry's Law[b,d] Constant Source	RDR/RAWP K_d (DOE/RL-96-17)[a]	K_{oc} (L/kg)	Organic K_d (L/kg) = K_{oc} x f_{oc}	Organic K_d Source[b]	Inorganic K_d (L/kg)	Inorganic K_d Source[b]	Selected K_d (L/kg)	Source of Selected K_d[c]
				720(4)(b)(iii)										96-17
156-59-2	cis-1,2-Dichloroethylene	dichloroethylene;1,2-,cis	70	Federal MCLG	0.17	CLARC 2010	--	36	0.036	CLARC 2010	--	--	0.036	CLARC 2010
10061-01-5	cis-1,3-Dichloropropene	dichloropropene;1,2-,cis	0.44	WAC 173-340-720(4)(b)(iii)	0.73	CLARC 2010	--	27	0.027	CLARC 2010	--	--	0.027	CLARC 2010
7440-48-4	cobalt	Cobalt	4.8	WAC 173-340-720(4)(b)(iii)	0	ORNL 2010	50	--	--	--	45	EPA 2010	50	DOE/RL-96-17
PCB1242/1016	Co-elution of Aroclor 1242 and Aroclor 1016	Co-elution of Aroclor 1242 and Aroclor 1017	--	--	--	--	--	--	--	--	--	--	--	--
7440-50-8	Copper	copper	640	WAC 173-340-720(4)(b)(iii)	0	CLARC 2010	22	--	--	--	22	CLARC 2010	22	DOE/RL-96-17
57-12-5	Cyanide	cyanide	200	Federal MCLG	0.0054	EPA 2010	9.9	--	--	--	9.9	EPA 2010	9.9	DOE/RL-96-17
75-99-0	Dalapon	Dalapon	200	Federal MCLG	2.3E-06	EPA 2010	0.0027	3.231	0.0032	EPA 2010	--	--	0.0027	DOE/RL-96-17
319-86-8	Delta-BHC	hexachlorocyclohexane;delta-	--	--	2.10E-04	ORNL 2010	--	2,810	2.8	ORNL 2010	--	--	2.8	ORNL 2010
53-70-3	Dibenz[a,h]anthracene	Dibenz[a,h]anthracene	0.12	WAC 173-340-720(4)(b)(iii)	6.00E-07	CLARC 2010	1,790	1.80E+06	1,800	CLARC 2010	--	--	1,790	DOE/RL-96-17
132-64-9	Dibenzofuran	dibenzofuran	16	WAC 173-340-720(4)(b)(iii)	0.0087	EPA 2010	11	9,161	9.2	EPA 2010	--	--	11	DOE/RL-96-17
124-48-1	Dibromochloromethane	chlorodibromomethane [dibromochloromethane]	0.52	WAC 173-340-720(4)(b)(iii)	0.032	CLARC 2010	--	63	0.063	CLARC 2010	--	--	0.063	CLARC 2010
1918-00-9	Dicamba	Dicamba	480	WAC 173-340-720(4)(b)(iii)	8.9E-08	EPA 2010	0.029	29.01	0.029	EPA 2010	--	--	0.029	DOE/RL-96-17
120-36-5	Dichloroprop	Dichloroprop	--	--	--	--	0.029	--	--	--	--	--	0.029	DOE/RL-96-17
60-57-1	Dieldrin	dieldrin	0.0055	WAC 173-340-720(4)(b)(iii)	6.20E-04	CLARC 2010	26	26,000	26	CLARC 2010	--	--	26	DOE/RL-96-17
60-29-7	Diethyl ether	ethyl ether	1,600	Method B GW CUL	0.050	EPA 2010	--	9.7	0.0097	EPA 2010	--	--	0.0097	EPA 2010
84-66-2	Diethylphthalate	diethyl phthalate	12,800	WAC 173-340-720(4)(b)(iii)	1.90E-05	CLARC 2010	0.082	82	0.082	CLARC 2010	--	--	0.082	DOE/RL-96-17
131-11-3	Dimethyl phthalate	dimethyl phthalate	--	--	8.05E-06	CLARC 2010	--	32	0.032	ORNL 2010	--	--	0.032	ORNL 2010
84-74-2	Di-n-butylphthalate	di-butyl phthalate	1,600	WAC 173-340-720(4)(b)(iii)	3.90E-08	CLARC 2010	1.6	1,600	1.6	CLARC 2010	--	--	1.6	DOE/RL-96-17
117-84-0	Di-n-octylphthalate	di-n-octyl phthalate	--	--	0.0027	CLARC 2010	--	8.30E+07	83,000	CLARC 2010	--	--	83,000	CLARC 2010
88-85-7	Dinoseb(2-secButyl-4,6-dinitrophenol)	Dinoseb	7.0	Federal MCLG	1.9E-05	EPA 2010	3.5	4294	4.3	EPA 2010	--	--	3.5	DOE/RL-96-17
959-98-8	Endosulfan I	Endosulfan I	96	WAC 173-340-720(4)(b)(iii)	4.60E-04	CLARC 2010	2.0	2,000	2.0	CLARC 2010	--	--	2.0	DOE/RL-96-17
33213-65-9	Endosulfan II	Endosulfan II	96	WAC 173-340-720(4)(b)(iii)	4.60E-04	CLARC 2010	2.0	2,000	2.0	CLARC 2010	--	--	2.0	DOE/RL-96-17
1031-07-8	Endosulfan sulfate	Endosulfan sulfate	--	--	1.33E-05	ORNL 2010	2.0	9,850	9.9	ORNL 2010	--	--	2.0	DOE/RL-96-17
72-20-8	Endrin	endrin	2.0	Federal MCLG	3.10E-04	CLARC 2010	11	11,000	11	CLARC 2010	--	--	11	DOE/RL-96-17

Table 4-3. Summary of Input Parameters Used for the Fixed Parameter 3-Phse Partitioning Model Calculation

CAS #	Constituent Name	Alternate Constituent Name	Groundwater CUL for Protectiveness (µg/L)	Groundwater CUL for Protectiveness Source	Henry's Law Constant (Dimensionless)	Henry's Law[b,d] Constant Source	RDR/RAWP K_d (DOE/RL-96-17)[a]	K_{oc} (L/kg)	Organic K_d (L/kg) = K_{oc} x f_{oc}	Organic K_d Source[b]	Inorganic K_d (L/kg)	Inorganic K_d Source[b]	Selected K_d (L/kg)	Source of Selected K_d[c]
7421-93-4	Endrin aldehyde	Endrin aldehyde	--	--	1.71E-04	ORNL 2010	11	3,270	3.3	ORNL 2010	--	--	11	DOE/RL-96-17
53494-70-5	Endrin ketone	Endrin ketone	--	--	8.26E-07	ORNL 2010	--	9,720	9.7	ORNL 2010	--	--	9.7	ORNL 2010
141-78-6	Ethyl acetate	Ethyl acetate	7,200	WAC 173-340-720(4)(b)(iii)	0.0055	EPA 2010	--	5.6	0.0056	EPA 2010	--	--	0.0056	EPA 2010
107-21-1	Ethylene glycol	Ethylene glycol	16,000	WAC 173-340-720(4)(b)(iii)	2.45E-06	EPA 2010	0.0010	1.0	0.0010	ORNL 2010	--	--	0.0010	DOE/RL-96-17
100-41-4	Ethylbenzene	ethylbenzene	4.0	WAC 173-340-720(4)(b)(iii)	0.32	CLARC 2010	--	200	0.20	CLARC 2010	--	--	0.20	CLARC 2010
206-44-0	Fluoranthene	fluoranthene	640	WAC 173-340-720(4)(b)(iii)	6.60E-04	CLARC 2010	49	49,000	49	CLARC 2010	--	--	49	DOE/RL-96-17
86-73-7	Fluorene	fluorene	640	WAC 173-340-720(4)(b)(iii)	0.0026	CLARC 2010	7.7	7,700	7.7	CLARC 2010	--	--	7.7	DOE/RL-96-17
16984-48-8	Fluoride	fluoride (using fluorine)	960	WAC 173-340-720(4)(b)(iii)	0	(Conservative assumption)	150	--	--	--	150	EPA 2010	150	DOE/RL-96-17
58-89-9	Gamma-BHC (Lindane)	lindane [gamma-BHC] (see hexachlorocyclohexane)	0.080	WAC 173-340-720(4)(b)(iii)	5.70E-04	CLARC 2010	1.4	1,400	1.4	CLARC 2010	--	--	1.4	DOE/RL-96-17
76-44-8	Heptachlor	heptachlor	0.019	WAC 173-340-720(4)(b)(iii)	0.045	CLARC 2010	9.5	9,500	9.5	CLARC 2010	--	--	9.5	DOE/RL-96-17
1024-57-3	Heptachlor epoxide	Heptachlor epoxide	0.0048	WAC 173-340-720(4)(b)(iii)	3.90E-04	CLARC 2010	83	83,000	83	CLARC 2010	--	--	83	DOE/RL-96-17
118-74-1	Hexachlorobenzene	hexachlorobenzene	0.055	WAC 173-340-720(4)(b)(iii)	0.054	CLARC 2010	80	80,000	80	CLARC 2010	--	--	80	DOE/RL-96-17
87-68-3	Hexachlorobutadiene	hexachlorobutadiene	0.56	WAC 173-340-720(4)(b)(iii)	0.33	CLARC 2010	54	54,000	54	CLARC 2010	--	--	54	DOE/RL-96-17
77-47-4	Hexachlorocyclopentadiene	hexachlorocyclopentadiene	48	WAC 173-340-720(4)(b)(iii)	1.1	CLARC 2010	200	200,000	200	CLARC 2010	--	--	200	DOE/RL-96-17
67-72-1	Hexachloroethane	hexachloroethane	3.1	WAC 173-340-720(4)(b)(iii)	0.16	CLARC 2010	1.8	1,800	1.8	CLARC 2010	--	--	1.8	DOE/RL-96-17
18540-29-9	Hexavalent Chromium	chromium(VI)	48	WAC 173-340-720(4)(b)(iii)	0	CLARC 2010	0	--	--	--	19	CLARC 2010	0	DOE/RL-96-17
193-39-5	Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	0.12	WAC 173-340-720(4)(b)(iii)	6.60E-05	CLARC 2010	3,470	3.50E+06	3,500	CLARC 2010	--	--	3,470	DOE/RL-96-17
7439-89-6	Iron	Iron	300	Federal MCL	0	CLARC 2010	--	--	--	--	25	EPA 2010	25	EPA 2010
78-59-1	Isophorone	isophorone	46	WAC 173-340-720(4)(b)(iii)	2.70E-04	CLARC 2010	0.047	47	0.047	CLARC 2010	--	--	0.047	DOE/RL-96-17
7439-92-1	Lead	lead	15	Federal MCL	0	CLARC 2010	30	--	--	--	10,000	CLARC 2010	30	DOE/RL-96-17
7439-93-2	Lithium	Lithium	32	WAC 173-340-720(4)(b)(iii)	0	ORNL 2010	50	--	--	--	300	EPA 2010	50	DOE/RL-96-17
7439-95-4	Magnesium	Magnesium (Not in CLARC database Tables)	--	--	--	--	--	--	--	--	--	--	--	--
7439-96-5	Manganese	manganese	50	Federal MCL	0	CLARC 2010	50	--	--	--	65	EPA 2010	50	DOE/RL-96-17
7487-94-7	Mercury	Mercury (using mercuric chloride)	2.0	Federal MCLG	0.47	CLARC 2010	30	--	--	--	52	CLARC 2010	30	DOE/RL-96-17
72-43-5	Methoxychlor	methoxychlor	40	Federal MCLG	6.50E-04	CLARC 2010	80	80,000	80	CLARC 2010	--	--	80	DOE/RL-96-17

Table 4-3. Summary of Input Parameters Used for the Fixed Parameter 3-Phse Partitioning Model Calculation

CAS #	Constituent Name	Alternate Constituent Name	Groundwater CUL for Protectiveness (µg/L)	Groundwater CUL for Protectiveness Source	Henry's Law Constant (Dimensionless)	Henry's Law[b,d] Constant Source	RDR/RAWP K_d (DOE/RL-96-17)[a]	K_{oc} (L/kg)	Organic K_d (L/kg) = K_{oc} x f_{oc}	Organic K_d Source[b]	Inorganic K_d (L/kg)	Inorganic K_d Source[b]	Selected K_d (L/kg)	Source of Selected K_d[c]
75-09-2	Methylene chloride	methylene chloride	5.0	Federal MCL	0.090	CLARC 2010	0.010	10	0.010	CLARC 2010	--	--	0.010	DOE/RL-96-17
7439-98-7	Molybdenum	molybdenum	80	WAC 173-340-720(4)(b)(iii)	0	CLARC 2010	20	--	--	--	20	EPA 2010	20	DOE/RL-96-17
108-38-3	m-Xylene	Xylene, m-	1,600	WAC 173-340-720(4)(b)(iii)	0.30	CLARC 2010	--	200	0.20	CLARC 2010	--	--	0.20	CLARC 2010
91-20-3	Naphthalene	naphthalene	160	WAC 173-340-720(4)(b)(iii)	0.020	CLARC 2010	1.2	1,200	1.2	CLARC 2010	--	--	1.2	DOE/RL-96-17
7440-02-0	Nickel	nickel soluble salts	100	State MCL	0	CLARC 2010	65	--	--	--	65	CLARC 2010	65	DOE/RL-96-17
14797-55-8	Nitrate	Nitrate	45,000	Federal MCL	0	(Conservative assumption)	0	--	--	--	--	--	0	DOE/RL-96-17
14797-65-0	Nitrite	Nitrite	3,300	Federal MCL	0	(Conservative assumption)	0	--	--	--	--	--	0	DOE/RL-96-17
98-95-3	Nitrobenzene	Nitrobenzene	16	WAC 173-340-720(4)(b)(iii)	9.80E-04	CLARC 2010	0.12	120	0.12	CLARC 2010	--	--	0.12	DOE/RL-96-17
NO3-N	Nitrogen in Nitrate	Nitrogen in Nitrate	10,000	Federal MCL	0	(Conservative assumption)	0	--	--	--	--	--	0	DOE/RL-96-17
NO2-N	Nitrogen in Nitrite	Nitrogen in Nitrite	1,000	Federal MCL	0	(Conservative assumption)	0	--	--	--	--	--	0	DOE/RL-96-17
NO2+NO3-N	Nitrogen in Nitrite and Nitrate	Nitrogen in Nitrite and Nitrate	10,000	Federal MCL	0	(Conservative assumption)	0	--	--	--	--	--	0	DOE/RL-96-17
621-64-7	n-Nitrosodi-n-dipropylamine	nitroso-di-n-propylamine;N-	0.013	WAC 173-340-720(4)(b)(iii)	9.20E-05	CLARC 2010	0.024	24	0.024	CLARC 2010	--	--	0.024	DOE/RL-96-17
86-30-6	n-Nitrosodiphenylamine	nitrosodiphenylamine;N-	18	WAC 173-340-720(4)(b)(iii)	2.10E-04	CLARC 2010	1.3	1,300	1.3	CLARC 2010	--	--	1.3	DOE/RL-96-17
95-47-6	o-Xylene	xylene,o-	1,600	WAC 173-340-720(4)(b)(iii)	2.1E-01	CLARC 2010	--	240	0.24	CLARC 2010	--	--	0.24	CLARC 2010
87-86-5	Pentachlorophenol	pentachlorophenol	0.73	WAC 173-340-720(4)(b)(iii)	1.00E-06	CLARC 2010	0.59	590	0.59	CLARC 2010	--	--	0.59	DOE/RL-96-17
%MOISTURE	Percent moisture (wet sample)	Percent moisture (wet sample)	--	--	--	--	--	--	--	--	--	--	--	--
PH	pH Measurement	pH Measurement	--	--	--	--	--	--	--	--	--	--	--	--
85-01-8	Phenanthrene	Phenanthrene	--	--	0.0017	ORNL 2010	24	16,700	17	ORNL 2010	--	--	24	DOE/RL-96-17
108-95-2	Phenol	Phenol	2,400	WAC 173-340-720(4)(b)(iii)	1.60E-05	CLARC 2010	0.029	29	0.029	CLARC 2010	--	--	0.029	DOE/RL-96-17
14265-44-2	Phosphate	Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
7723-14-0	Phosphorus	phosphorus	0.16	WAC 173-340-720(4)(b)(iii)	0	(Conservative assumption)	--	--	--	--	3.5	EPA 2010	3.5	EPA 2010
PO4-P	Phosphorus in phosphate	Phosphorus in phosphate	--	--	--	--	--	--	--	--	--	--	--	--
7440-09-7	Potassium	Potassium	--	--	--	--	--	--	--	--	--	--	--	--
129-00-0	Pyrene	pyrene	480	WAC 173-340-720(4)(b)(iii)	4.50E-04	CLARC 2010	68	68,000	68	CLARC 2010	--	--	68	DOE/RL-96-17
7782-49-2	Selenium	selenium and compounds	50	Federal MCLG	0	CLARC 2010	5.0	--	--	--	5.0	CLARC 2010	5.0	DOE/RL-96-17
7440-21-3	Silicon	Silicon	--	--	--	--	--	--	--	--	--	--	--	--
7440-22-4	Silver	silver	80	WAC 173-340-	0	CLARC 2010	90	--	--	--	8.3	CLARC	90	DOE/RL-

Table 4-3. Summary of Input Parameters Used for the Fixed Parameter 3-Phse Partitioning Model Calculation

CAS #	Constituent Name	Alternate Constituent Name	Groundwater CUL for Protectiveness (µg/L)	Groundwater CUL for Protectiveness Source	Henry's Law Constant (Dimensionless)	Henry's Law[b,d] Constant Source	RDR/RAWP K_d (DOE/RL-96-17)[a]	K_{oc} (L/kg)	Organic K_d (L/kg) = K_{oc} x f_{oc}	Organic K_d Source[b]	Inorganic K_d (L/kg)	Inorganic K_d Source[b]	Selected K_d (L/kg)	Source of Selected K_d[c]
				720(4)(b)(iii)								2010		96-17
7440-23-5	Sodium	Sodium	--	--	--	--	--	--	--	--	--	--	--	--
7440-24-6	Strontium	strontium	9,600	WAC 173-340-720(4)(b)(iii)	0	CLARC 2010	25	--	--	--	35	EPA 2010	25	DOE/RL-96-17
100-42-5	Styrene	styrene	100	Federal MCLG	0.11	CLARC 2010	--	910	0.91	CLARC 2010	--	--	0.91	CLARC 2010
14808-79-8	Sulfate	sulfate	250,000	Federal MCL	0	(Conservative assumption)	0	--	--	--	--	--	0	DOE/RL-96-17
18496-25-8	Sulfide	Sulfide	--	--	--	--	0	--	--	--	--	--	0	DOE/RL-96-17
127-18-4	Tetrachloroethene	tetrachloroethylene	0.081	WAC 173-340-720(4)(b)(iii)	0.75	CLARC 2010	--	270	0.27	CLARC 2010	--	--	0.27	CLARC 2010
7440-28-0	Thallium	Thallium, soluable salts	0.50	Federal MCLG	0	CLARC 2010	--	--	--	--	71	CLARC 2010	71	EPA 2010
7440-31-5	Tin	tin	9,600	WAC 173-340-720(4)(b)(iii)	0	CLARC 2010	130	--	--	--	250	EPA 2010	130	DOE/RL-96-17
108-88-3	Toluene	Toluene	640	WAC 173-340-720(4)(b)(iii)	0.27	CLARC 2010	0.14	140	0.14	CLARC 2010	--	--	0.14	DOE/RL-96-17
TPH	Total petroleum hydrocarbons	Total petroleum hydrocarbons	500	WAC 173-340-720(3)(b)	--	--	--	--	--	--	--	--	--	--
TPHDIESEL	Total petroleum hydrocarbons - diesel range	Total petroleum hydrocarbons - diesel range	500	WAC 173-340-720(3)(b)	--	--	--	--	--	--	--	--	--	--
TPH/OILH	Total petroleum hydrocarbons - motor oil (high boiling)	Total petroleum hydrocarbons - motor oil (high boiling)	500	WAC 173-340-720(3)(b)	--	--	--	--	--	--	--	--	--	--
8001-35-2	Toxaphene	toxaphene	0.080	WAC 173-340-720(4)(b)(iii)	2.50E-04	CLARC 2010	96	96,000	96	CLARC 2010	--	--	96	DOE/RL-96-17
156-60-5	trans-1,2-Dichloroethylene	dichloroethylene;1,2-,trans	100	Federal MCLG	0.39	CLARC 2010	--	38	0.038	CLARC 2010	--	--	0.038	CLARC 2010
10061-02-6	trans-1,3-Dichloropropene	dichloropropene;1,3-,trans	0.44	WAC 173-340-720(4)(b)(iii)	0.73	CLARC 2010	--	27	0.027	CLARC 2010	--	--	0.027	CLARC 2010
126-73-8	Tributyl phosphate	Tributyl phosphate	9.7	WAC 173-340-720(4)(b)(iii)	5.76E-05	EPA 2010	1.9	2,350	2.4	EPA 2010	--	--	1.9	DOE/RL-96-17
79-01-6	Trichloroethene	trichloroethylene (TCE)	0.49	WAC 173-340-720(4)(b)(iii)	0.42	CLARC 2010	--	94	0.094	CLARC 2010	--	--	0.094	CLARC 2010
75-69-4	Trichloromonofluoromethane	trichlorofluoromethane	2,400	WAC 173-340-720(4)(b)(iii)	4.0	EPA 2010	--	44	0.044	EPA 2010	--	--	0.044	EPA 2010
7440-61-1	Uranium	Uranium	30	Federal MCL	0	CLARC 2010	2.0	--	--	--	450	EPA 2010	2.0	DOE/RL-96-17
7440-62-2	Vanadium	vanadium	80	WAC 173-340-720(4)(b)(iii)	0	CLARC 2010	1,000	--	--	--	1,000	CLARC 2010	1,000	DOE/RL-96-17
75-01-4	Vinyl chloride	vinyl chloride [chloroethene; 1-]	0.061	WAC 173-340-720(4)(b)(iii)	1.1	CLARC 2010	--	19	0.019	CLARC 2010	--	--	0.019	CLARC 2010
1330-20-7	Xylenes (total)	Xylenes (total)	1,600	WAC 173-340-720(4)(b)(iii)	0.28	CLARC 2010	0.23	230	0.23	CLARC 2010	--	--	0.23	DOE/RL-96-17
7440-66-6	Zinc	zinc	4,800	WAC 173-340-720(4)(b)(iii)	0	CLARC 2010	30	--	--	--	62	CLARC 2010	30	DOE/RL-96-17

Notes:

a. Table E-2, DOE/RL-96-17 Rev. 6, Remedial Design Report/Remedial Action Work Plan

Table 4-3. Summary of Input Parameters Used for the Fixed Parameter 3-Phse Partitioning Model Calculation

CAS #	Constituent Name	Alternate Constituent Name	Groundwater CUL for Protectiveness (µg/L)	Groundwater CUL for Protectiveness Source	Henry's Law Constant (Dimensionless)	Henry's Law[b,d] Constant Source	RDR/RAWP K_d (DOE/RL-96-17)[a]	K_{oc} (L/kg)	Organic K_d (L/kg) = K_{oc} x f_{oc}	Organic K_d Source[b]	Inorganic K_d (L/kg)	Inorganic K_d Source[b]	Selected K_d (L/kg)	Source of Selected K_d[c]

(RDR/RAWP) for the 100 Area

b. Chemical-specific parameters (H_{cc}, K_d, and K_{oc}) were obtained from the following sources, in order of preference:

1. Ecology, 2010, Cleanup Levels and Risk Calculations (CLARC) Database, Washington State Department of Ecology, Olympia, Washington, available on the internet at <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.
2. EPA, 2010, "Regional Screening Levels for Chemical Contaminants at Superfund Sites", screening level/preliminary remediation goal website, updated May 27, 2010
3. ORNL, 2010, Risk Assessment Information System, Oak Ridge National Laboratory, Oak Ridge, Tennessee, available on the internet at < http://rais.ornl.gov/ >.

c. The final selected soil/water distribution coefficinets (Kd) were obtained from the RDR/RAWP. If a kd is not identified in the RDR/RAWP, a Kd is calculated using the method described in Section 4 of this environmental calculation.

d. A Henry's Law Constant was not identified in the three tabulated sources for fluoride, nitrate, nitrite, nitrogen as nitrate, nitrogen as nitrite, nitrogen as nitrite and nitrate, phosphorous, and sulfate. A value of zero was use as a conservative assumption for these constituents.

K_d = distribution coefficient

K_{oc} = carbon-water partitioning coefficient

5 Software Applications

All supporting calculations are performed on electronic spreadsheets using Microsoft Excel®.

6 Calculation

Soil concentrations for groundwater protection are calculated using the methodology and equations presented in Section 3 and the assumptions and inputs presented in Section 4. Results of the calculations are discussed in Section 7. The spreadsheet calculations are validated by comparison with hand calculations. The hand calculations are provided in Figure 6-1.

7 Results/Conclusions

Results of the fixed parameter three-phase partitioning model calculations are presented in Table 7-1. The concentrations in soil calculated with this equation are highly conservative values that are calculated with assumptions which potentially overstate the potential impacts to groundwater from contaminants in soil under actual waste site conditions. These conservative assumptions are listed in Section 4, and are discussed in further detail in EPA/540/R-96/018. The dilution factor is also a default value; site-specific values for dilution factors can be calculated according to the variable parameter three-phase partitioning model, as described in WAC-173-340-747(5), "Variable Parameter Three-Phase Partitioning Model." As described in EPA/540/R-96/018, the concentrations in soil calculated with this equation are most useful as screening levels for identifying sites and locations where further evaluation of potential impacts to groundwater from contaminants in soil may be warranted. Therefore, the concentrations in soil calculated with the fixed parameter three-phase model may be useful in identifying contaminants of potential concern which should be evaluated further using more refined modeling within a graded approach.

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Table 7-1. Fixed Parameter 3-Phase Partitioning Model Calculation for Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Soil Concentration Protective of Groundwater (mg/kg)
71-55-6	1,1,1-Trichloroethane	Trichloroethane;1,1,1-	1.6
79-34-5	1,1,2,2-Tetrachloroethane	tetrachloroethane;1,1,2,2-	0.0012
79-00-5	1,1,2-Trichloroethane	trichloroethane;1,1,2-	0.0043
75-34-3	1,1-Dichloroethane	dichloroethane;1,1-	8.7
75-35-4	1,1-Dichloroethene	Dichloroethene;1,1-	0.050
120-82-1	1,2,4-Trichlorobenzene	trichlorobenzene;1,2,4-	0.056
95-50-1	1,2-Dichlorobenzene	dichlorobenzene;1,2- (ortho-Dichlorobenzene)	7.0
107-06-2	1,2-Dichloroethane	dichloroethane;1,2-	0.0023
540-59-0	1,2-Dichloroethene (Total)	dichloroethylene,1,2- (mixed isomers)	0.37
78-87-5	1,2-Dichloropropane	dichloropropane;1,2-	0.0063
541-73-1	1,3-Dichlorobenzene	dichlorobenzene;1,3	--
106-46-7	1,4-Dichlorobenzene	dichlorobenzene;1,4- (para-Dichlorobenzene)	0.13
93-76-5	2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	Trichlorophenoxyacetic Acid, 2,4,5-	0.80
93-72-1	2,4,5-TP(2-(2,4,5-Trichlorophenoxy)propionic acid)Silvex	Trichlorophenoxypropionic acid, -2,4,5	0.28
95-95-4	2,4,5-Trichlorophenol	Trichlorophenol;2,4,5-	29
88-06-2	2,4,6-Trichlorophenol	Trichlorophenol2,4,6-	0.046
94-82-6	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	Dichlorophenoxy)butyric Acid, 4-(2,4-	0.77
120-83-2	2,4-Dichlorophenol	dichlorophenol;2,4-	0.17
94-75-7	2,4-Dichlorophenoxyacetic acid	Dichlorophenoxy Acetic Acid, 2,4-	0.32
105-67-9	2,4-Dimethylphenol	dimethylphenol;2,4-	1.3
51-28-5	2,4-Dinitrophenol	dinitrophenol;2,4-	0.13
121-14-2	2,4-Dinitrotoluene	dinitrotoluene;2,4-	0.0017
606-20-2	2,6-Dinitrotoluene	dinitrotoluene;2,6-	0.086
78-93-3	2-Butanone	methyl ethyl ketone (MEK; 2-butanone)	20

Table 7-1. Fixed Parameter 3-Phase Partitioning Model Calculation for Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Soil Concentration Protective of Groundwater (mg/kg)
111-76-2	2-Butoxyethanol	ethylene glycol monobutyl ether (EGBE)	3.2
91-58-7	2-Chloronaphthalene	beta-chloronaphthalene	41
95-57-8	2-Chlorophenol	Chlorophenol;2-	0.47
591-78-6	2-Hexanone	HEXANONE;2- [MBK, methyl butyl ketone]	0.17
91-57-6	2-Methylnaphthalene	methylnapthalene;2-	2.0
95-48-7	2-Methylphenol (cresol, o-)	cresol;o-	5.1
88-74-4	2-Nitroaniline	nitroaniline, 2-	0.81
88-75-5	2-Nitrophenol	nitrophenol;2-	--
91-94-1	3,3'-Dichlorobenzidine	dichlorobenzidine;3,3'-	0.0036
65794-96-9	3+4 Methylphenol (cresol, m+p)	methylphenol,3+4 (cresol, m+p)	--
99-09-2	3-Nitroaniline	nitroaniline, 3-	0.021
72-54-8	4,4'-DDD (Dichlorodiphenyldichloroethane)	ddd	0.34
72-55-9	4,4'-DDE (Dichlorodiphenyldichloroethylene)	dde	0.45
50-29-3	4,4'-DDT (Dichlorodiphenyltrichloroethane)	ddt	3.5
534-52-1	4,6-Dinitro-2-methylphenol	dinitro-2-methylphenol;4,6-	0.021
1918-02-1	4-Amino-3,5,6-trichloropicolinic acid	picloram	2.4
101-55-3	4-Bromophenylphenyl ether	bromodiphenyl ether;4-	--
59-50-7	4-Chloro-3-methylphenol	chloro-3-methylphenol;4-	22
106-47-8	4-Chloroaniline	chloroaniline;p-	0.0012
7005-72-3	4-Chlorophenylphenyl ether	chlorodiphenyl ether;4-	--
108-10-1	4-Methyl-2-pentanone	methyl isobutyl ketone	2.7
106-44-5	4-Methylphenol (cresol, p-)	cresol;p-	0.51
100-01-6	4-Nitroaniline	nitroaniline, 4-	0.022
100-02-7	4-Nitrophenol	nitrophenol;4-	1.3

Table 7-1. Fixed Parameter 3-Phase Partitioning Model Calculation for Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Soil Concentration Protective of Groundwater (mg/kg)
83-32-9	Acenaphthene	acenaphthene	121
208-96-8	Acenaphthylene	acenaphthylene (Not in CLARC database tables; use acenaphthene as surrogate)	--
67-64-1	Acetone	Acetone	29
107-13-1	Acrylonitrile	Acrylonitrile	3.39E-04
309-00-2	Aldrin	aldrin	0.0025
319-84-6	Alpha-BHC	hexachlorocyclohexane;alpha (alpha-BHC, HCH)	5.44E-04
5103-71-9	Alpha-Chlordane	Alpha-Chlordane	0.26
7429-90-5	Aluminum	Aluminum (soluble)	1,500
120-12-7	Anthracene	anthracene	2,275
7440-36-0	Antimony	antimony	0.48
12674-11-2	Aroclor-1016	aroclor 1016 (PCB)	1.1
11104-28-2	Aroclor-1221	aroclor 1221 [PCB]	0.0092
11141-16-5	Aroclor-1232	aroclor 1232 [PCB]	0.0092
53469-21-9	Aroclor-1242	aroclor 1242 [PCB]	0.039
12672-29-6	Aroclor-1248	aroclor 1248 [PCB]	0.039
11097-69-1	Aroclor-1254	aroclor 1254 (PCB)	0.066
11096-82-5	Aroclor-1260	aroclor 1260 (PCB)	0.72
7440-38-2	Arsenic	arsenic, inorganic	0.034
7440-39-3	Barium, compounds	Barium	1,008
71-43-2	Benzene	Benzene	0.0045
56-55-3	Benzo(a)anthracene	Benzo(a)anthracene	0.86
50-32-8	Benzo(a)pyrene	Benzo(a)pyrene	1.3
205-99-2	Benzo(b)fluoranthene	Benzo(b)fluoranthene	1.9

Table 7-1. Fixed Parameter 3-Phase Partitioning Model Calculation for Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Soil Concentration Protective of Groundwater (mg/kg)
191-24-2	Benzo(ghi)perylene	BENZO(g,h,i)PERYLENE (using pyrene as a surrogate)	--
207-08-9	Benzo(k)fluoranthene	Benzo(k)fluoranthene	2.9
7440-41-7	Beryllium	beryllium	63
319-85-7	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	hexachlorocyclohexane;beta-	0.0023
108-60-1	Bis(2-chloro-1-methylethyl)ether	bis(2-chloro-1-methyl-ethyl)ether	0.0030
111-91-1	Bis(2-Chloroethoxy)methane	bis(2-chloroethoxyl)methane	0.19
111-44-4	Bis(2-chloroethyl) ether	bis(2-chloroethyl)ether	2.20E-04
117-81-7	Bis(2-ethylhexyl) phthalate	bis(2-ethylhexyl) phthalate	13
7440-69-9	Bismuth	Bismuth	--
7440-42-8	Boron	Boron	205
24959-67-9	Bromide	Bromide	--
75-27-4	Bromodichloromethane	bromodichloromethane	0.0037
75-25-2	Bromoform	bromoform	0.037
74-83-9	Bromomethane	bromomethane	0.052
85-68-7	Butylbenzylphthalate	butyl benzyl phthalate	13
7440-43-9	Cadmium	cadmium	3.0
7440-70-2	Calcium	Calcium	--
86-74-8	Carbazole	carbazole	0.31
75-15-0	Carbon disulfide	carbon disulfide	5.6
56-23-5	Carbon tetrachloride	carbon tetrachloride	0.0031
57-74-9	Chlordane	chlordane	0.26
16887-00-6	Chloride	chloride	1,000
108-90-7	Chlorobenzene	chlorobenzene	0.87

Table 7-1. Fixed Parameter 3-Phase Partitioning Model Calculation for Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Soil Concentration Protective of Groundwater (mg/kg)
75-00-3	Chloroethane	ethyl chloride	--
67-66-3	Chloroform	chloroform	0.0075
74-87-3	Chloromethane	chloromethane	--
7440-47-3	Chromium	chromium (total)	400
218-01-9	chrysene	Chrysene	4.8
156-59-2	cis-1,2-Dichloroethylene	dichloroethylene;1,2-,cis	0.35
10061-01-5	cis-1,3-Dichloropropene	dichloropropene;1,2-,cis	0.0025
7440-48-4	cobalt	Cobalt	4.8
PCB1242/1016	Co-elution of Aroclor 1242 and Aroclor 1016	Co-elution of Aroclor 1242 and Aroclor 1017	--
7440-50-8	Copper	copper	284
57-12-5	Cyanide	cyanide	40
75-99-0	Dalapon	Dalapon	0.81
319-86-8	Delta-BHC	hexachlorocyclohexane;delta-	--
53-70-3	Dibenz[a,h]anthracene	Dibenz[a,h]anthracene	4.3
132-64-9	Dibenzofuran	dibenzofuran	3.7
124-48-1	Dibromochloromethane	chlorodibromomethane [dibromochloromethane]	0.0028
1918-00-9	Dicamba	Dicamba	2.2
120-36-5	Dichloroprop	Dichloroprop	--
60-57-1	Dieldrin	dieldrin	0.0028
60-29-7	Diethyl ether	ethyl ether	6.8
84-66-2	Diethylphthalate	diethyl phthalate	72
131-11-3	Dimethyl phthalate	dimethyl phthalate	--
84-74-2	Di-n-butylphthalate	di-butyl phthalate	57
117-84-0	Di-n-octylphthalate	di-n-octyl phthalate	--

Table 7-1. Fixed Parameter 3-Phase Partitioning Model Calculation for Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Soil Concentration Protective of Groundwater (mg/kg)
88-85-7	Dinoseb(2-secButyl-4,6-dinitrophenol)	Dinoseb	0.52
959-98-8	Endosulfan I	Endosulfan I	4.3
33213-65-9	Endosulfan II	Endosulfan II	4.3
1031-07-8	Endosulfan sulfate	Endosulfan sulfate	--
72-20-8	Endrin	endrin	0.44
7421-93-4	Endrin aldehyde	Endrin aldehyde	--
53494-70-5	Endrin ketone	Endrin ketone	--
141-78-6	Ethyl acetate	Ethyl acetate	30
107-21-1	Ethylene glycol	Ethylene glycol	64
100-41-4	Ethylbenzene	ethylbenzene	0.034
206-44-0	Fluoranthene	fluoranthene	631
86-73-7	Fluorene	fluorene	101
16984-48-8	Fluoride	fluoride (using fluorine)	2,884
58-89-9	Gamma-BHC (Lindane)	lindane [gamma-BHC] (see hexachlorocyclohexane)	0.0025
76-44-8	Heptachlor	heptachlor	0.0038
1024-57-3	Heptachlor epoxide	Heptachlor epoxide	0.0080
118-74-1	Hexachlorobenzene	hexachlorobenzene	0.088
87-68-3	Hexachlorobutadiene	hexachlorobutadiene	0.60
77-47-4	Hexachlorocyclopentadiene	hexachlorocyclopentadiene	192
67-72-1	Hexachloroethane	hexachloroethane	0.12
18540-29-9	Hexavalent Chromium	chromium(VI)	0.19
193-39-5	Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	8.3
7439-89-6	Iron	Iron	151

Table 7-1. Fixed Parameter 3-Phase Partitioning Model Calculation for Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Soil Concentration Protective of Groundwater (mg/kg)
78-59-1	Isophorone	isophorone	0.23
7439-92-1	Lead	lead	9.1
7439-93-2	Lithium	Lithium	32
7439-95-4	Magnesium	Magnesium (Not in CLARC database Tables)	--
7439-96-5	Manganese	manganese	50
7487-94-7	Mercury	Mercury (using mercuric chloride)	1.2
72-43-5	Methoxychlor	methoxychlor	64
75-09-2	Methylene chloride	methylene chloride	0.022
7439-98-7	Molybdenum	molybdenum	32
108-38-3	m-Xylene	Xylene, m-	14
91-20-3	Naphthalene	naphthalene	4.5
7440-02-0	Nickel	nickel soluble salts	130
14797-55-8	Nitrate	Nitrate	180
14797-65-0	Nitrite	Nitrite	13
98-95-3	Nitrobenzene	Nitrobenzene	0.10
NO3-N	Nitrogen in Nitrate	Nitrogen in Nitrate	40
NO2-N	Nitrogen in Nitrite	Nitrogen in Nitrite	4.0
NO2+NO3-N	Nitrogen in Nitrite and Nitrate	Nitrogen in Nitrite and Nitrate	40
621-64-7	n-Nitrosodi-n-dipropylamine	nitroso-di-n-propylamine;N-	5.60E-05
86-30-6	n-Nitrosodiphenylamine	nitrosodiphenylamine;N-	0.53
95-47-6	o-Xylene	xylene,o-	15
87-86-5	Pentachlorophenol	pentachlorophenol	0.012
%MOISTURE	Percent moisture (wet sample)	Percent moisture (wet sample)	--
PH	pH Measurement	pH Measurement	--

Table 7-1. Fixed Parameter 3-Phase Partitioning Model Calculation for Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Soil Concentration Protective of Groundwater (mg/kg)
85-01-8	Phenanthrene	Phenanthrene	--
108-95-2	Phenol	Phenol	11
14265-44-2	Phosphate	Phosphate	--
7723-14-0	Phosphorus	phosphorus	0.012
PO4-P	Phosphorus in phosphate	Phosphorus in phosphate	--
7440-09-7	Potassium	Potassium	--
129-00-0	Pyrene	pyrene	655
7782-49-2	Selenium	selenium and compounds	5.2
7440-21-3	Silicon	Silicon	--
7440-22-4	Silver	silver	144
7440-23-5	Sodium	Sodium	--
7440-24-6	Strontium	strontium	4,838
100-42-5	Styrene	styrene	2.2
14808-79-8	Sulfate	sulfate	1,000
18496-25-8	Sulfide	Sulfide	--
127-18-4	Tetrachloroethene	tetrachloroethylene	8.67E-04
7440-28-0	Thallium	Thallium, soluable salts	0.71
7440-31-5	Tin	tin	24,998
108-88-3	Toluene	Toluene	4.7
TPH	Total petroleum hydrocarbons	Total petroleum hydrocarbons	--
TPHDIESEL	Total petroleum hydrocarbons - diesel range	Total petroleum hydrocarbons - diesel range	--
TPH/OILH	Total petroleum hydrocarbons - motor oil (high boiling)	Total petroleum hydrocarbons - motor oil (high boiling)	--
8001-35-2	Toxaphene	toxaphene	0.15

Table 7-1. Fixed Parameter 3-Phase Partitioning Model Calculation for Soil Concentrations Protective of Groundwater

CAS #	Constituent Name	Alternate Constituent Name	Soil Concentration Protective of Groundwater (mg/kg)
156-60-5	trans-1,2-Dichloroethylene	dichloroethylene;1,2-,trans	0.54
10061-02-6	trans-1,3-Dichloropropene	dichloropropene;1,3-,trans	0.0025
126-73-8	Tributyl phosphate	Tributyl phosphate	0.41
79-01-6	Trichloroethene	trichloroethylene (TCE)	0.0032
75-69-4	Trichloromonofluoromethane	trichlorofluoromethane	28
7440-61-1	Uranium	Uranium	1.3
7440-62-2	Vanadium	vanadium	1,600
75-01-4	Vinyl chloride	vinyl chloride [chloroethene; 1-]	3.82E-04
1330-20-7	Xylenes (total)	Xylenes (total)	15
7440-66-6	Zinc	zinc	2,899

(200 to 3000 area | Soil Concentration protective of Groundwater | IR 11/03/10

1,1-Dichloroethene

$C_S = C_w \times UCF \times DF \times [K_d \times \rho_b + \theta_w + \theta_a \times H']$

$K_d = K_{oc} \times f_{oc} = 53 \frac{L}{kg} \times 0.001 = 0.053 \frac{L}{kg}$ ✓ (bab)

$C_S =$

$C_S = 1600 \frac{kg}{L} \times 0.005 \frac{mg}{kg} \times 20 \times [0.053 \frac{L}{kg} + \frac{0.3 + 0.13 + 0.28}{1.5 \frac{L}{kg}}]$

$= 1600 \frac{kg}{L} \times 0.005 \frac{mg}{kg} \times 20 \times [0.2729]$

$= 8.7 \frac{mg}{kg}$ ✓

8 References

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC 9601, et seq. Available at: http://uscode.house.gov/download/pls/42C103.txt.

DOE/RL-96-17, 2009, *Remedial Design Report/Remedial Action Work Plan for the 100 Area*, Rev. 6, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=0095436.

ECF-100NPL-10-0462, *Environmental Calculation of WAC 173-340-720 Method B Groundwater Cleanup Levels for Potable Groundwater in the 100 Areas and 300 Area,* CH2M HILL Plateau Remediation Company, Richland, Washington.

Ecology, 2010, Cleanup Levels and Risk Calculations (CLARC) database, Washington State Department of Ecology. Available at: https://fortress.wa.gov/ecy/clarc/.

EPA, 2010, "Regional Screening Levels for Chemical Contaminants at Superfund Sites," U.S. Environmental Protection Agency, Mid-Atlantic Risk Assessment. Available at: http://www.epa.gov/reg3hscd/risk/human/rb-concentration_table/.

EPA/540/R-92/003, 1991, *Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals): Interim*, Publication 9285.7-01B, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://epa.gov/swerrims/riskassessment/ragsb/index.htm.

EPA/540/R-96/018, 1996, *Soil Screening Guidance: Users Guide*, Publication 9355.4-23, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.epa.gov/superfund/health/conmedia/soil/index.htm.

ORNL, 2010, Risk Assessment Information System, Oak Ridge National Laboratory, Oak Ridge Tennessee. Available at: http://rais.ornl.gov/.

Safe Drinking Water Act of 1974, 42 USC 300, et seq. Available at: http://www.epa.gov/ogwdw/sdwa/.

WAC 173-340, "Model Toxics Control Act—Cleanup," *Washington Administrative Code*, Olympia, Washington. Available at: http://apps.leg.wa.gov/WAC/default.aspx?cite=173-340.

173-340-747, "Deriving Soil Concentrations for Ground Water Protection"

173-340-720, "Ground Water Cleanup Standards"

WAC 246-290-310, "Group A Public Water Supplies," "Maximum Contaminant Levels (MCLs) and Maximum Residual Disinfectant Levels (MRDLs)," *Washington Administrative Code*, Olympia, Washington. Available at: http://apps.leg.wa.gov/WAC/default.aspx?cite=246-290-310.

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	Name	Phone Number
Author:	TJ Budge 373-1633	376-
Manager:	AH Aly	376-0300

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Aly, Alaa H Approved via IDMS data file
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Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

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Revision 1

Evaluation of Hexavalent Chromium Leach Test Data Conducted on Vadose Zone Sediment Samples from the 100 Area

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T. J. Budge
CH2M HILL Plateau Remediation Company

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under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

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Checker: N Hasan / Modeler (INTERA)
NAME/POSITION
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Senior Reviewer: S Mehta / Environmental Scientist (CHPRC)
NAME/POSITION
SIGNATURE 2/13/12 DATE

Responsible Manager: AH Aly / Risk and Modeling Integration Manager (CHPRC)
NAME/POSITION
SIGNATURE 2/14/12 DATE

Table of Contents

1. Purpose 1

1.1 Introduction 1

2. Methodology 3

3. Assumptions and Inputs 4

3.1 Method Uncertainties 6

3.2 Leaching Method 6

3.3 Sample Concentration Range 7

3.4 Sample Collection 7

3.5 Dilution Factor 8

4. Software Applications 9

5. Calculation 9

6. Results/Conclusions 9

6.1 Summary 9

6.2 Recommendations 10

7. References 10

Figures

Figure 1 – Empirical cumulative distribution function for K_d estimates from leaching tests. 12
Figure 2 – Empirical cumulative distribution function for K_d estimates from leaching tests broken up by waste site type. 13
Figure 3 – Empirical cumulative distribution function for K_d estimates from leaching tests symbolized to indicate reactor area within the River Corridor. 14
Figure 4 – Empirical cumulative distribution function for 15
Figure 5 – Empirical cumulative distribution function for K_d estimates from leaching tests symbolized to indicate lithology of sediments. 16
Figure 6 – Scatter plot of K_d versus depth with trend lines used to illustrate possible relationship between the two data. 17
Figure 7 – Scatter plot of K_d value based on dilution factor 1:1 versus dilution factor 1:5 (a) and 1:2.5 (b) with corresponding trendline 18
Figure 8 – Scatter plot of soil concentration versus estimated K_d for analyses where both soil and solute concentrations of Cr(VI) were detectable. 19
Figure 9 – Eh-pH diagram for Chromium 20
Figure 10 – Scatter plot of mass leached for dilution factor 1:1 versus mass leached for a dilution factor of 1:2.5 and 1:5 21
Figure 11 – Empirical cumulative distribution function for K_d estimates normalized based on the dilution factor used during leaching tests. 22
Figure 12 – Empirical cumulative distribution function for K_d values normalized to an assumed saturation condition from average 100 Area bulk density and porosity. 23

Tables

Table 1 – Summary of leach tests and K_d results used in analyzing K_d for use in the river corridor 4
Table 2 – ECDF locations used to calculate the 90th percentile exceedance for the dilution factor corrected ECDF. 9

Terms

CHPRC	CH2M-Hill Plateau Remediation Company
ECDF	empirical cumulative distribution function
ECF	environmental calculation file
HISI	Hanford Information System Inventory
HLAN	Hanford Local Area Network
K_d	linear distribution coefficient
m	meter(s)
mg/kg	milligrams per kilogram
mL/g	milliliters per gram
PNNL	Pacific Northwest National Laboratory
PRG	preliminary remediation goal
PQL	practical quantitation limit
OU	operable unit
SAP	sampling and analysis plan
SSL	soil screening level
STOMP	Subsurface Transport Over Multiple Phases (modeling software)
µg/L	micrograms per liter
µg/g	micrograms per gram
WAC	Washington Administrative Code

1. Purpose

The results of leach tests described in Calculation 0100K-CA-V0081, 0100K-CA-V0081, 0100X-CA-V0058, 0100X-CA-V0059, and 0100X-CA-V0060 have been analyzed to estimate the distribution coefficient (K_d) based on the assumption of linear sorption isotherm for residual Hexavalent Chromium (Cr(VI)) in the vadose zone. The soil samples were taken as part of River Corridor remedial investigation (RI) efforts, predominately from beneath previously remediated waste sites. This memorandum relies on collected field data and the corresponding lab analysis outlined in the sampling and analysis plan (SAP) DOE/RL-2009-41, Rev. 0, to recommend a K_d value for use in the 100-Area. All methods used to calculate a value for K_d were outlined in the various RI SAPs for the River Corridor. The objective of this environmental calculation (ECF) is to give a brief background associated with Cr(VI) leaching studies at the Hanford site and how these data relate to previous studies, summarize the data and analyses that are available to assess K_d in the River Corridor, analyze the results of the leach tests for trends, and recommend a K_d for use in the River Corridor based on the leach test results. These objectives are discussed in the following sections.

1.1 Introduction

Chromium (Cr) occurs naturally in Hanford soils in trivalent oxidation state [Cr(III)] but hexavalent Chromium [Cr(VI)] occurs as a common contaminant in the subsurface at reactor operations areas in the 100 Areas along the Columbia River. Historical records show that Cr [predominantly Cr(VI)] was released into the subsurface during the addition of sodium dichromate to cooling water for use in the reactors and by discharge of cooling water from the reactors. After a single pass through these reactors, the cooling waters were discharged to the surrounding environment by various routes. These disposal practices have resulted in contamination of the subsurface with Cr. Discharged Cr exists both in hexavalent state, Cr(VI), and a reduced trivalent state, Cr(III). Interim actions along the River Corridor have previously been completed that targeted the removal of Cr(VI) soil contamination above 2 – 8 mg/kg.

Fate and transport of different forms of Cr is an important factor in assessing the risk posed by the contamination. Various remedial strategies have already been implemented to reduce the amount of Cr(VI) in the 100-Area. Further, studies specific to attenuation of Cr(VI) at the Hanford site have been conducted to evaluate Cr(VI) migration and attenuation in the vadose zone and saturated groundwater aquifers. A detailed description of leaching experiments in soils retrieved below the 116-D-7 retention basin is provided in Serne and Parker (1999). Also, a detailed leaching and characterization study has been completed using near surface soils (less than 3 m [10 ft]) bgs collected near sodium dichromate storage tanks and railroad tracks in the 100BC Area (PNNL-17674). Other Cr leaching studies have also been performed for residual soils at other 100 Area waste sites, and a range of K_d values are available in literature. A summary of the 116-D-7 and the 100-BC study follow.

116-D-7 Leach Study

Serne and Parker (1999) studied soils in the 100-D Area to estimate a K_d value and/or leach rate of Cr(VI) in Hanford formation sediments. They conducted both batch adsorption experiments and flow through column leach tests to retrieve data for the estimation of these values. The batch adsorption tests were conducted on clean Hanford sediment samples. These samples were exposed to Hanford groundwater spiked with Cr(VI) until the dissolved concentration reached a steady level. The experiment indicated that the dissolved phase Cr(VI) is poorly adsorbing and recommended a K_d value for 0.0 mL/g for dissolved phase Cr(VI)

interacting with Hanford sediments. However, the report indicates and recommends "when attempting to measure the K_d of a very weakly adsorbing species some other technique than batch method is advised." As part of the study, Serne and Parker conducted a flow through column leach test to estimate the leach rate of Cr(VI) from soil. The contaminated soil had a Cr(VI) concentration of around 6 mg/kg. The results indicated that the Cr(VI) is not readily leachable from the Hanford sediments and that less than 1% of the Cr(VI) was removed from the sample over 43 days of leaching. In fact in order to leach an appreciable amount of Cr(VI) from the sediment a method similar to that described in the SAP (DOE/RL-2009-41, Rev. 0) was utilized. This indicates that residual Cr(VI) in Hanford sediments is not readily leachable. Subsequent batch tests conducted on contaminated samples using distilled and deionized water also indicate very limited desorption.

100-BC Leach Study

A detailed leaching and characterization study was completed using near surface soils (less than 4 m bgs) collected near sodium dichromate storage tanks, sodium dichromate carrying pipeline, and from the unplanned release site (surface spill) near railroad tracks in the 100-BC geographic area (PNNL-17674). The initial concentration of Cr(VI) in these samples range from 100 to 1000 mg/kg and therefore much larger than the soil concentration in the study described above. The results indicated that a large fraction of the Cr(VI) mass present in the sediments (about 65%) was removed in the first pore volume of effluent and traveled quickly through the column. However, only about 3.5% of Cr(VI) mass was removed in the next five pore volumes indicating a slower release. After 25 pore volumes of flushing the cumulative mass of Cr(VI) leached was about 70 to 87% in different soil columns indicating that a substantial amount of Cr(VI) remained on the sediments. Greater Cr(VI) mass remained associated with sediments that were contaminated with the old spill thereby indicating that aging of sediments could have had some effect on reducing the leachable fraction. The results indicate that after first few pore volumes have been flushed the desorption rate reduces significantly and the long-term slow release is controlled by sorption sites that have high surface site binding energies and therefore higher desorption K_d. A two-site sorption modeling was undertaken and was deemed to adequately describe the desorption profiles of both aged and freshly contaminated sediments.

These experimental results suggest that after Cr(VI) discharged to the soil column, two primary chemical stages of chromium reactivity occur, which influence its transport characteristics. First, a large fraction of initial Cr(VI) in a contaminated sediment remains mobile, transports readily, and contributes to groundwater concentrations commensurate with source term strength. Second, some Cr(VI) is sequestered by a variety of mechanisms that retard further migration rates and reduce groundwater concentrations. The effectiveness of these sequestration processes increases over time. In the soil column underneath the retention basins, it appears that the initial highly mobile component of discharged Cr(VI) has already been flushed from the sampled soil. This is expected, given the high leakage volume from the retention basins during operations. Conversely, the soil column underneath the reactor area that is contaminated with Cr(VI) has been contacted by much smaller volumes of water since the contaminating event. Extensive flushing of the soil has not been completed in the natural setting.

The leach tests designed as part of the RI/FS process and described in DOE/RL-2009-41, Rev. 0, were completed to assess attenuation of Cr(VI) and various other contaminants. The leach tests were conducted on soil samples from a large number of locations across the River Corridor including both high concentration/low volume waste sites, low concentration effluent waste sites, and boreholes not associated with a waste site. This ECF focuses on recommending a K_d for Cr(VI) based on these data and identifying the assumptions and

uncertainties associated with this recommendation. The following sections discuss how this was completed.

2. Methodology

A total of 509 soil samples were collected and quadruplicate analysis performed on the bulk sample for metals (arsenic, barium, calcium, chromium, hexavalent chromium, lead, silver, and selenium) under the RI. Soil samples were submitted for leaching using ASTM D3987-06, *Standard Test Method for Shake Extraction of Solid Waste with Water* at three ratios of soil to leachant (1:1, 1:2.5: and 1:5) by weight. Thus, for every 100 g of soil used in the leaching method 100 g, 250 g, and 500 g of water was added for leaching metals from the contaminated soil. One of the three ratios was randomly selected to be run as a duplicate analysis totaling four analyses for each of the 509 soil samples.

The K_d values were determined for each metal based on the bulk sample and leachate results. For the purpose of this ECF only Cr(VI) K_d determinations are evaluated further. Analyzed Cr(VI) concentration magnitudes of the soil samples collected for this study ranged from 4.31 mg/kg to undetectable levels. For samples that had detectable levels of hexavalent chromium in both the soil and leachate solution, a K_d was calculated as the ratio of contaminant sorbed concentration in soil to the contaminant concentration in solution by the following equation:

$$K_d = \frac{(C_S \times M_S) - (C_L \times V_L)}{M_S} \times \frac{1}{C_L} \times \frac{1000\ mL}{1\ L} \qquad \text{Equation 1}$$

Where:

K_d = Distribution coefficient (mL/g)
C_S = Contaminant concentration in bulk soil matrix prior to leaching (µg/g)
M_S = Dry mass of soil used for leaching (g)
C_L = Contaminant concentration in leachate (µg/L)
V_L = Liquid volume used for leaching (L)

If the sorbed mass on any of the four bulk soil samples were flagged as a non-detect (i.e., flagged "U" by the laboratory as a non-detect), the average was reported as N/A and the K_d calculation was not performed because the inherent variability in the concentration near the detection limit precludes a K_d determination that is reliable. Thus, the K_d results were reported as N/A.

If Cr(VI) was quantified in the four bulk soil sample analyses but an associated leachate result was non-detect (i.e., flagged "U" by the laboratory), the K_d was reported as a greater than value based on calculating the K_d using the practical quantitation limit (PQL) as the solute concentration (0100K-CA-V0081, 0100X-CA-V0058, 0100X-CA-V0059, 0100X-CA-V0060).In these cases the estimated lower limit on K_d was used in the analysis. However, the value used is a conservative estimate as the PQL is higher than the limit at which Cr(VI) can be detected.

A summary of the results from the K_d calculations is found in Table 1. A total of 509 samples from 58 locations resulting in a total of 2036 analyses were completed. Only 38 analyses from 4 locations had detections of Cr(VI) in both the soil and solute while 154 analyses exist where Cr(VI) was detected in the soil sample but not detected in the leachate following the leaching experiment. Comparing these two populations of data (Table 1) demonstrates that the range of

K_d values given by the group with calculated K_d (based on 38 analyses) and estimated K_d (based on 154 analyses) are similar. However, medians and averages are more different. Given that many of the locations for these tests were selected to increase the likelihood of detection, it should be noted that the majority of the sites were not contaminated with detectable levels of Cr(VI) and those with detectable levels, the majority showed no detectable leaching of Cr(VI) into the water during the leaching experiment, further illustrating the lack of leachability for residual Cr(VI) after the interim remediation actions are implemented.

The leaching results were also grouped based on the geologic formation where the sample was taken. Thirty-eight samples from the Hanford formation from 14 locations produced data where a K_d could be calculated. While 10 samples from 4 locations were collected from the Ringold formation. The K_d values calculated for the Hanford formation samples have a significantly higher minimum value (7 mL/g) over the minimum value for samples from the Ringold (0 mL/g). Median and average values for the Hanford formation are also larger in magnitude than the results in the Ringold.

Table 1 – Summary of leach tests and K_d results used in analyzing K_d for use in the river corridor

Sample Group	Locations	Samples	Analyses	Minimum	Average	Median	Maximum
All Samples	58	509	2036	--	--	--	--
By Detection							
Soil Detection Only	15	39	154	0	27	25	66
Soil and Solute Detection	4	10	38	0.03	14	3.5	55
By Geologic Formation							
Hanford	14	38	152	7	28	26	66
Ringold	4	10	40	0	12	2.0	54

* K_d calculated by assuming dissolved concentration is at the practical quantitation limit

3. Assumptions and Inputs

Several attributes exist that may influence the results of the leaching tests and the estimated K_d value associated with each leaching test. In this analysis depth below ground surface, dilution factor at which the leach experiment was conducted, type of waste site where the sample was collected, the operable unit where the sample was collected, geologic formation, and lithology were investigated to evaluate if there was an apparent influence of any of these attributes on the results. The analysis included plotting the cumulative distribution function for K_d results and illustrating the attributes listed above through the symbology of the points, creating scatter plots of depth vs. K_d, creating scatter plots of K_d with dilution factor 1:1 versus dilution factor of 1:2.5 and 1:5 for the same samples, and creating a scatter plot of Cr(VI) soil concentration versus estimated K_d. Because the evaluation includes only visual analysis of plots of these data, the analysis is qualitative.

Figure 1 shows the empirical cumulative distribution function (ECDF) created for K_d analysis values based on Weibull plotting position formula. It indicates that the probability at 10th, 50th, and 90th percentile is about 1.2 mL/g, 24 mL/g, and 48 mL/g, respectively. Converting this into a complimentary cumulative distribution function indicates a 90th, 50th, and 10th percentile exceedance of approximately 1.2 mL/g, 24 mL/g, and 48 mL/g, respectively. Note that the 90th

percentile exceedance means that there is 0.9 probability that the K_d value will be greater than or equal to 1.2 ml/g. Based on visual inspection of the ECDF a cluster of results near the minimum can be observed from 0th Percentile to 10th Percentile. These low values (indicating greater than 90th percentile exceedance) are attributable to two primary locations, C7695 and C7866. In each case the estimated K_d values come from samples taken below a depth of 50 ft bgs. According to the field log for this location, this places these sediments within the Ringold formation. This indicates that the K_d results may be affected by attributes associated with the collection and analysis of the samples.

To investigate what attributes of the sample locations and analysis might influence or bias the resulting K_d values the ECDF is presented where portions of the ECDF are isolated on the plot based on common attributes. Figures 2 through 5 illustrate the ECDF based on waste site type, reactor (geographic) area, geologic unit, and sediment lithology, respectively. The following paragraphs discuss trends in each of these figures.

Waste Site Type – Where possible, soil borings were designated based on the type of waste site (high concentration/ low volume sites, low concentration liquid effluent sites, or not assigned) were close to the boring. When plotting the ECDF based on waste site type (see Figure 2) one noticeable feature is that K_d values from sites of low concentration liquid effluent sites don't have any K_d values lower than 6 ml/g (Figure 2a). High concentration/low volume waste sites (Figure 2b) indicate that the majority of the lower K_d values result from samples taken at these sites. This supports the idea that low concentration liquid effluent sites tend to have higher minimum K_d values than high concentration/low volume sites.

Reactor Area – The values shown in Figure 3 indicate that operable unit does not significantly affect the value of K_d. Only the B/C Area does not have values that span the majority of the range of K_d Values. B/C Area K_d values (Figure 3c) range from 6 ml/g to 22 ml/g. However, this may be due to the limited number of detections from samples in the B/C Area.

Geologic Unit – Visual inspection of the ECDF separated based on geologic unit (see Figure 4) indicates that values from the units in the Ringold Formation tend to be lower than those values in the Hanford formation. Although, it is noted that some K_d values from samples taken from the Ringold formation are as high as the upper percentiles of the range of the Hanford formation.

Lithology - Figure 5 shows the portions of the ECDF for each lithology on a separate plot. The lithology descriptions typically show a large range of K_d values except for "gravel" designation shown in Figure 5b. The range of K_d values for the gravel appears to be limited to a lower range of the entire K_d data set.

Figure 6 illustrates the variability of K_d with depth in the form of a scatter plot with superimposed trendlines. The dataset was plotted where Cr(VI) was detected in both soil and solute and when detection occurred in soil only (assuming PQL for solute concentration). The soil and solute detection data seem to indicate a strong depth trend while the soil only data does not appear to trend heavily with depth. The sparse amount of data with depth in the soil and solute data is likely to be causing the strong depth trend. All of the data with depth comes from two sample locations. Any change in those two locations would greatly affect the trend. Also, the R-squared fits to each of the trends is low. Therefore, the trend is considered to be an artifact of sparse data availability rather than a reflection of an existing trend.

Scatter plots of K_d values based on dilution factors used in the leaching analyses are shown in Figure 7. These figures illustrate that dilution factor may be affecting the resulting K_d value. Only K_d values resulting from samples where the soil and solute detection occurred are shown in this figure. The upper boundary value (PQL), used to estimate K_d when only a soil concentration was measured, is constant. The constant value used is based on the analytical method of Cr(VI) detection. Therefore, it may not illustrate a dilution effect. Any resulting trend that was inferred using this data could result as an artifact of the PQL used to estimate K_d. Therefore, these data were not included in the figures. Trend line analysis of the remaining data of K_d resulting from the 1:1 dilution versus the 1:5 (Figure 7a) and 1:2.5 (Figure 7b) dilution show that there is a 2.9 multiplier and a 2.1 multiplier in the trend in each case. This indicates that a larger dilution factor may result in a larger estimate of K_d. This may be attributable to the amount of mass available for leaching from the soil column. If the mass available for leaching is similar in each case, the resulting solute concentration would be lower for larger dilution factors. Thus, a larger K_d value would be estimated. While the dilution factor seems to have an effect, this analysis does not provide a methodology for determining which dilution factor provides more appropriate K_d values. Therefore all of the dilution factors were treated with equal weight so no particular dilution factor was an average of the K_d values estimated from all the analyses.

Figure 8 shows a scatter plot of Cr(VI) soil concentrations versus the corresponding K_d value from the leaching experiment. In general, the K_d values for soils with a soil concentration below 1 mg/kg tend to have a relatively limited range of K_d values ranging from 0 to 4 mL/g. Approaching and after a soil concentration of 1 mg/kg the range of K_d values increases significantly to values from near 0 to 56 mL/g. Soil detection only K_d results were not plotted because due to the constant PQL used to calculate K_d, a linear trend is displayed that is an artifact of the PQL used for estimating a conservative value for K_d.

3.1 Method Uncertainties

Several uncertainties exist in the methodology used to determine K_d values. These include uncertainties in the ASTM D3987-06 leaching method, sample concentration range, the drilling of wells, and the equation (Equation 1) used to calculate the K_d value. These uncertainties and a discussion of the effect they have on the results are discussed below.

3.2 Leaching Method

One source of uncertainty in the results is identified in the ASTM D3987-06 documentation. The method specifies that the soil sample and water be placed in a batch reactor that is turned end over end for 18 hours. While appropriate for mixing these two substances together it is not necessarily representative of field conditions. The method specifies that it “is not intended to provide an extract that is representative of the actual leachate produced from a solid waste in the field.” (ASTM, 2006). This may or may not have an impact on the K_d results depending on how well the results would match field conditions. It is also recognized that the amount of water that is used in the batch leach experiments exceeds the pore volume of the soil samples under saturated field conditions. Unfortunately, there is no analysis that can be made with the current data to quantify the level of uncertainty this produces in the results.

As part of the leaching methodology the water added to the soil sample was prescribed to have a pH of 5 in order to simulate rain water infiltration at the Hanford Site. No data exist that can determine the final pH of the added water after mixing water with the soil. Figure 9 presents the Eh-pH diagram for chromium and indicates the oxidation states and chemical forms that exist

within specified Eh and pH ranges (Palmer and Wittbrodt, 1991; EPA, 2000). The figure shows that Cr(VI) remains stable when pH >4 and under oxygenated conditions that would be encountered in leaching experiments. The dominant species are $HCrO_4^-$ and CrO_4^{2-}. Any increase in pH alone would not lead to change in oxidation state of Cr(VI) and conversion to Cr(III). However, Cr(III) could undergo hydrolysis with increasing pH to form chromium hydroxy species [$CrOH^{+2}$, $Cr(OH)_2^+$]. Reduction of Cr(VI) to Cr(III) can only occur when reductants are introduced, such as, reduced manganese oxide (MnO), soil organic matter, soluble ferrous iron [Fe(II)], and reduced sulfur compounds.

It is possible that desorption characteristics from leaching at higher pH may be different due to speciation of chromium ions and surface complexation with the mineral surfaces where surface charge varies as a function of pH.

3.3 Sample Concentration Range

Analyzed Cr(VI) concentration magnitudes of the soil samples collected for this study ranged from 4.31 mg/kg to undetectable levels. Experimental results from flow through leaching experiments discussed previously show minimal leaching of Cr(VI) from soil concentrations as high as 6.0 mg/kg (Serne and Parker, 1999). Therefore, the recommended use of a K_d value in this report should only be applied to locations where Cr(VI) concentrations are below a concentration of 6 mg/kg. Application of the recommended K_d value outside of this range may introduce uncertainty that is not quantifiable based on the current dataset. In order to better quantify K_d outside of this concentration range may require soil samples with concentrations that cover a broader range. This is not to suggest that the soil samples were specifically targeted for a limited range of Cr(VI) concentrations. Rather, the locations were selected to maximize the likelihood that a broad concentration range was identified.

3.4 Sample Collection

A concern about the drilling and sample collection procedure may be a source of uncertainty in the K_d values. The wells and boreholes were drilled using the cable tool method. Periodically, water was added to the hole to allow removal of drill cuttings from the dry, unconsolidated sediments of the Hanford formation and Ringold Formation. The intent is to provide sufficient water for removing cuttings and advancing the borehole without disturbing the underlying material which is being tested for a variety of mobile and immobile contaminants. Typically, one gallon (0.13 cubic ft) of water was sufficient to provide some cohesion to the cuttings. However, occasionally 5-15 gallons (0.67 to 2.01 cubic feet) were used. Most of the additions were completed at least 2 feet above the planned split-spoon sample interval.

The hydraulic evidence indicates that the large majority of the samples are unlikely to be significantly disturbed. For scale, one gallon (0.13 cubic feet) of added water would fill a sphere of approximately 1 foot in diameter assuming a 20 percent porosity. Fifteen gallons (2.01 cubic feet) would fill a sphere of 2.7 feet in diameter. The high matric potential combined with the higher horizontal conductivity would tend to flatten the sphere out as water preferentially wets in the horizontal direction. This is generally confirmed by the results of neutron logging in the wells and boreholes that show close correlation between the depth of water addition and the presence of elevated water in the adjacent formation indicating water has moved laterally away from the borehole and away from the target split-spoon sample interval vertically below. While there could be a few samples impacted, there does not appear to be a significant bias introduced to these data that would cause significant impact to the dataset used in this memorandum for recommending a K_d value for Cr(VI).

3.5 Dilution Factor

The trend analysis discussed in a previous section indicated that the K_d value increased as the dilution factor used in the ASTM method increased. This can partly be explained by the amount of mass that is leached from the soil sample. Figure 10 compares the amount of mass leached from the soil samples using a 1:1 dilution factor to the mass leached for both a 1:2.5 and 1:5 dilution factor. A trend line for each of the datasets shows a slope of 1.2 and 1.04 for the 1:2.5 and 1:5 dilution factor, respectively. The nearness to a slope of 1 indicates that on average the same amount of mass leached for one dilution factor is the same amount of mass leached for another dilution factor. This would indicate that the rise in the K_d value for a given dilution factor is simply an artifact of the volume of water added to the system (i.e., the same mass added to a larger volume of water result in lower concentration causing an increased value of K_d based on equation 1).

A basic normalization factor that would account for the difference in volume of water used in the leaching method can be applied to Equation 1. Equation 2 shows an alternate version of Equation 1 with a correction factor included. The factor (D_f) is achieved by dividing the volume of water added to the leaching method by the amount of water used at the lowest dilution factor in the ASTM method (100 g). This results in values for D_f of 1, 2.5, and 5 for the dilution factors 1:1, 1:2.5, and 1:5, respectively.

$$K_d = \frac{(C_S \times M_S) - (C_L \times V_L)}{M_S} \times \frac{1}{C_L * D_f} \times \frac{1000\ mL}{1\ L} \qquad \text{Equation 2}$$

Where:

K_d = Distribution coefficient (mL/g)
C_S = Contaminant concentration in bulk soil matrix prior to leaching (µg/g)
M_S = Dry mass of soil used for leaching (g)
C_L = Contaminant concentration in leachate (µg/L)
V_L = Liquid volume used for leaching (L)
D_f = The batch-leach-ratio specific dilution factor (i.e., 1, 2.5, or 5)

Figure 11 shows the ECDF for the K_d values adjusted based on the dilution factor. The ECDF indicates a 90th, 50th, and 10th percentile exceedance of approximately 0.8 mL/g, 9 mL/g, and 29 mL/g, respectively. The results of correcting based on the dilution factor have the impact of shifting the values of key Percentile points on the ECDF to a lower value.

Another method for normalizing the K_d values from the batch leach experiments is based on the moisture content of the sample at saturated conditions. This would mimic the concentration of the pore water if the same mass leached in the leaching tests were to leach at field conditions. Assuming a bulk density of 1.90 g/ml and a porosity of 0.28 for the 100 Area (PNNL-14702) results in dilution factors of 6.8, 17 and 34 for K_d values derived from the 1:1, 1:2.5, and 1:5 dilution ratios, respectively. When these dilution factors are applied the range of resulting K_d values is from a high 7.9 mL/g to a low of 0 mL/g with a 90th, 50th, and 10th percentile exceedance of approximately 0.11 mL/g, 1.3 mL/g, and 4.3 mL/g, respectively. Figure 12 shows the ECDF of the K_d values normalized to an assumed saturation condition from average 100 Area bulk density and porosity. It must be stated that no measurements of Cr(VI) concentrations are available for this lower end of water content range. It is not known whether the same mass of Cr(VI) would have been detected at that water content. Therefore results in Figure 12 are not meant to be representative of K_d values, rather the results present a clear

lower bound on these K_d values. The recommended value of 0.8 mL/g (discussed below) is clearly within the range of these lower bounds on K_d.

4. Software Applications

Excel® spreadsheets were used to calculate ECDF distributions and evaluate linear trends in the K_d data presented as part of this ECF. These calculations were performed on a laptop computer with USDOE ID WF16209. The hardware is a Dell® Latitude® E6400 with a 2.26-GHz Intel Core™ 2 Duo CPU E8200 processor and 3 GB of RAM loaded with the HLAN Windows® XP Image Version 3.0.1.0 operating system.

This use of Excel® software is exempt from the requirements of PRC-PRO-IRM-309 because it constitutes a "flat-file" spreadsheet that is wholly incorporated into this ECF and the calculations, mathematical formulas, and input data can be exactly verified during the technical review of this ECF (PRC-PRO-IRM-309, Rev. 1, Section 1.3, Exemptions).

5. Calculation

Each percentile from the ECDF value can be estimated based on linear interpretation of the values closest to the given percentile. Hence, the 10th percentile can be estimated through linear interpolation of the two values closest to it. Figure 11 shows the ECDF for the K_d values adjusted based on the dilution factor. The ECDF indicates a 90th percentile exceedance of can be calculated based on the two values in Table 2. The resulting value for the 90th percentile exceedance is 0.8 mL/g.

6. Results/Conclusions

6.1 Summary

A large number of samples were collected (509) that generated results from leach tests (192) that are usable for evaluating the leaching potential of residual Cr(VI) in the River Corridor. Out of the attributes selected for evaluation, two (dilution factor and geologic formation) were noted as potentially having an effect on calculated K_d values. The trend with respect to geologic formation is likely attributable to the small sample size (the majority of these results came from two locations C7695 and C7866). The range of the K_d values from these samples was smaller than the results from shallower formations. Further, there appears to be a relationship between the dilution factor and the resultant K_d. When the dilution factor of soil to leachant was higher, a slightly larger K_d was typically estimated for the sample but the range of variability is well within the range of natural variability for the estimated values. \

Table 2 – ECDF locations used to calculate the 90th percentile exceedance for the dilution factor corrected ECDF.

Point ID	Weibull Plotting Position	K_d (mL/g)
1	0.098	0.74
2	0.103	0.99
Interpolation	0.1	0.8

6.2 Recommendations

The large number of K_d measurements and the lack of correlation of calculated K_d with possible explanatory parameters allows a conservative value to be used across the River Corridor for evaluation of future fate and transport of residual Cr(VI) after interim remedial actions have been implemented for source waste sites in the vadose zone. The ECDF of K_d for the soil samples indicates that more than 90% of the values are higher than 1.2 mL/g and greater than 95% of the values are higher than 0.65 mL/g. If the K_d values are adjusted for the amount of water used during the tests, the 90th percentile drops to about 0.8 mL/g. Based on the presented results in the previous section a K_d value of 0.8 mL/g is recommended as a conservative estimate for the lower limit on residual Cr(VI) K_d value for the River Corridor. This value is conservative relative to values available in literature (e.g., a K_d of 19 mL/g was selected for promulgation under WAC 173-340). The 0.8 mL/g value is based on K_d estimates from soils contaminated with a maximum concentration of 6 mg/kg. Therefore, using this value for soils contaminated at concentrations above this range should use a K_d value appropriate for concentrations above 6 mg/kg.

7. References

DOE/RL-2009-41, Rev. 0, 2009, Sampling and Analysis Plan for the 100K Decision Unit Remedial Investigation Feasibility Study, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

EPA, 2000, *In Situ* Treatment of Soil and Groundwater Contaminated with Chromium, Technical Resource Guide. EPA 625/R-00/004

Palmer, C.D., and Wittbrodt, P.R., 1991, Processes Affecting the Remediation of Chromium-Contaminated Sites, Environmental Health Perspectives, Vol. 92, p. 25-40.

PNNL-16764, 2008, Geochemical Characterization of Chromate Contamination in the 100 Area Vadose Zone at the Hanford Site, PNNL-16764, Pacific Northwest National Laboratory, Richland, Washington.

Serne, R.J., and Parker, K.E., 1999. Estimation of Distribution Coefficients and Leachability of Haexavalent Chroium in the 100-D Area Hanford Formation Sediments, Bechtel Hanford, Inc., October 28, 1999. Richland, Washington.

0100K-CA-V0081, Rev. 0, 2011, 100-K Remedial Investigation Distribution Coefficient Calculations, Washington Closure Hanford, Inc., Richland, Washington.

0100X-CA-V0058, Rev. 0, 2011, 100-B/C Remedial Investigation Distribution Coefficient Calculations, Washington Closure Hanford, Inc., Richland, Washington.

0100X-CA-V0059, Rev. 0, 2011, 100-D and 100-H Remedial Investigation Distribution Coefficient Calculations, Washington Closure Hanford, Inc., Richland, Washington.

0100X-CA-V0060, Rev. 0, 2011, 100-F Remedial Investigation Distribution Coefficient Calculations, Washington Closure Hanford, Inc., Richland, Washington.

WAC 173 340, “Model Toxics Control Act—Cleanup,” Washington Administrative Code, Olympia, Washington. Available at: http://apps.leg.wa.gov/WAC/default.aspx?cite=173-340.

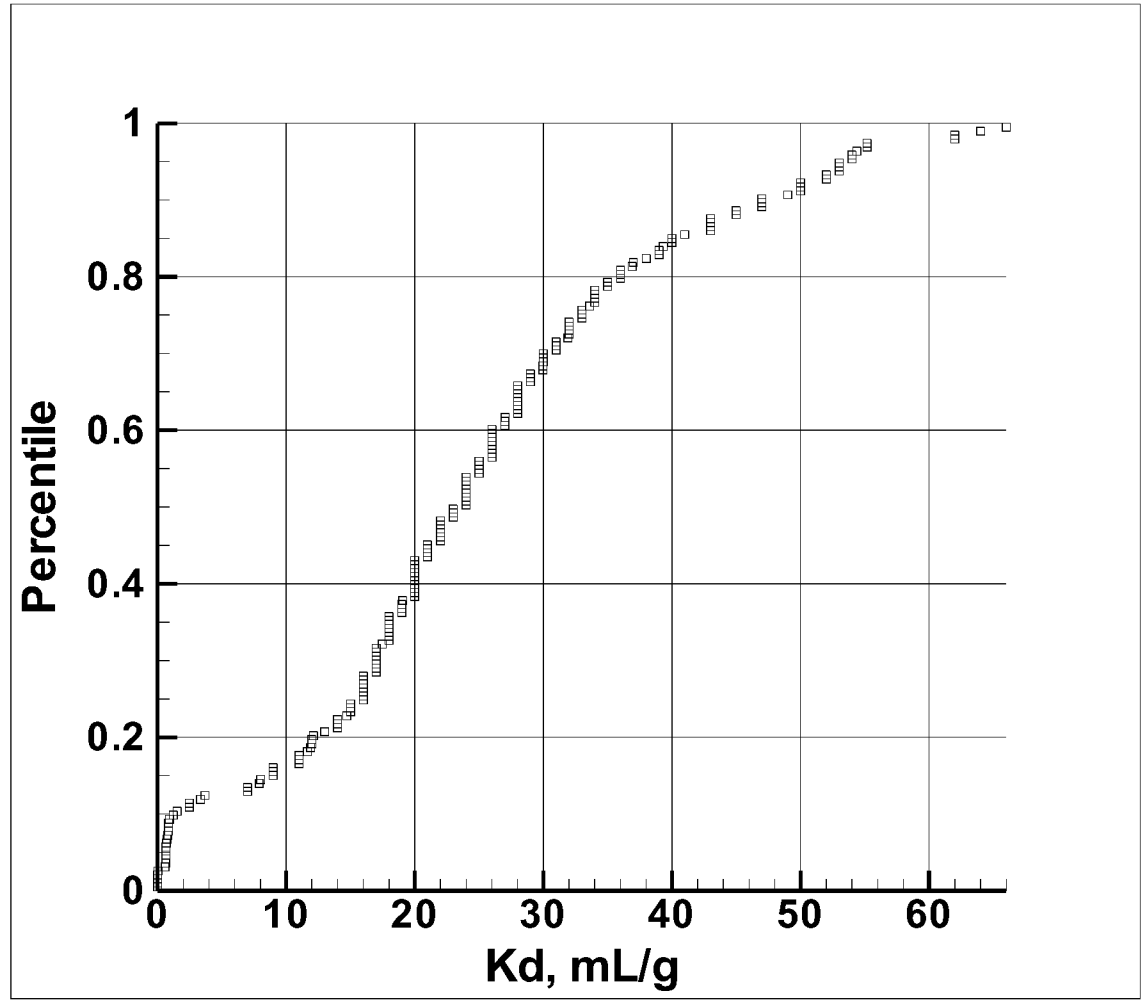


Figure 1 – Empirical cumulative distribution function for K_d estimates from leaching tests.

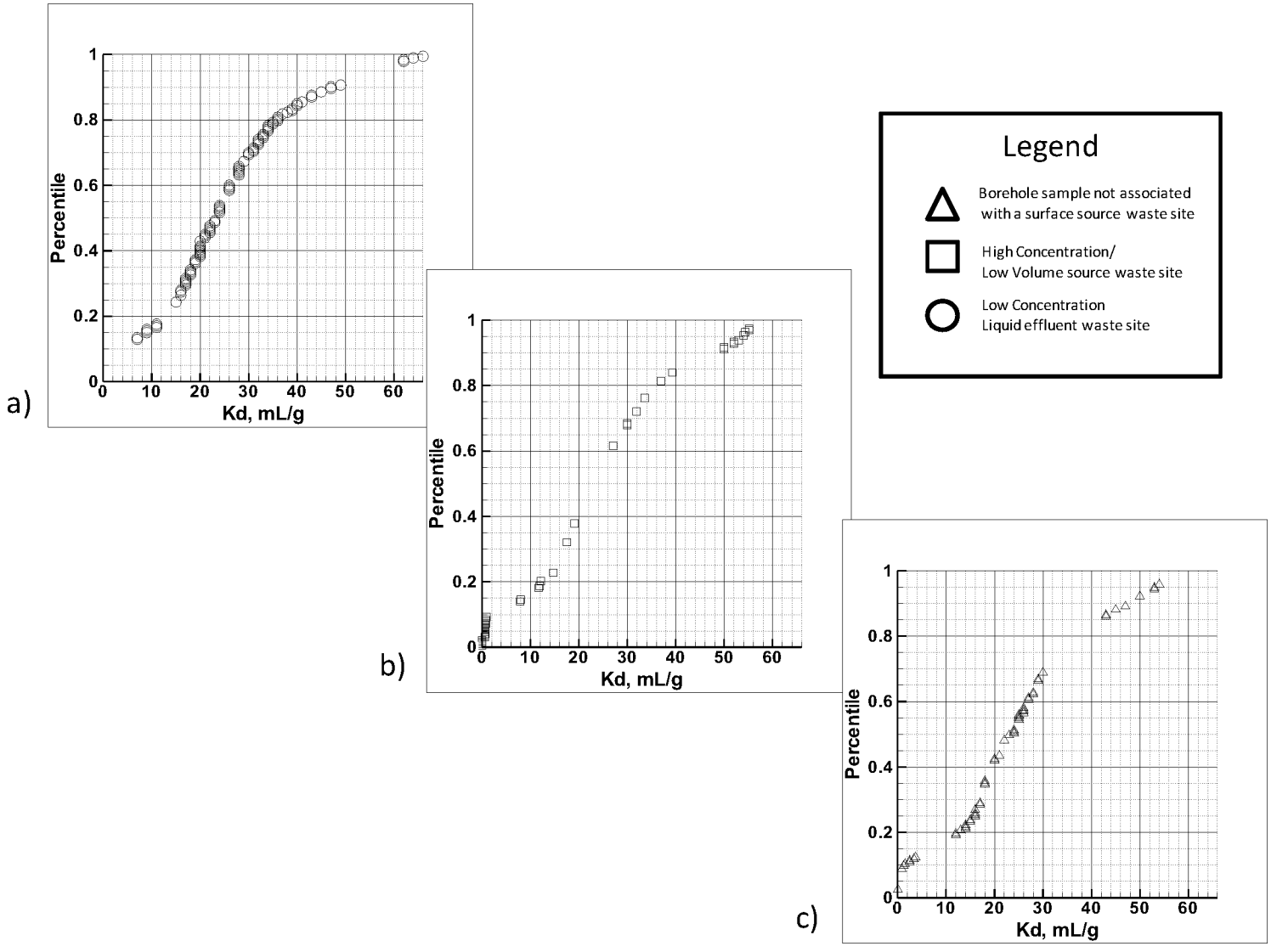


Figure 2 – Empirical cumulative distribution function for K_d estimates from leaching tests broken up by waste site type.

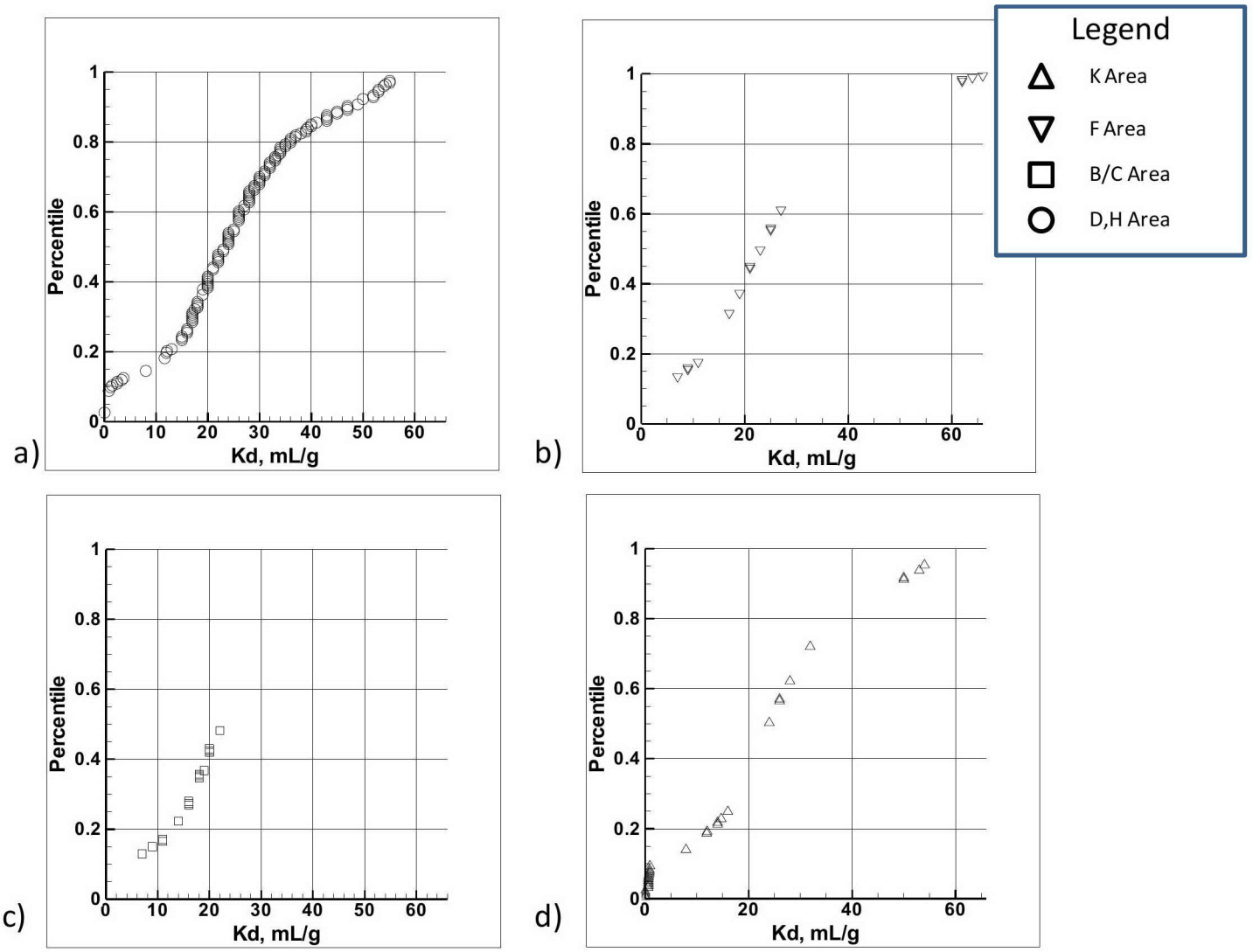


Figure 3 – Empirical cumulative distribution function for K_d estimates from leaching tests symbolized to indicate reactor area within the River Corridor.

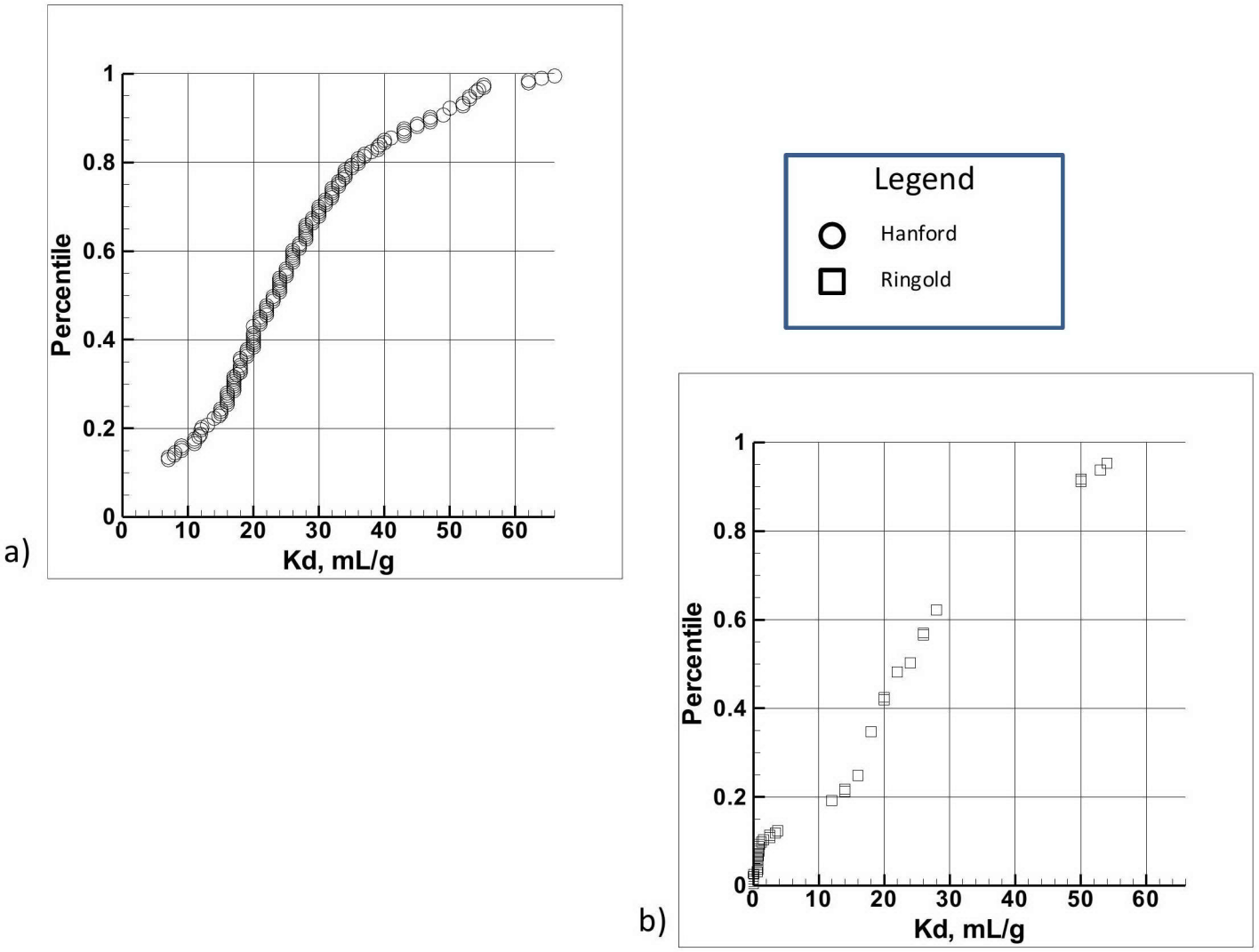


Figure 4 – Empirical cumulative distribution function for K_d estimates from leaching tests symbolized to indicate geologic formation of sediments.

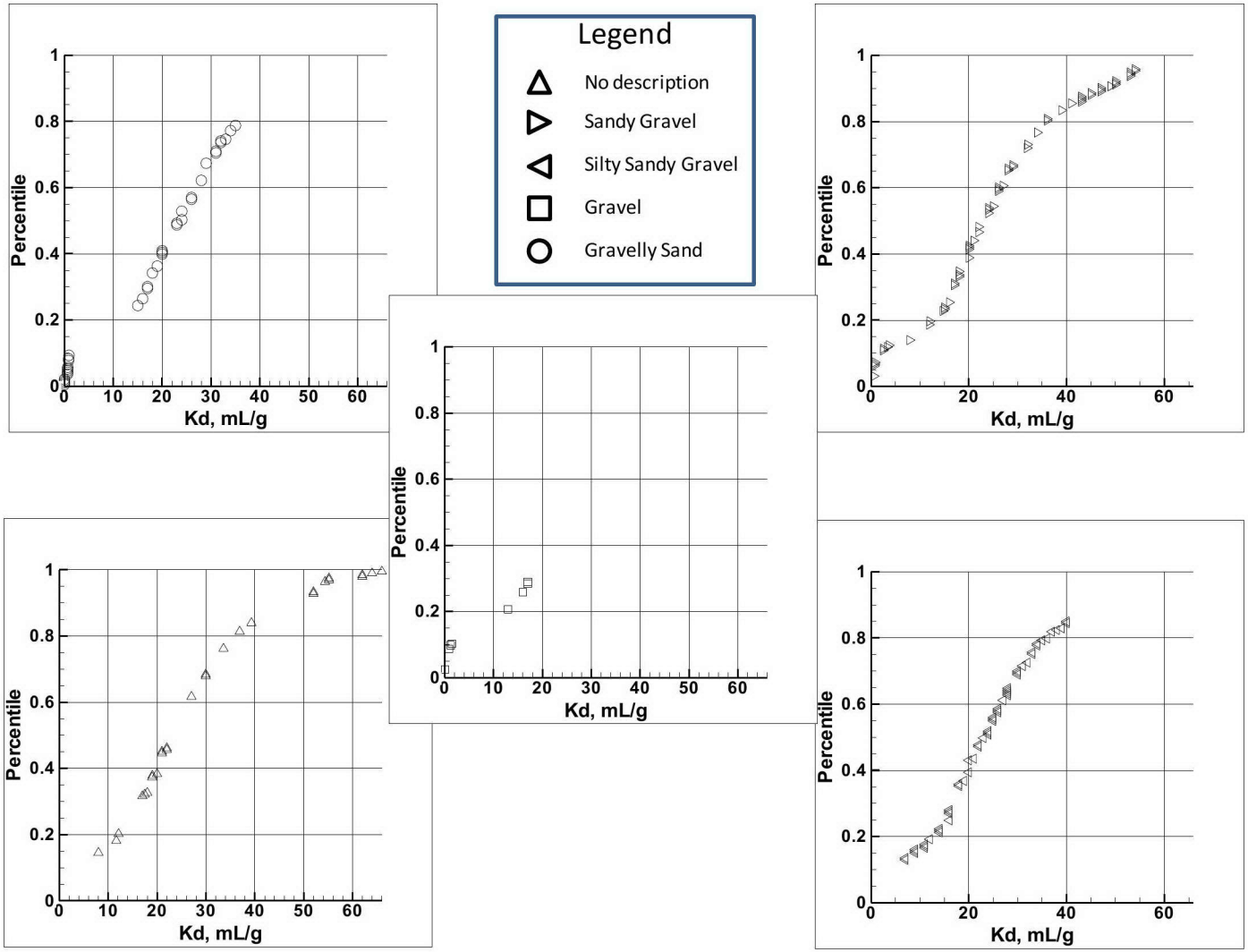


Figure 5 – Empirical cumulative distribution function for K_d estimates from leaching tests symbolized to indicate lithology of sediments.

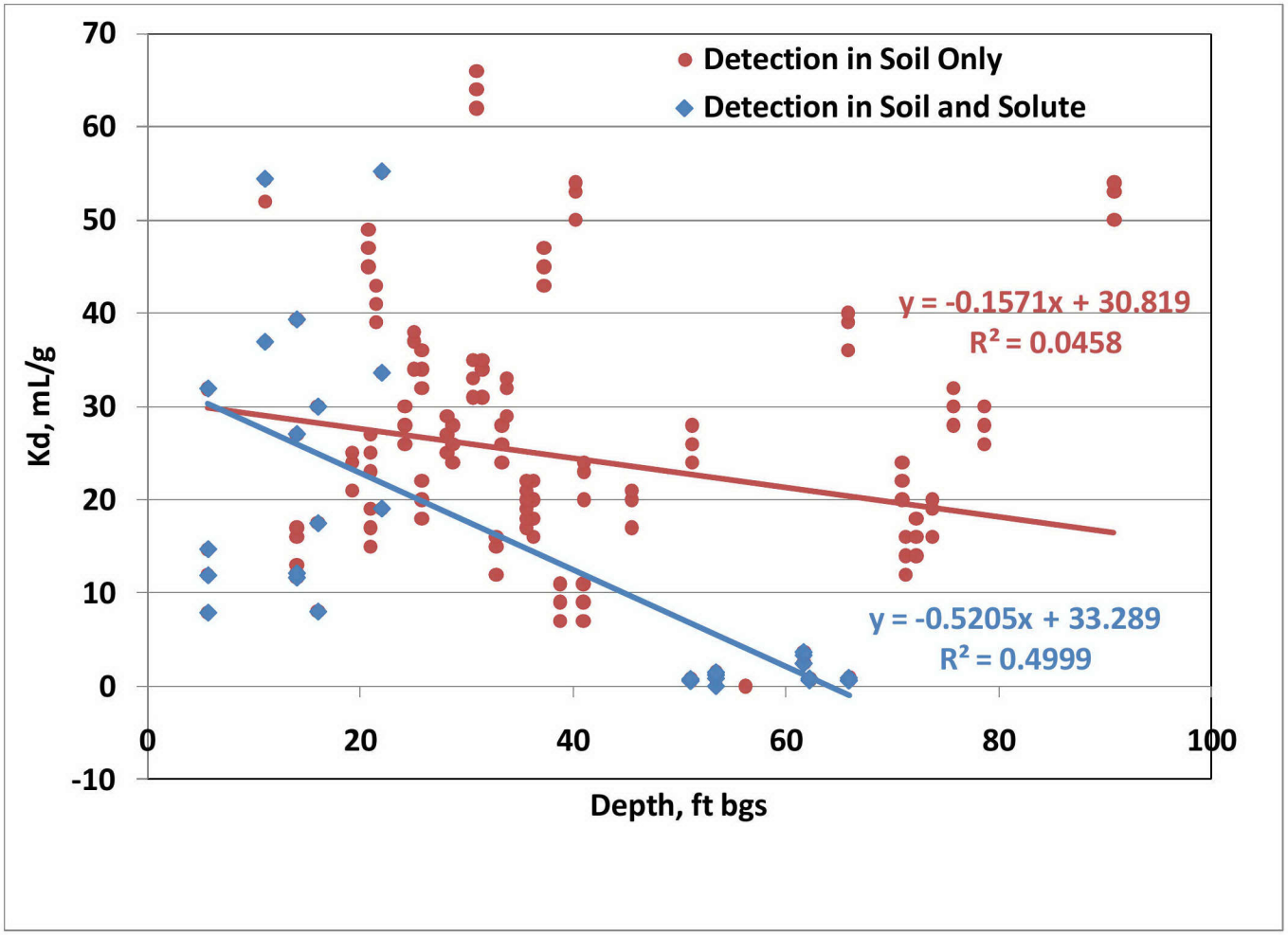
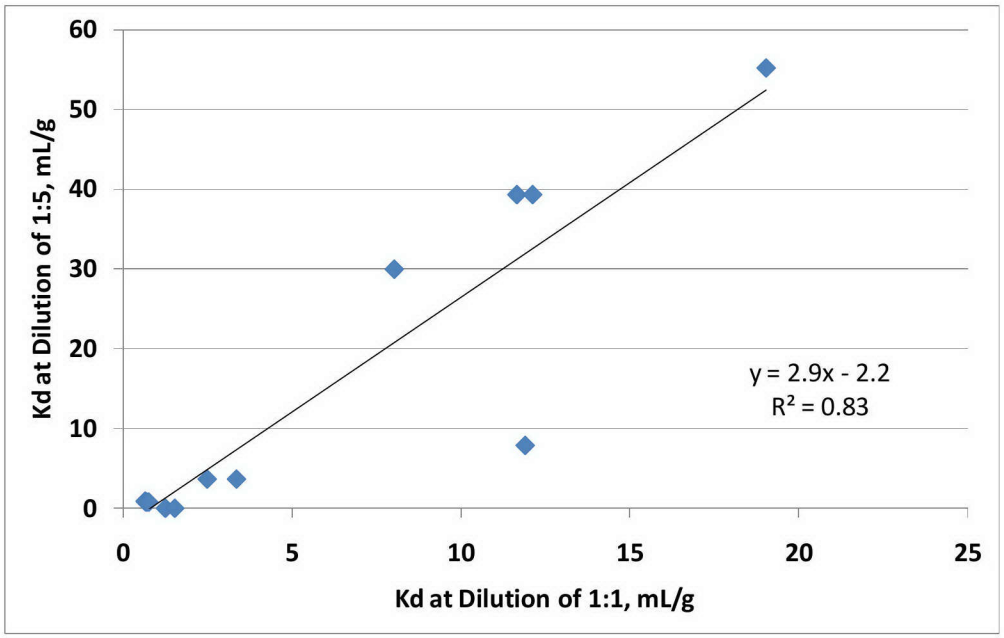


Figure 6 – Scatter plot of K_d versus depth with trend lines used to illustrate possible relationship between the two data.

a)



b)

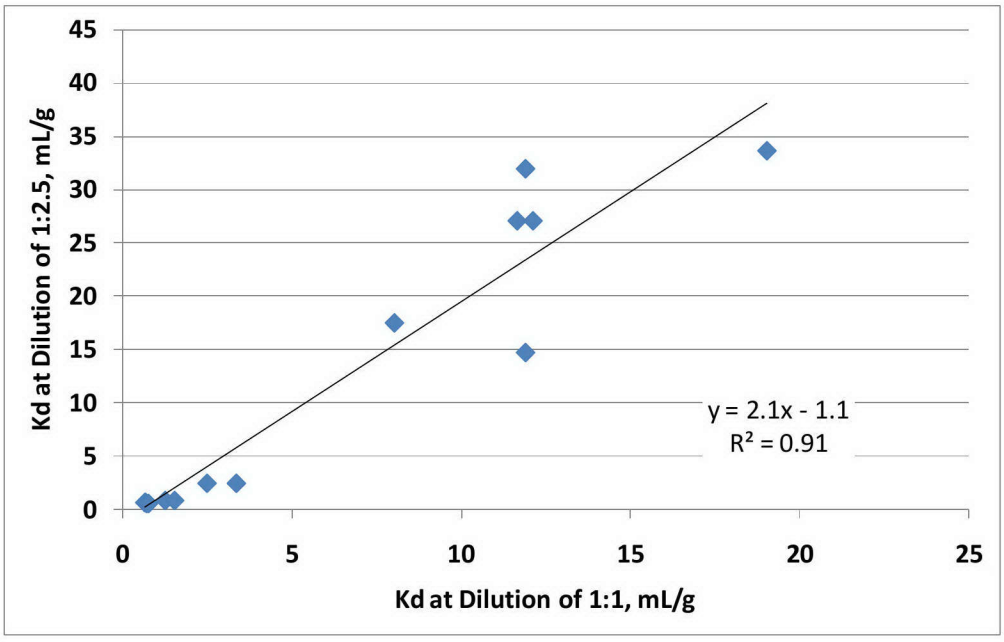


Figure 7 – Scatter plot of K_d value based on dilution factor 1:1 versus dilution factor 1:5 (a) and 1:2.5 (b) with corresponding trendline

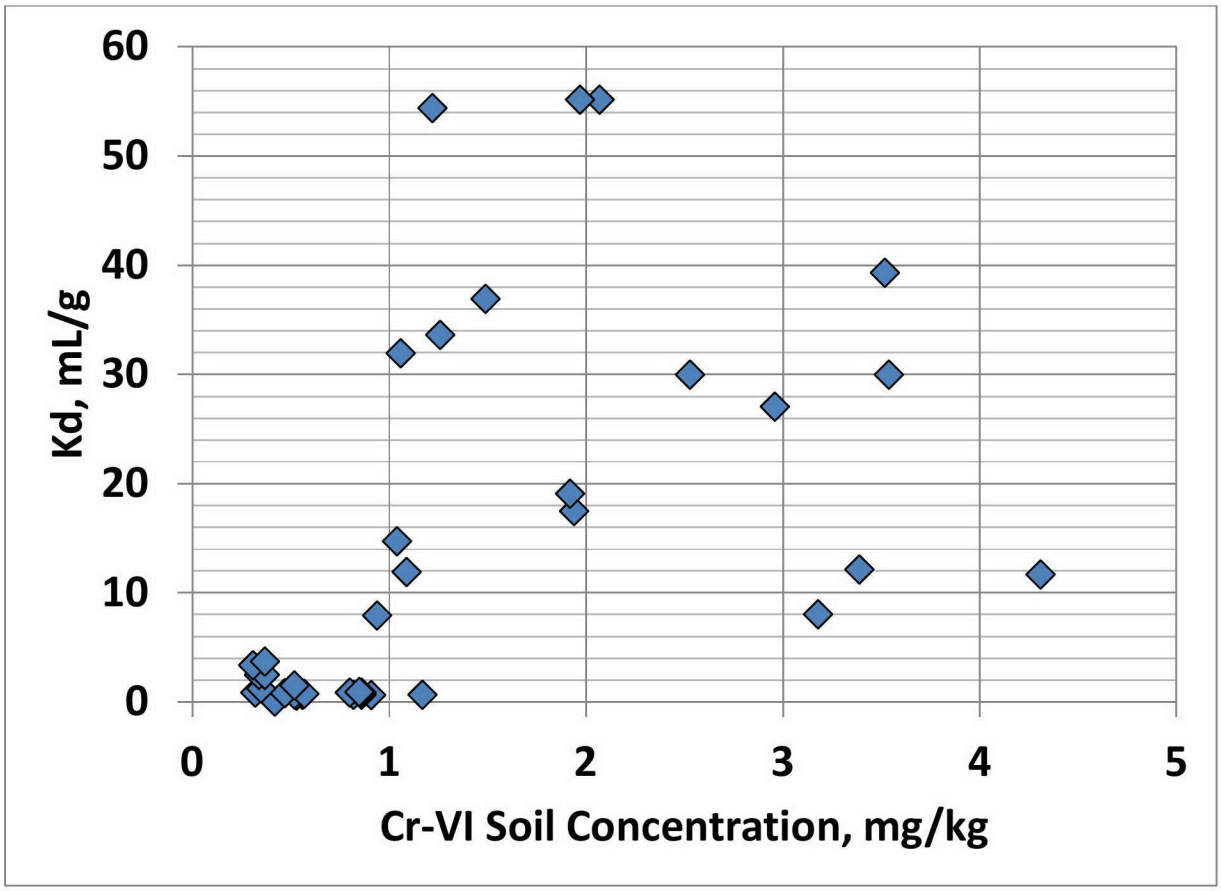


Figure 8 – Scatter plot of soil concentration versus estimated K_d for analyses where both soil and solute concentrations of Cr(VI) were detectable.

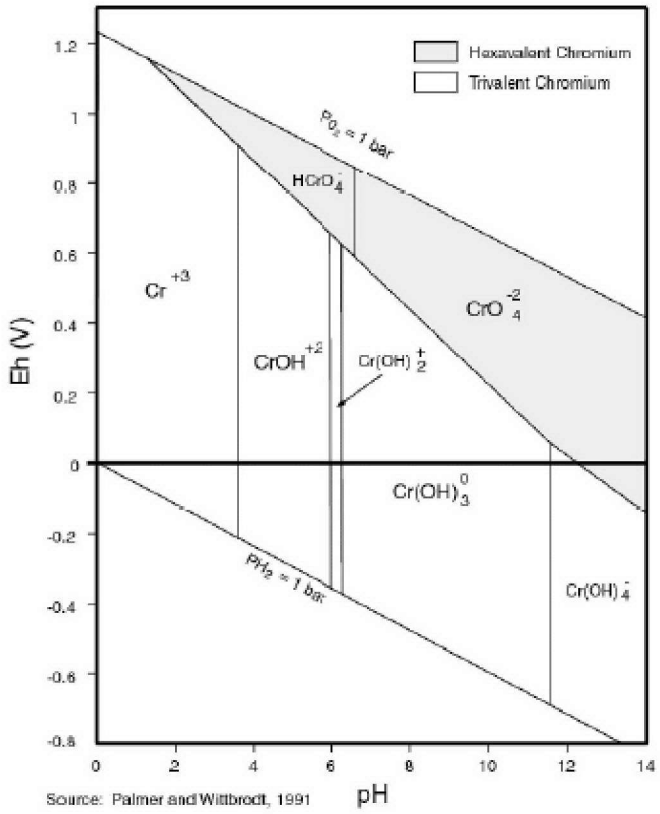


Figure 9 – Eh-pH diagram for Chromium

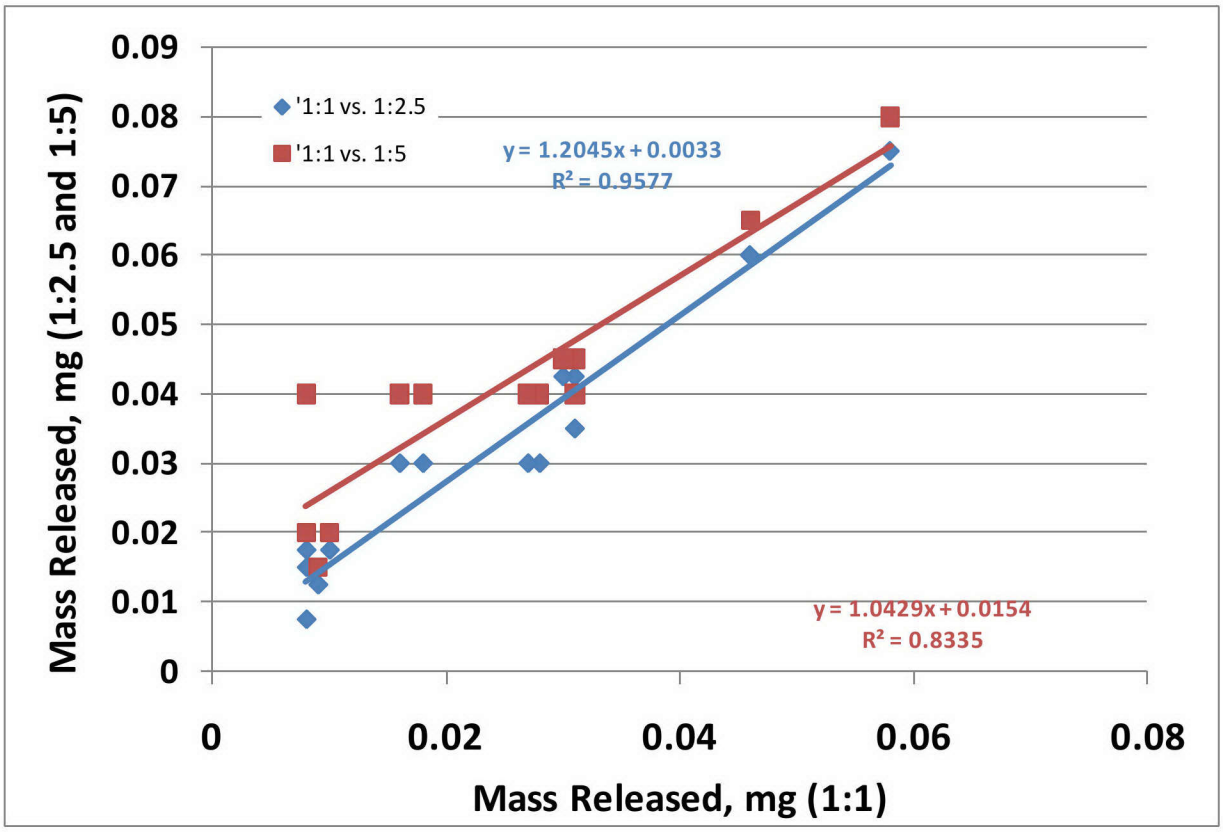


Figure 10 – Scatter plot of mass leached for dilution factor 1:1 versus mass leached for a dilution factor of 1:2.5 and 1:5.

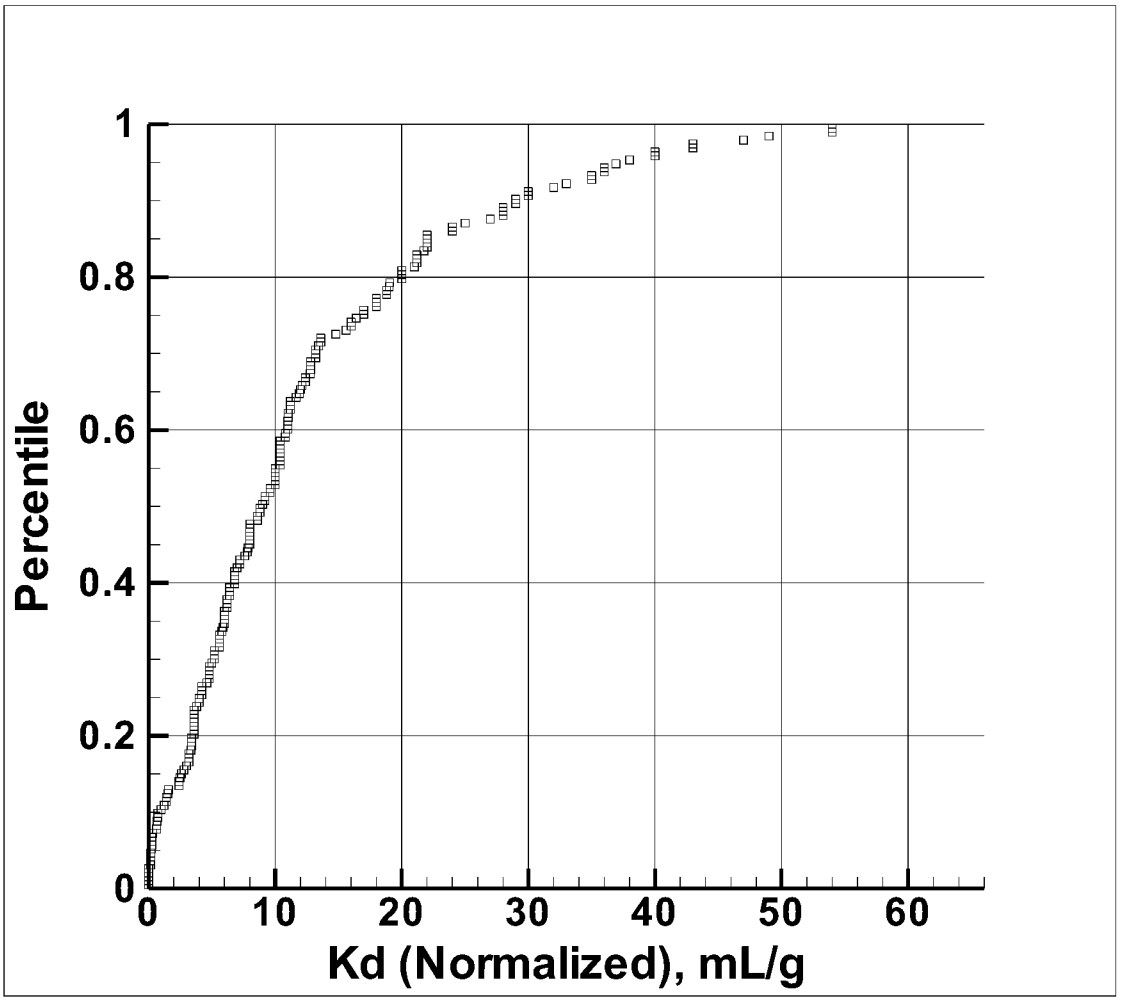


Figure 11 – Empirical cumulative distribution function for K_d estimates normalized based on the dilution factor used during leaching tests.

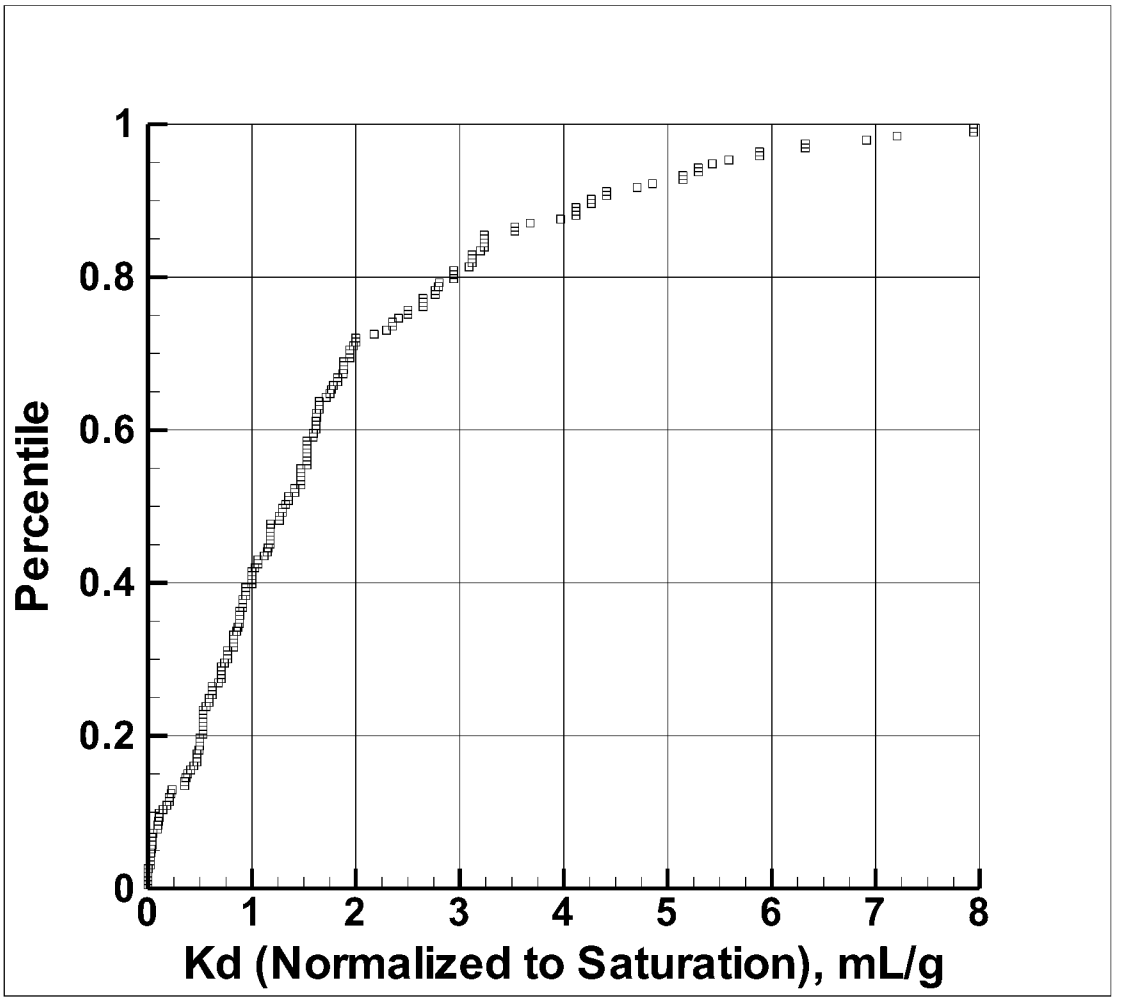


Figure 12 – Empirical cumulative distribution function for K_d values normalized to an assumed saturation condition from average 100 Area bulk density and porosity.

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Name	Phone Number
Author: S Mehta	509-376-7478
Manager: AH Aly	509-376-0300

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Name: (Print)	S Mehta	Date	
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Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

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S. Mehta
CH2M HILL Plateau Remediation Company

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under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

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Environmental Calculation Cover Page

Part 1: Completed by the Responsible Manager

Project: 100-F and IU RI/FS **Date:** 4-December-2012

Calculation Title & Description: STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas

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Checker: H Rashid	**Basis of Qualification:** Education & experience
Senior Reviewer: WE Nichols	**Basis of Qualification:** Education & experience

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Draft B	Revisions to site-specific modeling to make consistent with effective 100:0 / 70:30 initial contaminant distribution assignment process, added exception for Sr90 to use 100:0 initial contaminant distribution basis, and addition of site-specific modeling for the 116-F-14 Retention Basin	19-Oct-2012	All
Draft C	Revisions to clarify K_d thresholds (no change to calculation results).	4-Dec-2012	All

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Preparer:	S Mehta / Senior Modeler (CHPRC) NAME/POSITION SIGNATURE	12/4/2012 DATE
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Contents

1 Purpose 1

2 Methodology 2

2.1 Definition of Soil Screening Levels and Preliminary Remediation Goals 2
2.2 Identification of Representative Stratigraphic Columns 3
2.3 STOMP Flow and Transport Simulation 3
2.4 Calculation of Peak Groundwater Concentration within 1000 Years 3
2.5 Calculation of Soil Screening Levels and Preliminary Remediation Goals 4

3 Assumptions and Inputs 4

3.1 Model Domain 5
3.2 Boundary Conditions and Initial Conditions 8
3.2.1 Upper Boundary Conditions 8
3.2.2 Lower Boundary Conditions 12
3.2.3 Lateral Boundary Conditions 12
3.2.4 Initial Conditions 14
3.3 Hydraulic and Transport Parameters 16
3.4 Point of Calculation and Protectiveness Metric 22
3.5 Conservative Basis for Soil Screening Levels and Preliminary Remediation Goals 23
3.6 Uncertainties, Assumptions, and Conservatism 24

4 Software Applications 25

4.1 Approved Software 25
4.1.1 Description 26
4.1.2 Software Installation and Checkout 26
4.1.3 Statement of Valid Software Application 26

5 Calculation 26

5.1 Time Steps and Solution Control 27
5.2 Groundwater Concentration Calculation 27
5.3 Dilution Factor Calculation 27
5.4 Peak Concentration Calculation and Scaling 28
5.5 Upper Bound on Soil Screening Levels and Preliminary Remediation Goals 30
5.6 Selection of Most Restrictive Soil Screening Levels and Preliminary Remediation Goals 31
5.7 Site-Specific Modeling 31
5.7.1 Site 116-F-14 31

6 Results/Conclusions 37

6.1 Sensitivity Analysis: Evaluation of K_d Influence on Contaminant Breakthrough 38

7 References 39

Attachments

A. **Soil Screening Levels Protective of Groundwater and Protective of Surface Water for the 100-F, IU-2, and IU-6 Areas** 43

B. **Preliminary Remediation Goals Protective of Groundwater and Protective of Surface Water for 100-F, IU-2, and IU-6 Areas** 59

C. **Software Installation and Checkout Forms for STOMP** 75

Figures

Figure 1. Representative Stratigraphic Columns for 100-F, IU-2, and IU-6 Areas 9

Figure 2. Boundary Conditions for (a) Water Flow and (b) Solute Transport Solutions 10

Figure 3. Recharge Rates for Post-2010 STOMP Simulations 13

Figure 4. Breakthrough Curves for Different Distribution Coefficients with Native Vegetation Recharge Scenario 24

Figure 5. Regression Equation for Higher K_d Contaminants Under Irrigated Recharge Scenario for 100-F Column 1 30

Figure 6. Site 116-F-14 Location, Interim Remedial Action Excavation Extent, and Locaiton of Limited Field Investigation and Remedial Investigation Boreholes 34

Figure 7. Vertical Profile from RI Well (199-F5-55) 35

Figure 8. Cumulative Distribution of Predicted Peak Groundwater Concentration of Hexavalent Chromium for Site-Specific Spatially Distributed Model of Site 116-F-14 36

Figure 9. Breakthrough Curves for Different Distribution Coefficients with Irrigation Recharge 38

Tables

Table 1. Determination of Vadose Zone Thickness and Geology for the 100-F Source Area 6

Table 2. Determination of Vadose Zone Thickness and Geology for IU-2 and IU-6 Source Areas 7

Table 3. Recharge Rates for Pre-2010 Simulations 11

Table 4. Recharge Rates for Post-2010 Simulations 13

Table 5. Hydraulic Gradient for March 2008 15

Table 6. Mualem-van Genuchten Hydraulic Parameters for Sandy Gravels in the 100 Area Vadose Zone 17

Table 7. Hydraulic Parameters used for 100-F, IU-2, and IU-6 Source Areas 20

Table 8. Distribution Coefficients used in STOMP Simulations 22

Table 9. Calculated Dilution Factors 28

Table A-1. Soil Screening Levels for Non-Radionuclides Protective of Groundwater 45
Table A-2. Soil Screening Levels for Non-Radionuclides Protective of Surface Water 51
Table A-3. Soil Screening Levels for Radionuclides Protective of Groundwater 57
Table B-1. Preliminary Remediation Goals for Non-Radionuclides Protective of Groundwater 61
Table B-2. Preliminary Remediation Goals for Non-Radionuclides Protective of Surface Water 67
Table B-3. Preliminary Remediation Goals for Radionuclides Protective of Groundwater 73

Terms

ARARs	applicable regulations and requirements
CHPRC	CH2M HILL Plateau Remediation Company
COPC	contaminant of potential concern
CPK	peak groundwater concentration
ECF	environmental calculation file
EQL	estimated quantitation limit
FEPs	features, events, and processes
HEIS	Hanford Environmental Information System (environmental database)
HISI	Hanford Information System Inventory (software database)
MCL	maximum contaminant level
PNNL	Pacific Northwest National Laboratory
POCal	point of calculation
PRG	preliminary remediation goal
OU	Operable Unit
RAG	remedial action goal
RESRAD	RESidual RADiation (screening software)
RUM	Ringold upper mud
SSL	soil screening level
STOMP	Subsurface Transport Over Multiple Phases (modeling software)
TINs	Triangulated Irregular Networks
WQS	water quality standard

1 Purpose

The purpose of this environmental calculation file (ECF) is to provide soil screening levels (SSLs) and preliminary remediation goals (PRGs) for protection of surface water and groundwater in the 100-F, IU-2, and IU-6 source areas using the STOMP (Subsurface Transport Over Multiple Phases) fate and transport simulation software (PNNL-11216, *STOMP Subsurface Transport Over Multiple Phases: Application Guide*; PNNL-12030, *STOMP Subsurface Transport Over Multiple Phases: Theory Guide*; PNNL-15782, *STOMP Subsurface Transport Over Multiple Phases: Version 4.0: User's Guide*).

SSLs are used to identify areas needing further investigation. PRGs represent soil concentration or radionuclide activity that can remain in the vadose zone at a site without causing an exceedance of groundwater or surface water quality standards. Based on numerical flow and solute transport simulations developed using a number of conservative assumptions, SSLs and PRGs specific to the 100-F, IU-2, and IU-6 source areas were calculated for 192 non-radionuclides and 29 radionuclides in groundwater and 192 non-radionuclides in surface water (specifically, the Columbia River). The approach used here is to calculate SSLs in the same manner as PRGs but using a more conservative recharge rate based on an irrigated farming scenario (recognizing this is not the planned land use for this source area). This approach honors the primary importance of recharge as parameter influencing breakthrough rates for vadose zone contamination into groundwater, and uses irrigation recharge rates to provide an upper bound on this parameter for screening purposes. The resulting SSL and PRG values are only applicable to this OU and to sites where the assumptions and conditions described in this ECF are representative.

Conceptual and numerical models of flow and solute transport under variably saturated conditions were developed for conditions that are representative of the lithology and hydrology observed at various waste sites within the 100-F, IU-2 and IU-6 Areas. Conditions specific to the 100 Area or source areas include time-varying recharge rates specific to the 100 Area, Operable Unit (OU) specific vadose zone thickness and lithology, area-specific hydraulic properties, and OU-specific aquifer fluxes. The numerical model implementing the conceptual model is developed assuming that aqueous-phase flow under variably saturated conditions follows the Richards equation and the transport of dilute solutes follows the advection-dispersion equation with radioactive decay and linear sorption and no volatilization or hydrodynamic dispersion.

Contaminant migration from waste sites in the 100-F, IU-2, and IU-6 Areas through the vadose zone to the underlying aquifer is controlled by the driving forces, interactions between water and sediments, and interactions between the contaminants and the sediments. The hydraulic driving forces include gravity; matric potential gradients; recharge, which is the end result of competition between precipitation, evaporation, transpiration, infiltration, run-off, and run-on; and man-made discharges, such as those from septic tank leach fields, ponds, lagoons, pipe and tank leaks, and irrigation. The types, thicknesses, and properties of the sediments can all affect the rate and direction of solute and water movement to the aquifer. A contaminant's concentration in the groundwater and its concentration in the downgradient Columbia River, including the peak concentration, are dependent on the solute flux from the vadose zone; aquifer thickness, properties, and flux rates; travel distance; groundwater and river water mixing; and the location sampled. Each contaminant's propensity to sorb to vadose zone or aquifer materials can also be important controlling factors on the groundwater concentration determination.

The STOMP-W operational mode of STOMP (which solves for water mass conservation and dilute species mass conservation) was used to solve the Richards equation and the advection-dispersion equation that govern water flow and solute transport, respectively, under variably saturated conditions in porous media. The governing equations solved by the STOMP software are well documented in PNNL-12030. Numerical simulations generated using STOMP provided predictions of groundwater

concentration and time to reach the breakthrough of the maximum concentrations for a list of contaminants based on a range of recharge rate scenarios, sediment types, vadose zone thicknesses, and properties appropriate to the 100-F, IU-2, and IU-6 Areas. The peak concentration within 1000 years was used in calculating SSLs and PRGs. The 1000-year limit was based on regulatory comment.

2 Methodology

One-dimensional fate and transport simulations were used to calculate SSL and PRG values for the 100 Area 100-F, IU-2, and IU-6 source areas. The STOMP code was selected to perform these simulations on the basis of its ability to adequately simulate the vadose zone features, events, and processes (FEPs) relevant to calculating PRGs in the 100-Area and to satisfy the other code criteria and attributes identified in DOE/RL-2011-50, *Regulatory Basis and Implementation of a Graded Approach to Evaluation of Groundwater Protection*. DOE/RL-2011-50 describes the approach and provides the regulatory basis for using STOMP in this type of evaluation. Detailed information on the development and basis of the models used in this calculation are provided in SGW-50776, *Model Package Report: Vadose Zone Model for the River Corridor*.

Many of the methodologies, model inputs, and assumptions for computing PRGs were developed to determine remedial action goals (RAGs) as part of DOE/RL-96-17, *Remedial Design Report/Remedial Action Work Plan for the 100 Area*. Although the calculation methods are similar, the RAGs were calculated with the RESRAD (RESidual RADiation) software (ANL/EAD-4, *User's Manual for RESRAD Version 6*) and the PRGs in this calculation were calculated with the STOMP software.

2.1 Definition of Soil Screening Levels and Preliminary Remediation Goals

SSLs are risk-based concentrations derived from standardized equations combining exposure information assumptions with EPA toxicity data (EPA/540/F095/041, *Soil Screening Guidance: Fact Sheet*). EPA provides a methodology for calculation of risk-based, site-specific SSLs for contaminants in soil that may be used to identify areas needing further investigation at National Priorities List sites. The approach used here is to derive SSLs in the same manner as PRGs (see below) but using a more conservative recharge rate based on an irrigated farming scenario. This approach recognizes the primary importance of recharge as parameter influencing breakthrough rates for vadose zone contamination into groundwater, and uses the irrigation based recharge rates as an upper bound on this parameter for screening purposes.

PRGs represent the maximum quantity, whether soil concentration or radionuclide activity, of a contaminant of potential concern (COPC) that can remain in the vadose zone without causing an exceedance of applicable regulatory standards. SSLs and PRGs can be defined for protection of groundwater or protection of surface water simply by the choice of the applicable standard used in the calculation. The PRG calculation in this ECF is evaluated based on the peak release of a COPC under a native vegetation recharge scenario that is consistent with land use plans for 100-F, IU-2, and IU-6 (Section 3.2.1.1). In contrast, the SSL calculation is based on a conservative (bounding) irrigation recharge scenario (Section 3.2.1.2). The value of a SSL or of a PRG for a particular COPC depends on a number of key factors:

- waste site characteristics, specifically, source mass distribution and distance to the water table
- land cover condition and the associated net recharge rate
- interactions between the vadose zone geology and water movement

- interactions between the vadose zone geology and contaminant chemistry

Model simulations were carried out for the non-radionuclide identified in ECF-Hanford-10-0442, *Calculation of Nonradiological Soil Concentrations Protective of Groundwater Using the Fixed Parameter 3-Phase Equilibrium Partitioning Equation for the 100 Areas and 300 Area*, and radionuclides identified in ECF-Hanford-10-0429, *Documentation of Preliminary Remediation Goals (PRGs) for Radionuclides Using the IAROD Exposure Scenario for the 100 and 300 Area Remedial Investigation/Feasibility Study (RI/FS) Report*. PRG values protective of groundwater were calculated for all of these COPCs (non-radionuclide and radionuclide), and PRGs protective of surface water were calculated for all non-radionuclide COPCs.

2.2 Identification of Representative Stratigraphic Columns

Borehole data were used to identify representative stratigraphic columns for each source area. Only two lithologic units are present in the vadose zone at 100-F, IU-2, and IU-6 Areas: the gravel-dominated Hanford formation and the Ringold Formation Unit E, which contains a slightly smaller percentage of coarse-grained sediments and a higher percentage of finer-grained sediments than the Hanford formation (SGW-40781, *100-HR-3 Remedial Process Optimization Modeling Data Package,* SGW-46279, *Conceptual Framework and Numerical Implementation of 100 Areas Groundwater Flow and Transport Model, Rev. 2*). Using the June 2008 water table elevations to represent the annually occurring highest water table, a conservative (smaller) thickness of the vadose zone was computed for each well and borehole. The borehole data were also used to estimate the thicknesses of each lithologic unit in each source within the vadose zone and within the aquifer. The boreholes were divided into groups based on the proportion of each lithologic unit and total vadose zone thickness. A representative stratigraphic column was selected for each borehole group within each source area, resulting in four stratigraphic columns to be used in the STOMP simulations (see Section 3.1 below).

2.3 STOMP Flow and Transport Simulation

Peak groundwater concentrations in the aquifer beneath a typical waste site within each of the representative stratigraphic columns were calculated using STOMP to solve the governing equations for flow and solute transport under variably saturated conditions. Peak concentrations of selected contaminants (Section 3.3) were calculated for two different contaminant source distributions (Section 3.2.4) with two recharge scenarios and three different soil types controlling infiltration (Section 3.2.1) for each representative stratigraphic column (Section 3.1).

2.4 Calculation of Peak Groundwater Concentration within 1000 Years

Peak groundwater concentrations within 1000 years were calculated for each model time step along a portion of the domain's downgradient boundary corresponding to the top five meters of the aquifer. The average concentration for the topmost 5 m was assumed an estimate of the groundwater concentration that would be measured within a 20-ft-long monitoring well screen that straddled the water table. Using the upper 5 meters of the aquifer is consistent with the requirements for aquifer mixing zone thickness in WAC 173-340-747[5][f][i]. The concentration was conservatively estimated by calculating it in the aquifer beneath the downgradient edge of the waste site footprint. These groundwater concentrations and the year that they occurred were tabulated to find the peak concentration of contaminant in ground water and its year of occurrence. For contaminants not simulated in STOMP, peak groundwater concentrations were calculated by a regression equation or linear interpolation method (Section 5.3).

2.5 Calculation of Soil Screening Levels and Preliminary Remediation Goals

A simple calculation was employed to compute SSL and PRG values by scaling the peak concentration values against the regulatory compliance criteria and the initial soil concentration. As a measure of allowable quantity of contaminant in the soil, SSLs and PRGs are expressed as contaminant mass per mass of soil for non-radionuclides or as contaminant activity per mass of soil for radionuclides.

The SSL for each COPC is computed as:

$$SSL = aC_I \frac{WQS}{CPK} \qquad \text{Eqn. 1a}$$

where the SSL is expressed in units of contaminant mass or activity / mass of soil, a is a constant selected to balance units, C_I is the initial soil concentration (typically contaminant mass or activity / mass of soil), WQS = water quality standard (contaminant mass or activity / volume of water), and CPK = peak groundwater concentration (contaminant mass or activity / volume of water) obtained from the conservative irrigation recharge scenario simulations (see Section 3.2.1.2).

Similarly, the PRG for each COPC is computed as:

$$PRG = aC_I \frac{WQS}{CPK} \qquad \text{Eqn. 1b}$$

where the PRG is expressed in units of contaminant mass or activity / soil mass), CPK = peak groundwater concentration (typically contaminant mass or activity / volume of water) obtained from the native vegetation recharge scenario simulations, and all other parameters are as defined above.

The surface water quality standards are used as WQS values to compute SSLs and PRGs protective of surface water, whereas the groundwater quality standards as WQS values to compute SSLs and PRGs protective of groundwater. The calculation of SSL and PRG values is the same, except that the results of the more conservative irrigation recharge scenario are applied to the calculation rather than those of the native vegetation recharge scenario.

3 Assumptions and Inputs

Two sequential STOMP simulations were used to determine peak groundwater concentrations. The first stage, called the pre-2010 model, simulated flow through the representative columns for a 2010-year period ending in calendar year 2010; the only purpose of this arbitrarily long simulation period is to achieve equilibrium (steady state) in the flow conditions in the model domain. Review of the first-stage matric potential and volumetric water content values over the last 100 years revealed that they had reached equilibrium prior to the end of the simulation. Results from the pre-2010 simulations provided initial aqueous pressure conditions for the 1,000-year-long second stage simulation, the post-2010 model, which solved for both flow and solute transport. The post-2010 solute transport simulations tracked the fate of contaminants with different distribution coefficients and decay constants through the vadose zone and into the aquifer. These results were used to identify the peak groundwater concentrations and year of peak concentration.

STOMP estimates of contaminant concentration depend on the model inputs and assumptions. Inputs to the models and their underlying assumptions are divided into the following categories for discussion:

- Model domain

- Boundary and initial conditions
- Hydraulic and transport parameters
- Initial contaminant source distribution

Each of these input categories are discussed in the sub sections that follow.

3.1 Model Domain

Conceptually, the model represents a column of sediments that comprise a vadose zone underlain by an aquifer. Recharge-driven flow moves downward through the vadose zone, where it encounters contamination that is eventually transported to an underlying aquifer, across which a pressure gradient drives horizontal flow. At the start of each post-2010 simulation, the vadose zone comprises a cover of clean fill with constant thickness as well as contaminated and uncontaminated sediments of varying thickness. The aquifer constitutes the base of the column with a minimum thickness of 5 m so that a 5-m-long monitoring well screen could be simulated. Depending on source-area-specific geology, the vadose zone comprises either Hanford formation alone or a combination of Hanford and Ringold Unit E, whereas the saturated zone can comprise only Hanford, a combination of Hanford and Ringold Unit E, or only Ringold Unit E. If present, the contact between the Ringold Unit E and the Ringold Upper Mud forms the bottom of the aquifer.

The model represents the vadose zone as a vertical one-dimensional column of evenly spaced grid blocks, each containing a node at the centroid. In STOMP, boundary conditions are specified at the faces of the grid blocks, so each grid block is assigned an arbitrary but constant length to avoid large grid Courant numbers in the aquifer grid blocks during transport simulations. Each grid block is 0.25 m in height and 10 m in length. A length of 10 m was chosen to reduce the Courant number below 1.0 to control numerical dispersion. The Courant number represents a simple guideline for selecting grid element and time step size to limit numerical dispersion in advection dominated problems (Huyakorn and Pinder, 1983). In practice, the time step is easier to control in a simulation because the grid is fixed in advance. STOMP includes an automatic Courant limitation scheme that automatically subdivides transport time steps within flow solution time steps to ensure the Courant limit is maintained throughout the computational mesh; this feature of STOMP was used in this calculation. Following the simulation, the contaminant aqueous concentration output was scaled back to 1.0 m length by taking the aqueous concentrations and dividing by 10. The accuracy of this methodology was verified through simulation with varying grid dimensions (not presented here).

Grid block Courant numbers for the aquifer grid blocks, in which flow is horizontal under full saturated conditions, was all less 1.0. Grid block Courant numbers for the vadose zone grid blocks, in which flow is vertical under variably saturated conditions, were all less 1.0 for all recharge scenarios.

Total column thickness and the thickness of the vadose zone vary according to the geology of each source area. Only the thickness of the clean backfill was held constant at 4.5 m. Thickness of the vadose zone, thickness of the aquifer (saturated zone), and the percentages of the different lithologic units in each were determined using borehole data from the Hanford Environmental Information System (HEIS) borehole database (Table 1 and Table 2). A conservative (thinner) estimate of vadose zone thickness was calculated by taking the difference between ground surface elevation and the June 2008 water table elevation, which is representative of the seasonal high water table elevation.

Table 1. Determination of Vadose Zone Thickness and Geology for the 100-F Source Area

Representative Column Index	Representative VZ Thickness (m)	Representative VZ Composition	Thickness of Hanford in VZ (m)	Thickness of Ringold E in VZ (m)	Corresponding Wells	Actual VZ Composition	Actual VZ Thickness (m)	Actual Aquifer Thickness (m)	Average SZ Thickness (m)	SZ Composition
1	12	100% Hanford	12	0	199-F5-46	100% Hanford	12.40	4.82	6.14	100% Hanford
					199-F5-45		11.81	3.89		
					199-F5-52		12.22	7.90		
					199-F5-2		11.38	11.79		
					199-F5-54		11.53	9.74		
					199-F5-47		13.42	5.63		
					199-F5-4		12.10	3.14		
					199-F8-4		11.31	2.86		
					199-F8-2		11.00	5.46		
2	10	100% Hanford	10	0	199-F5-5	100% Hanford	10.77	11.18	10.39	100% Hanford
					199-F5-6		10.95	10.08		
					199-F5-3		9.90	9.91		
3	8	100% Hanford	8	0	199-F5-1	100% Hanford	9.00	9.90	4.94	100% Hanford
					199-F8-3		7.45	1.70		
					199-F6-1		8.28	6.96		
					199-F8-7		8.53	1.22		
4	12	40% Hanford 60% Ringold E	4.8	7.2	199-F5-48	43% Hanford 57% Ringold E	12.76	3.09	3.09	100% Ringold E

Note: VZ = vadose zone, SZ = saturated zone

Table 2. Determination of Vadose Zone Thickness and Geology for IU-2 and IU-6 Source Areas

Representative Column Index	Representative VZ thickness (m)	Representative VZ Composition	Thickness of Hanford in VZ (m)	Thickness of Ringold E in VZ (m)	Corresponding Wells	Actual VZ Composition	Actual VZ thickness (m)	Actual Aquifer thickness (m)	Average Aquifer thickness (m)	SZ Composition
1	40	100% Hanford	40	0	699-67-51	100% Hanford	40.02	23.99	23.99	17% Hanford 83% Ringold E
2	22		22	0	699-65-50		22.54	12.51	12.51	100% Hanford
3	10		10	0	699-77-36		10.19	5.05	6.49	
					699-80-43P		9.11	4.61		
					699-63-25A		9.10	9.80		
4	8		8	0	699-80-39B		7.42	5.69	5.11	
					699-80-43Q		8.84	4.88		
					699-80-43R		8.94	4.78		

Note: VZ = vadose zone, SZ = saturated zone

Because of natural variability in the thickness of various hydrostratigraphic units it is not practical to calculate PRG values for all possible variations in thicknesses observed in the various boreholes. Instead, representative stratigraphic columns were identified. Representative columns were identified by collecting and reviewing geologic data from boreholes nearest to the waste sites in each source area. All borehole data were taken from the HEIS borehole database. The columns include the vadose zone and the unconfined aquifer. Using water table elevations to represent the annually occurring highest water table, a conservative (smaller) thickness of the VZ was computed for each borehole. The borehole data also provided estimates of the thicknesses of each lithologic unit within the vadose zone and within the aquifer. The boreholes were divided into groups based on the proportion of each lithologic unit and total vadose zone thickness for each source area. This process yielded four representative vadose zone thicknesses of 12, 10, 8, and 12 m for 100-F and four vadose zone thicknesses of 40, 22, 10, and 8 m of IU-2/IU-6. Examination of all wells within the 100-F 12-m-thickness group reveals a range of compositions for the vadose zone, but the 10 boreholes in this group can easily be divided into two sub-groups (Table 1):

- 100% Hanford formation
- 40% Hanford formation / 60% Ringold Unit E

If the thickness of the saturated zone was larger than 5 m, thickness of saturated zone was considered as 5 m in the model, because the thickness above 5 m does not influence the peak concentration in the top 5 m of the aquifer. This was tested by running a simulation with full aquifer thickness and 5 m aquifer thickness (not presented here). If the thickness of saturated zone was less than 5 m, then the thickness of saturated zone was assumed as 5 m so that a 5-m-long monitoring well screen could be simulated (Table 1 and Table 2). Figure 1 depicts the representative stratigraphic columns at each source area.

Each column was assumed to also contain clean backfill to represent conditions following interim remediation. Backfill was assumed to replace the uppermost 4.5 m of each column.

3.2 Boundary Conditions and Initial Conditions

Solving the governing equations for variably saturated flow and transport requires specification of boundary conditions and initial conditions. A complete set of boundary and initial conditions must be specified for each governing equation for input to STOMP. The boundary conditions specified for this calculation are depicted in Figure 2, and are discussed in detail the sub sections that follow.

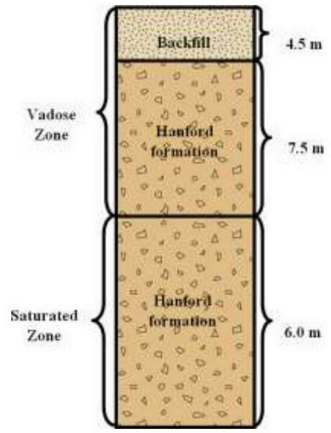
3.2.1 Upper Boundary Conditions

For water flow, a time-varying Neumann type (specified water flux) boundary condition was applied at the top surface (Figure 2a) to represent net infiltration (destined to become recharge). The net infiltration into the vadose zone, which is used in the model to represent the recharge into the aquifer, is driven by the competition between precipitation, potential evaporation, transpiration, run-off and run-on. In an arid or semi-arid climate, downward fluxes resulting from this competition are episodic and usually infrequent, but this effect is typically damped towards a nearly constant rate with depth as soil moisture variability with depth measured at Hanford Site lysimeters shows (PNNL-17841, *Compendium of Data for the Hanford Site (Fiscal Years 2004 to 2008) Applicable to Estimation of Recharge Rates*). This is the basis for representing recharge in the vadose zone model using a constant rate applicable to a given soil type and vegetation cover (DOE/RL-2011-50). A number of studies have been carried out at the Hanford Site to ascertain representative long-term averages of the episodic fluxes, i.e., recharge rates, such as those compiled by Pacific Northwest National Laboratory (PNNL) in PNNL-14702, *Vadose Zone Hydrology Data Package for Hanford Assessments*) for the 100 Areas. The 100 Area specific recharge rates reported

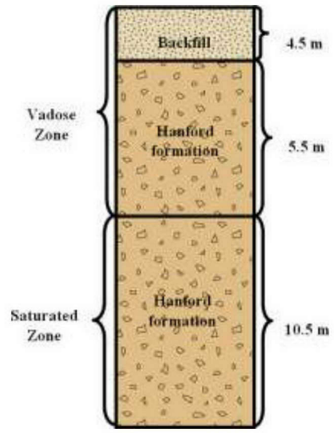
Representative Stratigraphic Columns for 100-F

Vadose Zone Thickness:

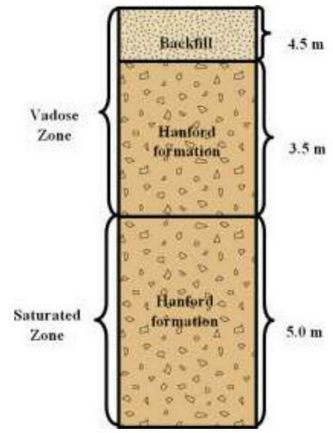
(1) 12-m
(100% Hanford in VZ)



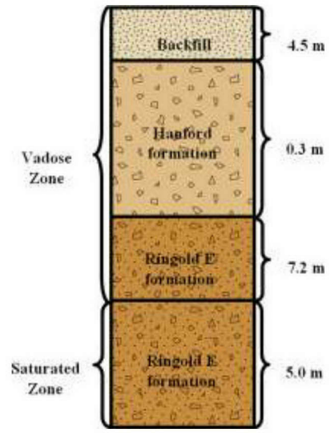
(2) 10-m
(100% Hanford in VZ)



(3) 8-m
(100% Hanford in VZ)



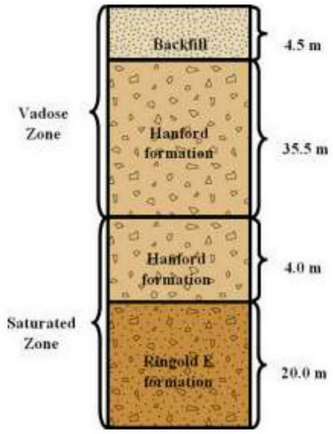
(4) 12-m
(40% Hanford 60% Ringold E in VZ)



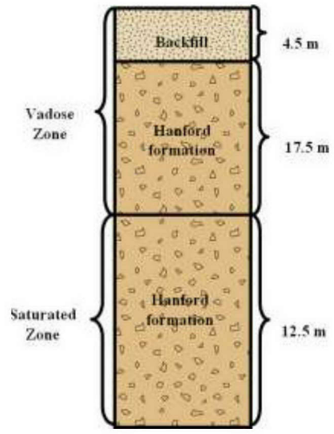
Representative Stratigraphic Columns for IU-2 and IU-6

Vadose Zone Thickness:

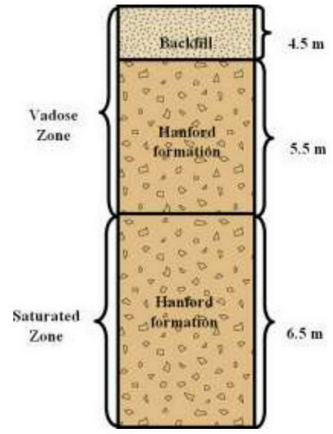
(1) 40-m
(100% Hanford in VZ)



(2) 22-m
(100% Hanford in VZ)



(3) 10-m
(100% Hanford in VZ)



(4) 8-m
(100% Hanford in VZ)

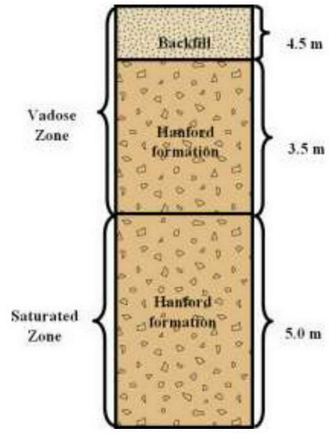
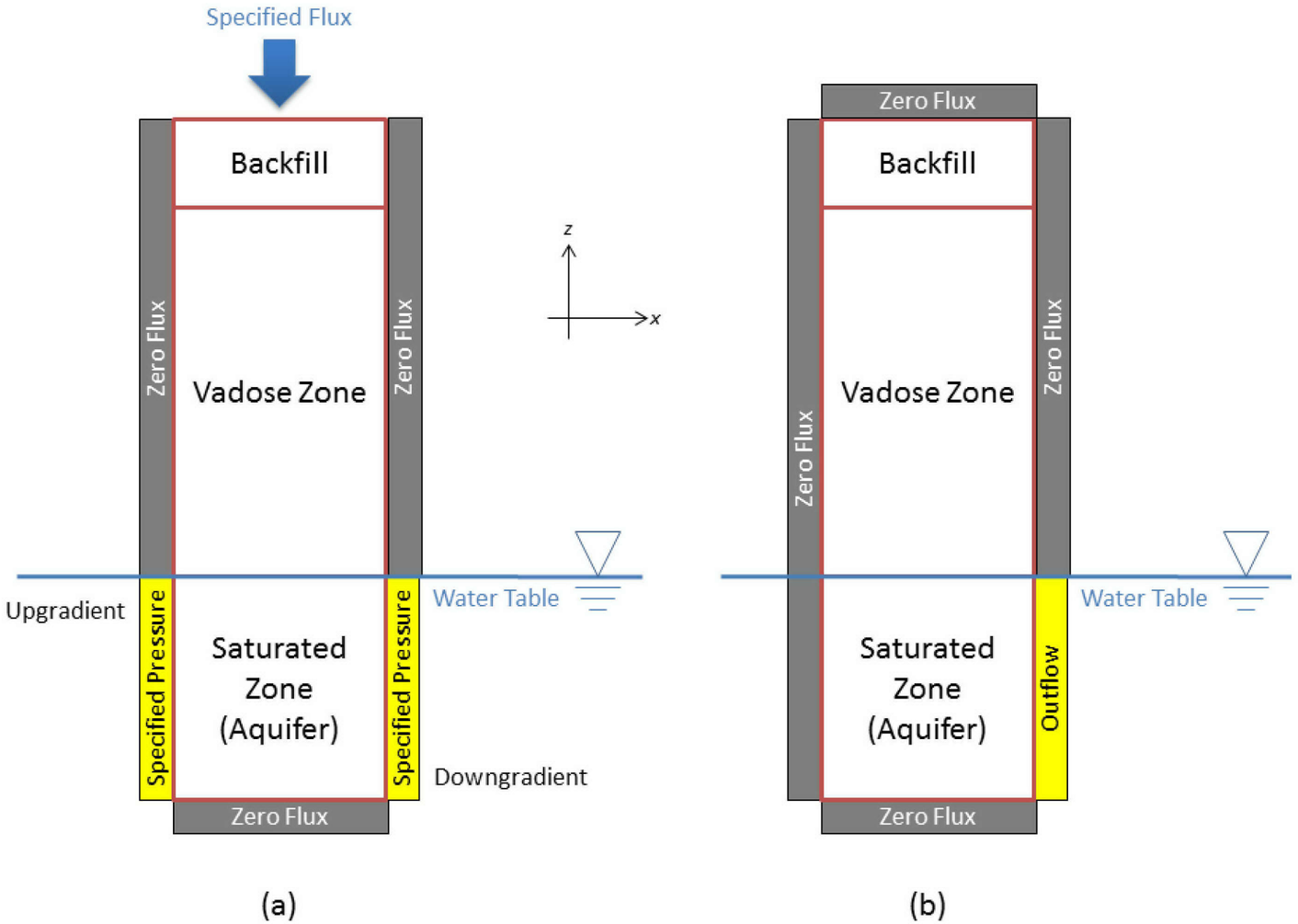


Figure 1. Representative Stratigraphic Columns for 100-F, IU-2, and IU-6 Areas



Note: Zero-flux boundaries apply to all faces in the y-direction.

Figure 2. Boundary Conditions for (a) Water Flow and (b) Solute Transport Solutions

in PNNL-14702 vary with surface soil type, providing an estimate of the range of possible recharge rates for various land uses. The three surface soil types were the Ephrata sandy loam or stony loam, Burbank sandy loam and Rupert sand.

It is necessary to simulate past conditions to obtain an initial soil moisture profile that is representative of present conditions to serve as the starting point for predictive simulations. The starting time for predictive simulations is set as calendar year 2010. For the pre-2010 simulations, land use and recharge rates were assumed to change from shrub-steppe (during the Hanford Site pre-operational period prior to 1944) to bare soil (Hanford Site operational period 1944-2010) for each soil type. Base recharge rates for each type of land cover for each soil type were applied to the top boundary from the year 0 to 1944 for the pre-operational period (this is an arbitrarily long period simulated merely to allow the full soil profile to stabilize at equilibrium) and from 1944 to 2010 for the operational period (Table 3).

For the predictive simulations (from 2010 forward), two different recharge scenarios were evaluated that represent different land uses; the expected condition under DOE land use planning is termed the native vegetation recharge scenario, and includes the maturation of shrub steppe from bare soil to mixed grass and shrub cover to mature shrub steppe cover. The second scenario, termed the irrigation recharge scenario, is a bounding condition that includes increasing recharge due to irrigation farming practices after a period of bare soil cover. The irrigation recharge scenario is inconsistent with DOE land use planning, but is evaluated to provide a conservative upper bound value for recharge for screening use. Recharge rates are assumed to change over time in step function fashion for these recharge scenarios.

Table 3. Recharge Rates for Pre-2010 Simulations

		Recharge Rate (mm/yr)	
Surface Soil Type	Recharge Scenario	Establish Initial Conditions (0-1944) [a]	Operational Period (1944-2010)
Ephrata sandy loam or stony loam	Native Vegetation	1.5	17.0
	Irrigation		
Burbank sandy loam	Native Vegetation	3.0	52.0
	Irrigation		
Rupert sand	Native Vegetation	4.0	44.0
	Irrigation		

a. An arbitrarily long period is used only to ensure a steady state initial condition is achieved; there is no other significance to the start date of this period.

For solute transport, specified zero flux boundaries were applied at the top of the model domain, along both edges of the vadose zone, along the upgradient edges of the aquifer grid blocks, and the bottom of the aquifer (Figure 2b). The downgradient edges of the aquifer grid blocks were assigned STOMP's outflow solute boundary condition (see page 6.21 of PNNL-12030, and also page 4.4 of PNNL-15782), which transports solute out of the domain according to the advective flux term in the governing equation and does not allow solute to enter back into the domain (Figure 2b).

3.2.1.1 Native Vegetation Recharge Scenario (Used in Preliminary Remediation Goal Calculation)

The native vegetation recharge scenario is used as the basis of PRG calculation. This recharge scenario is representative of DOE's planned land use with restoration and maintenance of a native shrub-steppe plant community. Three recharge time periods represent the changes in recharge rates to account for the changes in the land use/cover over time after 2010 (Table 4 and Figure 3). The first recharge period spans from 2010 to 2015 and represents the period of bare soil cover. The second recharge period represents grasses and shrubs as the vegetation matures over a transition period of 30 years (consistent with DOE/RL-2011-50), followed by establishment of a mature shrub steppe in the last recharge period that lasts for the remainder of the simulation. The recharge rates decrease with time for the native vegetation recharge scenario.

3.2.1.2 Irrigation Recharge Scenario (Used in Soil Screening Level Calculation)

The irrigation recharge scenario is used as the basis of the SSL calculation, and represents a conservative upper bound value for recharge based on irrigation, recognizing that DOE's plans do not call for this land use. Recharge rates for the irrigation recharge scenario were estimated using the same approach employed to assess interim remediation at other 100 Area waste sites (DOE/RL-96-17). These previous site assessments used Remedial Action Goals (RAGs) calculated from RESRAD simulations that assumed total recharge was a combination of irrigation and non-irrigation (base case, in this case the native vegetation scenario) recharge rates. As the base case (native vegetation recharge scenario) rates used in the RESRAD simulations differ from those adopted from PNNL-14702, the RESRAD equation for total recharge was solved to determine the rate attributable to irrigation alone. According to the RESRAD manual, total recharge is a function of precipitation, evapotranspiration, run-off, and applied irrigation and is defined as:

$$I = (1 - C_e)[(1 - C_r)P_r + I_{rr}] \qquad \text{Eqn. 2}$$

in which I = annual recharge rate (LT^{-1}), C_e = evapotranspiration coefficient (dimensionless), C_r = runoff coefficient (dimensionless), P_r = annual precipitation rate (LT^{-1}), and I_{rr} = annual irrigation rate (LT^{-1}). Using Equation 2 and the DOE/RL-96-17 RESRAD values for these parameters, C_e = 0.91, C_r = 0.2, P_r = 0.16 m/yr, and I_{rr} = 0.76 m/yr, yielded a total recharge rate of 80 mm/yr. Solving Equation 2 with I_{rr} = 0 yielded the base case (native vegetation recharge) rate of 11.6 mm/yr and therefore the recharge attributable to irrigation alone is 68.4 mm/yr, which was then added to the base case (native vegetation recharge scenario) rates (Table 4) to determine a recharge rate for the irrigation recharge scenario for each soil type. For example, the irrigation recharge scenario for the Ephrata sandy loam and stony loam soils sets the recharge rate to 17 mm/yr from 2010 to 2015, 71.4 mm/yr from 2015 to 2045, and 69.9 mm/yr from 2045 to 3010 (Table 4 and Figure 3).

3.2.2 Lower Boundary Conditions

The base of the model domain in all cases is assigned a constant zero-flux boundary condition for both water transport and solute transport (Figure 2).

3.2.3 Lateral Boundary Conditions

For the portion of the model domain in the vadose zone (Figure 2a) a constant zero-flux boundary condition for both water transport and solute transport is assigned to restrict (with respect to arrival time of peak solute concentration and peak magnitude) the representation in the vadose zone to one-dimensional vertical flow. This is a conservative representation with respect to the arrival time and the magnitude of the peak concentration.

Table 4. Recharge Rates for Post-2010 Simulations

Soil Type	Recharge Scenario	Recharge Period		
		Period 1 (2010-2015)	Period 2 (2015-2045)	Period 3 (2045-3010)
Ephrata sandy loam or stony loam	Native Vegetation	17.0	3.0	1.5
	Irrigation	17.0	71.4	69.9
Burbank sandy loam	Native Vegetation	52.0	6.0	3.0
	Irrigation	52.0	74.4	71.4
Rupert sand	Native Vegetation	44.0	8.0	4.0
	Irrigation	44.0	76.4	72.4

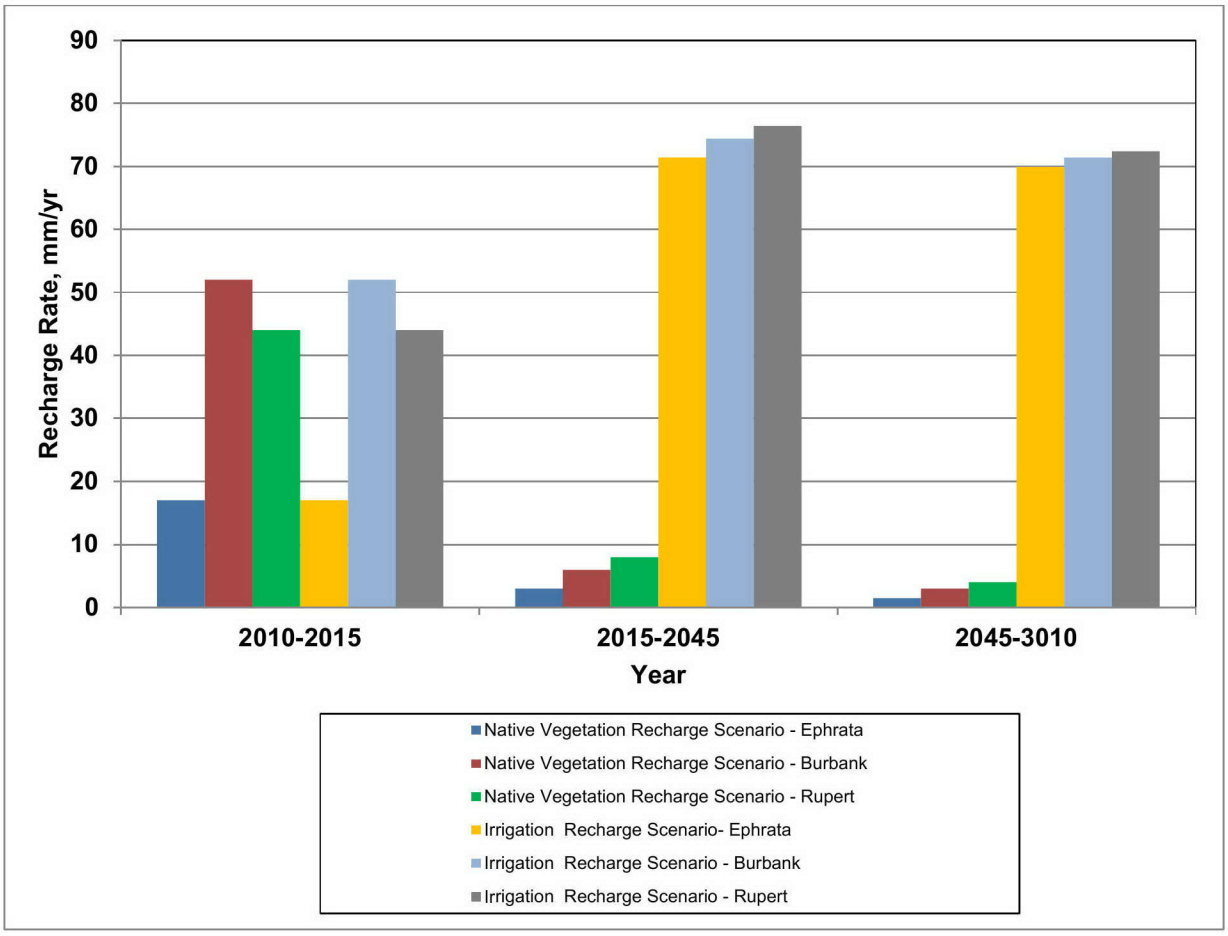


Figure 3. Recharge Rates for Post-2010 STOMP Simulations

For the portion of the model domain in the saturated zone (aquifer; refer to Figure 2a), a constant Dirichlet type (specified head) boundary condition is specified for water transport at opposite edges aligned to the hydraulic gradient to represent the water table at the desired elevation and impose the desired hydraulic gradient. The hydraulic gradients values assigned to the edges of the saturated aquifer model cells were based on head data for March 2008 because the greatest number of wells was measured in that month, yielding the greatest number of measurements for all 100 Area source areas. Triangulated Irregular Networks (TINs) were fitted to the wells using ArcGIS and hydraulic gradients were computed for each TIN (Table 5). The gradient magnitudes typically varied across two or more orders of magnitude, so the median, a measure of the central tendency of the computed gradients, was selected as a representative value, yielding hydraulic gradients of 0.0010 m/m at 100-F, 0.0014 m/m at IU-2, and 0.0025 at IU-6.

For solute transport, the upgradient edge of the portion of the model domain in the aquifer and all edges of the model domain in the vadose zone portion of the model domain are assigned zero-flux boundary conditions (Figure 2b). The downgradient edges (Figure 2b) of the aquifer grid blocks were assigned STOMP's outflow solute boundary condition (see page 6.21 of PNNL-12030, and also page 4.4 of PNNL-15782); this conditions provides for transport of solute out of the domain according to the advective flux term in the governing equation but does not allow solute to enter back into the domain.

3.2.4 Initial Conditions

An arbitrary value was assigned as the initial pressure for the pre-2010 flow simulations. A value of 86,656.7 Pa, approximately equivalent to –1.5 m matric potential, was assigned to the nodes in the vadose zone whereas the aquifer grid blocks were assigned values that matched the boundary condition pressures. Final pressures from the pre-2010 simulations were used as the initial pressures for the post-2010 flow and transport simulations.

The initial distribution of contaminants was selected based on (a) observed vertical distribution of contaminants in recent boreholes that were drilled as part of the Remedial Investigations/Feasibility Studies for various 100 Area Groundwater OUs and (b) knowledge of distribution coefficients (K_d) of observed contaminants based on published literature specific to Hanford site.

The vertical distribution of contaminants (as measured in recent boreholes in the 100 Area) are presented in SGW-50776, *Model Package Report: Vadose Zone Model for the River Corridor* and in SGW-51818, *Conceptual Basis for Distribution of Highly Sorbed Contaminants in 100 Areas Vadose Zone*. Based on the measured distributions, it is inferred that significant vertical extent of contamination is seen only for relatively mobile (low K_d) contaminants such as tritium, hexavalent chromium, and nitrate. For lower mobility (higher K_d) contaminants, such as mercury, arsenic, and lead, the concentrations in the deeper portion of the vadose zone are typically below or near soil background concentrations, or sporadically higher without any trend indicating a very limited extent of contamination. The only exception seems to be Sr-90 that has a relatively high K_d. Some borehole measurements showed strontium-90 contamination throughout the vertical extent, which is attributed to waste-site specific discharges under historical conditions that allowed higher mobility (high volume, transient saturated conditions, high temperature); these conditions no longer prevail in these locations.

Results of transport simulations documented in ECF-Hanford-11-0063, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area D, H, and K Source Areas*, indicate that as K_d increases the peak concentration occurs later in time. For contaminants with $K_d < 2$ mL/g, and under natural vegetation recharge rates (expected land use), the peak concentration typically occurs within 1000 years while for $K_d > 2$ mL/g the peak concentration occurs after 1000 years. Because the simulations (for calculating SSLs and PRGs) are performed for a 1000 year period, for

simplification all contaminants are divided into two groups: one with lower distribution coefficients in the K_d range < 2 mL/g, and other with the higher distribution coefficients in the range ≥ 2 mL/g. This grouping is consistent with borehole data, where only more mobile contaminants (K_d < 2) are observed to have any significant vertical distribution in the vadose zone so as to pose a potential concern in groundwater.

For the lower K_d contaminants (K_d < 2 mL/g), a uniform concentration of 1.0 mg/kg was applied in the entire vadose zone, from below the clean backfill down to 0.5 m (two simulation grid blocks) above the water table. This is termed the 100:0 initial source distribution. Initial concentration in the 0.5-m-zone above the water table was not applied due to the presence of capillary fringe and in recognition of the unrepresentative large peak releases that would result at the start of any simulation because of the extreme concentration gradients that result from application of this initial condition.

For the higher K_d contaminants ($K_d \geq 2$ mL/g), based on information presented in SGW-51818, the conservative assumption of contamination throughout the full thickness of the vadose zone is modified. For these contaminants, the upper 70% of the vadose zone below the clean backfill was assumed to be contaminated while the lower 30% is treated as uncontaminated; this is termed the 70:30 initial source distribution. The 70:30 initial source distribution assumption is deemed conservative for the high K_d contaminants, with respect to peak concentration, based on observed limited vertical extent of such contaminants. Where borehole measurements of deeper contamination of higher K_d contaminants but of limited vertical extent are found, this conservatism can be tested using those data.

A notable exception to the K_d based assignment of an initial source distribution was made for the COPC strontium-90. Because field data reveal that this COPC is distributed vertically throughout the vadose zone at several sites within 100-F/IU-2/IU-6 area, use of the 70:30 initial source distribution for this COPC would clearly be non-conservative for these sites. Accordingly, SSL and PRG values were conservatively calculated for strontium-90 using the 100:0 initial source distribution at all sites. Strontium-90 is distributed throughout the vadose zone despite its relatively high K_d value for reasons having to do with historic discharge practices (high volumes, transient saturated conditions, high temperature fluids) that are no longer prevalent in the subsurface. This exception could be considered a site-specific treatment, but applied to all sites for this COPC only.

The unit initial concentration is arbitrary and was chosen for convenience in calculating SSLs and PRGs. However, note that this assumption has no effect on the SSL or PRG values because these values are scaled by the initial concentration C_I in Equation 1.

Table 5. Hydraulic Gradient for March 2008

Source Area	Number of TINS	Hydraulic Gradient (m/m)				
		Minimum	Maximum	Median	Arithmetic average	Geometric average
100-F	14	0.0002	0.0025	0.0010	0.0011	0.0009
IU-2	8	0.0006	0.0024	0.0014	0.0014	0.0013
IU-6	14	0.0001	0.0071	0.0025	0.0028	0.0013

3.3 Hydraulic and Transport Parameters

To the extent possible, source-area-specific hydraulic and transport parameter values were used in the STOMP simulations. Based on previous Hanford studies and on the fact that all available measurements of hydraulic properties made the same assumption, the sediments were assumed to follow the van Genuchten (1980) moisture retention constitutive relation and the Mualem –van Genuchten relative permeability constitutive relation (Mualem, 1976), thus requiring values to be specified in STOMP for each lithologic unit for

- K_s, saturated hydraulic conductivity, (LT^{-1})
- n_T, total porosity (L^3L^{-3})
- θ_s, saturated volumetric water content, called diffusive porosity in STOMP (L^3L^{-3})
- s_r, residual saturation (dimensionless), equal to the residual volumetric water content divided by the saturated volumetric water content
- α, van Genuchten fitting parameter (L^{-1}), proportional to the inverse of the air entry matric potential
- n, van Genuchten exponential fitting parameter (dimensionless)

The van Genuchten m parameter was assumed to be fixed and equal to $(n - 1)/n$ and the Mualem β exponent was assumed to be fixed at 0.5 (Mualem, 1976; RPP-20621, *Far-Field Hydrology Data Package for the Integrated Disposal Facility Performance Assessment*). These Mualem-van Genuchten hydraulic parameters were obtained for the Hanford formation from PNNL-15125, *Flow and Transport in the Hanford 300 Area Vadose Zone-Aquifer-River System*. A summary of the hydraulic parameters are listed in Table 6.

Table 6. Mualem-van Genuchten Hydraulic Parameters for Sandy Gravels in the 100 Area Vadose Zone

Sample	HSU [a]	Source Area	Well Number	Depth (m)	Percent Gravel	Saturated Moisture Content θ_s (cm^3/cm^3)	Residual Moisture Content θ_r (cm^3/cm^3)	van Genuchten (1980) Fitting Parameters		Fitted Saturated Hydraulic Conduct. K_s (cm/s)*
								α (1/cm)	n (-)	
2-1307	Ringold	100-HR-3	199-D5-14	18.90	43	0.236	0.0089	0.0130	1.447	1.29E-04
2-1308	Ringold	100-HR-3	199-D5-14	30.64	58	0.120	0.0208	0.0126	1.628	6.97E-05
2-1318	Hanford	100-HR-3	199-D8-54A	15.54	60	0.124	0.0108	0.0081	1.496	1.67E-04
2-2663	Hanford	100-BC-5	199-B2-12	8.20	61	0.135	0.0179	0.0067	1.527	6.73E-05
2-2664	Ringold	100-BC-5	199-B2-12	24.84	73	0.125	0.0136	0.0152	1.516	1.12E-04
2-2666	Hanford	100-BC-5	199-B4-9	21.49	71	0.138	0.00	0.0087	1.284	1.02E-04
2-2667	Hanford	100-BC-5	199-B4-9	23.93	75	0.094	0.00	0.0104	1.296	1.40E-04
3-0570	Hanford	100-KR-1	116-KE-4A	3.50	60	0.141	0.00	0.0869	1.195	2.06E-02
3-0577	Hanford	100-FR-3	199-F5-43B	7.16	66	0.107	0.00	0.0166	1.359	2.49E-04
3-0686	Hanford	100-FR-1	116-F-14	6.49	55	0.184	0.00	0.0123	1.600	5.93E-04
3-1702	Hanford	100-DR-2	199-D5-30	9.78	68	0.103	0.00	0.0491	1.260	1.30E-03
4-1086	Ringold	100-K	199-K-110A	12.77	65	0.137	0.00	0.1513	1.189	5.83E-02
4-1090	Hanford	100-K	199-K-111A	8.20	50	0.152	0.0159	0.0159	1.619	4.05E-04
4-1118	Hanford	100-K	199-K-109A	10.30	66	0.163	0.00	0.2481	1.183	3.89E-02
4-1120	Ringold	100-K	199-K-109A	18.90	63	0.131	0.0070	0.0138	1.501	2.85E-04

a. HSU = hydrostratigraphic unit

Hydraulic parameters were also required for the backfill portion of the model domain. The simulated peak groundwater concentrations will be insensitive to the backfill hydraulic parameters because contaminated vadose zone sediments are located beneath clean backfill in all source distribution models for all simulations. The backfill parameter values used for the 100-F, IU-2, and IU-6 Areas simulations (Table 6) are identical to those used in the 200 Area PRG calculation simulations (Table 8 in ECF-200MW1-10-0080, *200-MW-1 Contaminant Fate and Transport Model to Evaluate Impacts to Groundwater in Support of DOE/RL-2008-38 Decision Draft*; Table 11 in ECF-200PW1/3/6-10-0326, *Screening Process and Contaminant Fate and Transport Model to Evaluate Impacts to Groundwater in Support of DOE/RL-2007-27 Draft B*).

The Hanford formation and the Ringold Unit E are comprised of well-to-poorly sorted sandy gravels or sandy silty gravels. In contrast, the backfill is comprised of poorly sorted sand and gravel with varying fractions of eolian loess and silt (RPP-20621; SGW-40781; SGW-41213, *100-KR-4 Remedial Process Optimization Modeling Data Package*; and SGW-46279; PNNL-18564, *Selection and Traceability of Parameters to Support Hanford-Specific RESRAD Analyses*). Within the 100-F, IU-2, and IU-6 areas, the Hanford formation tends to be coarser grained than the Ringold Unit E. The former tends to contain larger gravel clasts than the latter, but the Ringold Unit E can locally contain significant amounts of gravel (SGW-40781; SGW-41213; and SGW-46279). Where present, the Ringold upper mud (RUM) was assumed to function as a lower boundary with a zero-flux boundary condition (i.e., as an aquitard) to the aquifer (SGW-46279) and so was not incorporated in the model domain interior.

OU-specific values for several Mualem-van Genuchten hydraulic parameters were obtained for the Hanford formation from data package SGW-46279 (for entire 100 Area). The data package cites RPP-20621 as the source of the unsaturated hydraulic properties of 15 samples of sandy gravels from the 100 Area areas (Table 6). These 100 Area sediments are dominated by the gravel fraction (> 2-mm size), with gravel clasts accounting for 43 to 75% of the total sample mass (Table 6; RPP-20621). Moisture retention data were measured on the non-gravel sediment fraction (< 2mm size) and corrected for gravel fraction, whereas hydraulic conductivities were measured on the bulk samples that included the gravel fraction using the constant-head permeameter method for saturated hydraulic conductivity (K_s) and the unit gradient method for unsaturated hydraulic conductivity (Table 6; RPP-20621). The K_s measurements were assumed to represent vertical hydraulic conductivity.

Aquifer properties for Hanford formation and Ringold Unit E are presented in SGW-47040, *Geohydrologic Data Package in Support of 100-FR-3 modeling, Rev. 1*. Additional information is presented in SGW-40781 and SGW-46279. The horizontal K_s (saturated zone hydraulic conductivity) for Hanford formation for 100-F geographic area is determined to be about 48.3 m/day based on geometric mean of the calibrated range of hydraulic conductivity reported from a draft version of 100 Area groundwater flow and transport model. The vertical K_s value for Hanford formation in the aquifer is assumed ten times smaller than horizontal K_s (4.8 m/day). The horizontal K_s estimate for Hanford formation has progressed with updates to the 100 Area model from inclusion of additional geologic information and/or refinements to the boundary conditions: the average horizontal K_s was estimated to be 63 m/day in SGW-46279, Rev. 0; it was estimated to be 100 m/day in SGW-46279, Rev. 2, for the 100-F geographic area; and in the most current update (ECF-100FR3-11-0116, Rev. 2, *Modeling of RI/FS Design Alternatives for 100-FR-3*) the average horizontal K_s is estimated to be 30 m/day, with values ranging from 10 to 221 m/day within the 100-F geographic area. Several slug test measurements in the 100-F area suggest horizontal K_s value for the Hanford formation varies from about 11 m/day to 225 m/day (SGW-47040, Rev. 1). Due to considerable variability observed in horizontal K_s for 100-F the value of 48.3 m/day, originally derived from geometric mean calculation, is deemed reasonable and representative for the SSL/PRG calculations.

For the IU-2 and IU-6 geographic area, due to paucity of site-specific information, the horizontal and vertical K_s values for Hanford formation are taken to be the same as that for the 100-H geographic area (ECF-Hanford-11-0063), which are based on pumping test and slug test data. Saturated horizontal hydraulic conductivity estimates for Hanford formation, based on pumping test and slug tests in the 100-H area, typically range from 15 m/day to 1811 m/day (SGW-46279). A geometric mean of about 98 m/day is calculated for saturated horizontal K_s of Hanford formation.

Saturated zone horizontal and vertical hydraulic conductivity used for 100-D area for Ringold Formation (ECF-Hanford-11-0063) is used to represent the horizontal and vertical K_s values for the saturated Ringold Formation at 100-F, IU-2, and IU-6 OUs. An estimate of approximately 22 m/day is used for horizontal K_s and an order less for the vertical K_s. Value from 100-D was chosen because of the availability of more representative pumping test dataset (23 pumping test data were available for Ringold Formation in 100-D compared to only 3 pumping test data for 100-H). The slug test based estimates of horizontal K_s for 100-F area show a range from 9 m/day to 69 m/day indicating that 22 m/day is a reasonably representative value for the SSL/PRG calculations.

Table 7 summarizes all the hydraulic parameters used in the STOMP simulations at 100-F, IU-2, and IU-6 for the vadose zone, saturated zone, and the backfill.

Table 7. Hydraulic Parameters used for 100-F, IU-2, and IU-6 Source Areas

Operable Unit	Zone [a]	Formation	Total Porosity n_T	Diffusive Porosity n_D	van Genuchten (1980) Fitting Parameters		Residual Saturation s_r	Saturated Hydraulic Conductivity K_s (cm/s)	
					α (1/cm)	n		Horizontal	Vertical
100-F	BF	Hanford	0.276	0.262	0.019	1.40	0.162	5.98E-04	5.98E-04
	VZ	Hanford	0.280	0.250	0.0145	1.48	0	3.83E-03	3.84E-04
	VZ	Ringold E	0.280	0.280	0.008	1.66	0.093	4.13E-03	4.14E-04
	SZ	Hanford	0.280	0.250	0.0145	1.48	0	5.59E-02	5.59E-03
	SZ	Ringold E	0.280	0.280	0.008	1.66	0.093	2.59E-02	2.59E-03
IU-2 & IU-6	BF	Hanford	0.276	0.262	0.019	1.40	0.162	5.98E-04	5.98E-04
	VZ	Hanford	0.280	0.250	0.0145	1.48	0	3.83E-03	3.84E-04
	SZ	Hanford	0.280	0.250	0.0145	1.48	0	1.13E-01	1.13E-02
	SZ	Ringold	0.280	0.280	0.0080	1.66	0.093	2.59E-02	2.59E-03

BF = backfill; VZ = vadose zone; SZ = saturated zone.

The Mualem-van Genuchten hydraulic properties for the Hanford formation were estimated for each source area by averaging the individual parameter values for all samples collected from that area (Table 6). For example, samples from boreholes 199-F5-43B and 199-F5-51 were selected to provide mean properties for 100-F Area. Vertical saturated hydraulic conductivity of Hanford formation was averaged using the geometric mean of the four measurements whereas the other parameters were averaged using the arithmetic mean. An exception is the saturated volumetric water content, called θ_s in the van Genuchten moisture retention relation and diffusive porosity in STOMP. The θ_s values in Table 6 were determined by applying a gravel correction factor to the values determined in the laboratory on the < 2 mm fraction. The absence of the gravels may have resulted in underestimation of the void volume available for flow because of the difficulty in reconciling the high K_s values with very low porosity values. Therefore, the Hanford-wide estimate of 0.25 was used. Because there are no measurements specific to the IU-2 and IU-6 OUs (Table 6), the parameters for Hanford formation in the vadose zone at 100-F are adopted as representative of those at nearby IU-2 and IU-6.

The document and database review for this ECF did not yield OU-specific or even 100-Area-specific Mualem-van Genuchten property values for the Ringold Unit E or the backfill. In the absence of more site-specific data, Hanford-wide mean parameter values for the backfill and the Ringold Unit E were taken from Table A.12 in PNNL-18564. Mean hydraulic parameters for six samples of backfill and 18 samples of Ringold Unit E gravels that were collected within the Hanford Site (PNNL-18564) were selected to represent these units within the 100 Area. Thus, the Ringold Unit E intervals located in the vadose zone had the same Mualem-van Genuchten properties in all source areas, as did the backfill. The backfill parameters used for the 100 Area simulations were also used in flow and transport simulations under variably-saturated conditions at other waste sites, such as the PW-1/3/6 waste sites in the 200 Area (Table E5-8 in Appendix E of DOE/RL-2007-27, *Feasibility Study for the Plutonium/Organic-Rich Process Waste Group Operable Unit: Includes the 200-PW-1, 200-PW-3, and 200-PW-6 Operable Units*). Groundwater peak concentrations were insensitive to backfill parameters because contaminated vadose zone sediments are located beneath the backfill in all source distribution models for all simulations.

For transport simulations, STOMP requires the particle density (ρ_p) values of the backfill, Hanford, and Ringold units. The particle density of each unit can be calculated using the bulk density (ρ_B) and porosity. Bulk density is necessary for retardation scaling factor calculations. Estimates of bulk density for Hanford and Ringold units were obtained from PNNL-14702, which gave 1.91 g/cm^3 for the Hanford and 1.90 g/cm^3 for the Ringold. The bulk density estimate used for backfill was 1.94 g/cm^3 (PNNL-18564). Dispersion was conservatively assumed negligible, so dispersivity values were all set to zero. Barring numerical dispersion introduced by the solution method, setting dispersivity values to zero yields higher peak concentrations than setting non-zero values and therefore yields conservative PRG values.

Distribution coefficient, K_d, for the chemicals were taken from ECF-Hanford-10-0442 and for the radionuclides K_d and half-life values were taken from ECF-Hanford-10-0429, and are listed in Attachments A and B for each COPC. One exception to this is the K_d value for hexavalent chromium [Cr (VI)]. The K_d value of Cr (VI), 0.8 mL/g, was estimated in ECF-Hanford-11-0165, *Evaluation of Hexavalent Chromium Leach Test Data Conducted on Vadose Zone Sediment Samples from the 100-Area*. Simulations were run for 1000 years to produce peak groundwater concentrations for a subset of the entire range of distribution coefficients required for all contaminants. Typically, the subset comprised 26 distribution coefficients (Table 8) between zero and 16 mL/g. Peak concentrations were estimated for the remaining distribution coefficients using either the scaling methods described in Section 5.3.

Table 8. Distribution Coefficients used in STOMP Simulations

Simulated K_d Values (mL/g)		
0	0.20	4.0
0.00001	0.30	8.0
0.0001	0.40	10.0
0.001	0.50	12.0
0.01	0.60	14.0
0.02	0.70	16.0
0.04	0.80	
0.06	0.90	
0.08	1.0	
0.10	2.0	

3.4 Point of Calculation and Protectiveness Metric

In accordance with risk assessment guidelines, the determination of soil contamination impacts to groundwater and surface water also requires the definition and rationale for (1) the Point of Calculation (POCal) i.e., the place/point in the groundwater domain where modeled groundwater concentrations are to be assessed for potential impacts and protectiveness, and (2) the protectiveness metric, i.e., the groundwater and surface water metric(s) to be used in the assessment of protectiveness at the POCal (DOE/RL-2011-50).

The POCal for the protection of groundwater and surface water is related to the "Exposure Point" in the context of conventional human health risk assessments (EPA/540/1-89/002, *Risk Assessment Guidance for Superfund Volume 1, Human Health Evaluation Manual [Part A]*) and to "Point of Compliance" in federal and state regulations and guidelines (DOE/RL-2011-50).

For this calculation, the POCal is the outflow (downgradient) edge of the 1-D column for the grid blocks that are located in the topmost 5 m of the aquifer representing the screened portion of a monitoring well. The peak value of concentration within the topmost five meters of the aquifer was used to compare to the regulatory compliance criteria.

The protectiveness metric is the set of applicable water quality standards for groundwater and surface water (e.g., applicable regulations and requirements [ARARs], maximum contaminant levels [MCLs], or applicable water quality standards) values for each contaminant. The applicable water quality standard for each contaminant for protectiveness of groundwater and surface water in the 100F, IU-2 and IU-6 Areas are included in the Attachments A and B to this ECF.

3.5 Conservative Basis for Soil Screening Levels and Preliminary Remediation Goals

The SSL and PRG values were calculated assuming the most conservative set of input values. For the SSL calculation, the maximum recharge (irrigation recharge scenario) was applied while for the PRG calculation native vegetation recharge scenario was applied. Note that, particularly for contaminants with greater sorption, peaks may occur beyond 1000 years but these are not calculated or reported because a 1000-year simulation time limit was established for purposes of SSL and PRG calculation.

A set of test case simulations were run to demonstrate the adequacy of K_d of 2 mL/g as the point for grouping the low K_d and high K_d contaminants. For this test, Column 1 from 100-F OU was chosen for the test case. The native vegetation recharge scenario rates for Burbank sandy loam was applied and 100:0 initial contaminant distribution was used for the initial solute condition. The breakthrough curves for different distribution coefficients are shown in Figure 4. The simulations were run for 1000 years (from calendar year 2010 to 3010); the end of the simulations is denoted by the vertical dashed line at year 3010 in these figures. Observation of the breakthrough curves in Figure 4 reveals that for the distribution coefficients <2 mL/g the peak concentration occurs within 1000 years and for the distribution coefficients >2 mL/g the peak concentration occurs after 1000 years. These results indicate that the initial assumption of grouping the contaminants into two broad groups, one with low distribution coefficients < 2 mL/g and another one with the high distribution coefficients ≥ 2 mL/g for both SSL and PRG calculations is sound.

For the low K_d contaminants effective 100:0 source distribution was used and for the high K_d contaminants 70:30 source distribution was used. The final SSL and PRG values for each recharge scenario and each source area is chosen by selecting the minimum value (lowest PRG value calculated) from amongst all of the representative columns. If the minimum value thus obtained is below the estimated quantitation limit (EQL) for soil then EQL is substituted for the SSL or PRG value (as a lower threshold).

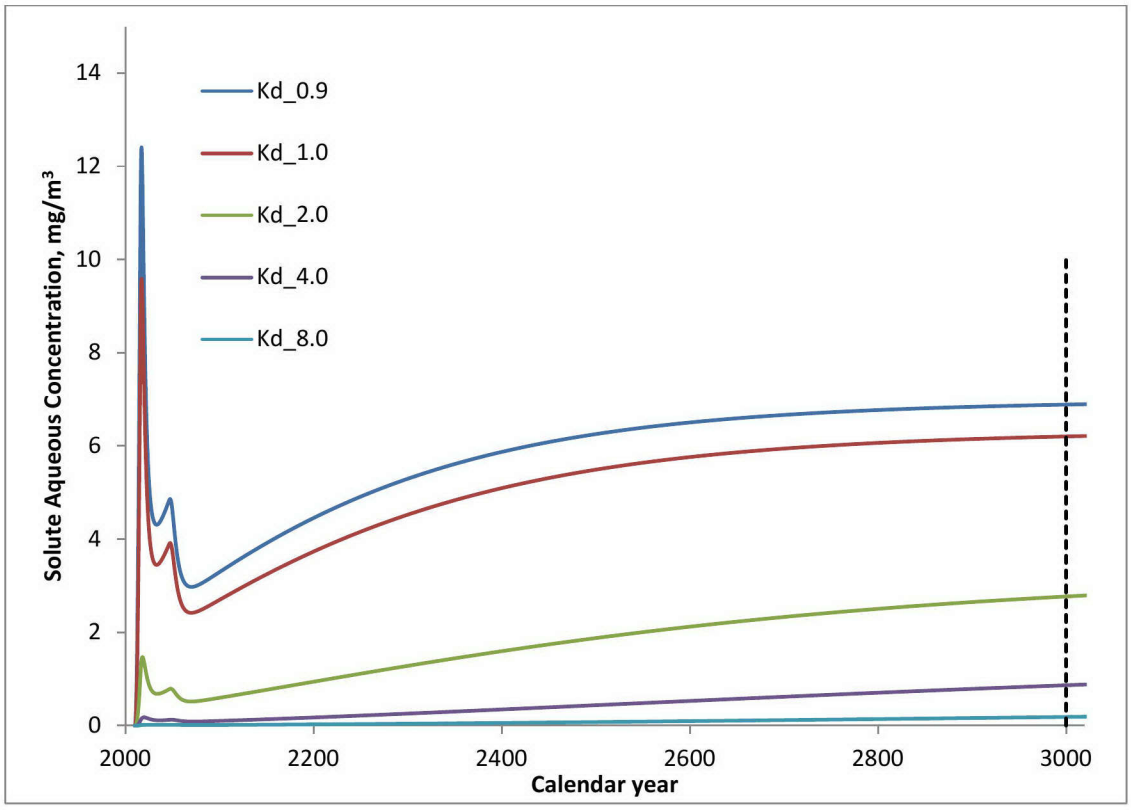


Figure 4. Breakthrough Curves for Different Distribution Coefficients with Native Vegetation Recharge Scenario

3.6 Uncertainties, Assumptions, and Conservatism

Potential sources of uncertainty in risk assessments are primarily in the categories of (1) model uncertainties, (2) scenario uncertainties, and (3) parameter uncertainties. Model uncertainty pertaining to the equations used as numerical representations of the natural processes is expected to be relatively small (DOE/RL-2011-50).

DOE/RL-2011-50 provides a summary evaluation of the comparisons of field data and field test results to corresponding model results obtained using the STOMP code, and the evaluation indicates that the equations used in STOMP adequately simulate the natural processes. The technical basis regarding scenario and parameter selection and the evaluation of uncertainty and variability is also documented in DOE/RL-2011-50. Documentation is provided in DOE/RL-2011-50 on (1) dominant model factors, (2) model parameter values and plausible ranges of parameter values, (3) model assumptions and effects on model results, and (4) model limitations.

Application of the SSL and PRG values calculated herein requires an understanding of which assumptions and modeling choices were conservative and which were not. Conservative assumptions and modeling choices include:

- Recharge is represented in the numerical model by uniform, but time-varying, flux rates specified over particular periods so that vadose zone flow is always downward. In contrast, recharge in an arid vadose zone occurs only as often as the combination of precipitation and antecedent moisture conditions allow, i.e., sporadically or infrequently, so that there can be long periods when shallow

vadose-zone pore water movement is controlled more by evaporation and transpiration near the surface than gravity, resulting in upward movement or reduced downward seepage velocity.

- The one-dimensional simulations force all contamination through the vadose zone down to the aquifer, whereas infiltrating water and solutes tend to migrate laterally as the wetting front redistributes following an infiltration event.

- Dilution upon mixing of groundwater with Columbia River water is assumed negligible.

- Dispersion is assumed negligible, which leads to larger peak concentrations than if dispersion had been included.

- Volatile organic compounds are assumed to have negligible volatilization so that the resulting peak concentrations are larger than if volatilization had been included.

- Geometric means of measured aquifer horizontal hydraulic conductivity values are lower, and thus more conservative, than arithmetic means because the values typically span several orders of magnitude.

Assumptions that may or may not be conservative include:

- The median hydraulic gradient value for each source area may be too large by several-fold for waste sites near the Columbia River and may be several times too large for waste sites that are farther inland from the river.

- The assumption of a five-meter-thick aquifer may or may not be conservative for those 100 Area locations with aquifer thicknesses less than 5 m.

4 Software Applications

STOMP was the primary software used for this calculation; as approved software, the information required to be reported is provided in Section 4.1 below.

Microsoft Excel®[1] spreadsheets were used to calculate contaminant inventory values and approximate contaminant solute concentrations, back-calculate PRG values, and evaluate the results produced by STOMP. These calculations were performed on a desktop with ID INTERA-00295. The hardware is a Dell Precision E7200 with a 2.53-GHz Intel(R) Core(TM)2 Duo CPU processor and 3.25 GB of RAM loaded with the Windows XP Professional 64-bit operating system.

4.1 Approved Software

The vadose zone fate and transport calculations are performed using CHPRC Build 2 of the STOMP software, registered in the Hanford Information System Inventory (HISI) under identification number 2471. STOMP use by CHPRC is managed under the following software lifecycle documents: CHPRC-00222, STOMP *Functional Requirements Document*; CHPRC-00176, *STOMP Software Management Plan*; CHPRC-00211, *STOMP Software Test Plan*; CHPRC-00515, *STOMP Acceptance Test Report*; and CHPRC-00269, *STOMP Requirements Traceability Matrix*.

[1] Excel and Windows are registered trademarks of Microsoft Corporation in the United States and other countries.

4.1.1 Description

The following required information for the STOMP software package used for this calculation is provided here:

- Software Title: STOMP
- Software Version: CHPRC Build 2
- HISI Identification Number: 2471
- Workstation type and property number (from which software is run): STOMP was executed on the INTERA Richland GREEN Linux®[2] above Cluster that is owned and managed by INTERA, Inc., a pre-selected subcontractor to CHPRC. The computer property tag identifier for the front end node is #469 at INTERA's Richland, Washington office. This node is a Dell PowerEdge R510 with two 6-core Intel Xeon X5660 processors @ 2.80GHz and 48 GB of RAM. As given by the command "uname –a", the operating system details are

```
Linux green 2.6.32-32-server #62-Ubuntu SMP Wed Apr 20 22:07:43 UTC 2011 x86_64
GNU/Linux (gcc version Ubuntu 4.4.3-4ubuntu5 4.4.3)
```

4.1.2 Software Installation and Checkout

A copy of the Software Installation and Checkout Form for the STOMP installation used for this calculation is provided in Attachment C to this ECF.

4.1.3 Statement of Valid Software Application

DOE/RL-2011-50 contains a summary of the main model attributes and code selection criteria that serve as the basis for the demonstration of the adequacy of the STOMP code for use in vadose zone modeling at Hanford. The results of the evaluation in DOE/RL-2011-50 show that the STOMP code is capable of meeting or exceeding the identified attributes and criteria. The comparison of the code selection criteria to the STOMP code capabilities indicates the STOMP code is capable of simulating all of the necessary FEPs, and that STOMP meets all of the other required code selection criteria. Section 6.4.1 of DOE/RL-2011-50 addresses code selection criteria, including quality assurance documentation of verification studies for specific model attributes (e.g., unsaturated flow, solute transport, infiltration, and drainage), and includes a discussion of other code related criteria (i.e., inter-code comparisons, hardware requirements, solution methodology, dimensionality, and output capability).

The results of CHPRC acceptance testing (CHPRC-00515) demonstrate that the STOMP software is acceptable for its intended use by the CHPRC. Installations of the software are operating correctly, as demonstrated by the INTERA Linux Cluster system producing the same results as those presented for selected problems from the STOMP application guide (PNNL-11216) in accordance with the software test plan (CHPRC-00211).

5 Calculation

STOMP simulations were created and run using the representative stratigraphic columns, boundary conditions, initial conditions, and parameter values described in Section 3. The details of SSL and PRG calculation are described in the sub sections that follow.

[2] Linux is the registered trademark of Linus Torvalds in the U.S. and other countries.

5.1 Time Steps and Solution Control

The STOMP simulator solves a wide variety of nonlinear, single- or multiphase flow and transport problems for variably saturated geologic media. Partial differential conservations equations for component mass, energy, and solute mass comprise the fundamental equations for the simulator. STOMP solves flow and transport problems in the subsurface environment in one, two, or three dimensions. STOMP solves the fundamental equations for flow using an integral volume finite difference approach with the nonlinearities in the discretized equations resolved through Newton-Raphson iteration. The fundamental equation for solute transport are discretized to algebraic form following the integrated finite difference method of Patankar (1980) that is implicit using backward Euler time differencing, or by other techniques available in STOMP (e.g., TVD). STOMP solves the linear systems of equations that result from the Newton-Raphson linearization or the solute transport solution using either a direct, banded matrix solver or an indirect conjugate gradient-based solver.

For this calculation, the STOMP-W operational mode (solving for water mass and solute mass conservation) with the direct, banded matric solver was used for all simulations. The Patankar (1980) technique was used for solute transport simulation. Details of the software quality assurance requirements met for use of STOMP are in Section 4.

For solution control, the maximum time step permitted was 0.01 years. The grid dimension of 10.0 m in the horizontal direction by 0.25 m in the vertical direction was deliberately specified to maintain grid Courant numbers below the threshold of 1.0 to minimize numerical dispersion in the saturated zone. STOMP's automatic Courant limitation feature was used to control numerical dispersion in the unsaturated nodes.

The aqueous concentrations calculated using STOMP were scaled down unit horizontal grid length (1.0 m) by dividing the aqueous concentrations by 10. The accuracy of this methodology was verified through simulation of varying grid dimensions (details not presented in this ECF).

5.2 Groundwater Concentration Calculation

Peak groundwater concentrations were calculated for each model time step along a portion of the domain's downgradient boundary corresponding to the top 5 m of the aquifer. Fluxes through the downgradient boundary were written to a surface flux file, one of STOMP's standard output options. For each time step, STOMP writes the water mass and solute mass flux rates passing through the surface as well as the cumulative water and solute mass that have passed through the surface. Groundwater concentration within the 5-m-long surface was conservatively estimated by calculating it at the aquifer edge beneath the downgradient edge of the waste site footprint. The solute mass flux per unit time was divided by the water volume flux per unit time to yield a groundwater concentration at each time step.

5.3 Dilution Factor Calculation

Dilution factors are calculated following the Washington Administrative Code (WAC 173-340-747), wherein the dilution factor is the ratio of the combined aquifer and vadose zone water fluxes to the vadose zone water flux:

$$Df = \frac{Q_{VZ} + Q_A}{Q_{VZ}} \qquad \text{Eqn. 3}$$

where Df is the dimensionless dilution factor, Q_{VZ} is the volumetric flux from the vadose zone into the aquifer (L^3T^{-1}), and Q_A is the volumetric flux through the topmost five meters of the aquifer (L^3T^{-1}). The

dilution factors for the representative stratigraphic columns for the 100-F, IU-2 and IU-6 Areas under each recharge scenario are listed in Table 9.

Table 9. Calculated Dilution Factors

Recharge Scenario	Aquifer Formation	Dilution Factor [a]		
		Ephrata sandy loam and stony loam	Burbank sandy loam	Rupert sand
100-F Area				
Native Vegetation	Hanford	5.88E+04	2.94E+04	2.20E+04
Irrigation	Hanford	1.26E+03	1.24E+03	1.19E+03
Native Vegetation	Ringold	2.72E+04	1.36E+04	1.02E+04
Irrigation	Ringold	5.85E+02	5.73E+02	5.50E+02
IU-2 Area				
Native Vegetation	Hanford	1.66E+05	8.31E+04	6.24E+04
Irrigation	Hanford	3.57E+03	3.49E+03	3.35E+03
Native Vegetation	Ringold	3.81E+04	1.91E+04	1.43E+04
Irrigation	Ringold	8.19E+02	8.02E+02	7.70E+02
IU-6 Area				
Native Vegetation	Hanford	2.97E+05	1.48E+05	1.11E+05
Irrigation	Hanford	6.37E+03	6.24E+03	5.99E+03
Native Vegetation	Ringold	6.81E+04	3.4E+04	2.55E+04
Irrigation	Ringold	1.46E+03	1.43E+03	1.37E+03

a. calculated per Washington Administrative Code (WAC 173-340-747)

5.4 Peak Concentration Calculation and Scaling

Peak concentrations for use in calculating SSLs or PRGs were obtained by running multiple simulations using STOMP for the set of K_d values listed in Table 8 for the irrigation recharge scenario in the case of SSLs, and for the native vegetation recharge scenario in the case of PRGs. Peak concentrations are then estimated based on the K_d value of each COPC from linear interpolation of the results of the STOMP simulations as follows:

1. For COPCs in the range $1.0 < K_d < 2.0$ mL/g, a fitted regression equation created by performing a linear (or non-linear) regression of STOMP simulated peak concentrations against K_d values in the range 0.5 to 1 mL/g. This range is estimated separately from higher K_d values because a different initial solute condition (100:0 initial distribution) is used for $K_d < 2.0$ than for higher values.

2. For the COPCs in the range $2.0 \leq K_d \leq 8.0$ mL/g, the 'FORECAST' function in Excel® that uses a best fit (least squares) linear regression is used to perform a linear regression of STOMP simulated peak concentrations against K_d values over the same range. This range is estimated

separately from lower K_d values because a 70:30 distribution is used (in contrast to the 100:0 initial solute distribution applied for lower K_d values).

3. For COPCs in the range $K_d > 8.0$ mL/g, a fitted regression equation created by performing regression of STOMP simulated peak concentrations against K_d values in the range of 8 to 16 mL/g is used. An example is shown in Figure 5 using 100-F representative stratigraphic column 1 (Figure 1) under the irrigation recharge scenario for the Ephrata sandy loam surface soil.

The numerical threshold for breakthrough concentration within 1000 years was set to 1.0×10^{-4} µg/L for non-radionuclide COPCs and 1.0×10^{-4} pCi/L for radionuclide COPCs. If breakthrough above this threshold was not simulated in at least half of the representative stratigraphic columns, and/or when the SSL or PRG value for any analyte exceeded 384,000 µg/kg (a physical upper bound developed in Section 5.5, below), then the results were assigned the code "NR" to designate a non-representative result.

Evaluation of SSL and PRG calculations for the full set of representative stratigraphic columns developed for all 100 Area source OUs indicates that the K_d threshold value (the K_d value at which the peak groundwater concentration does not exceed the breakthrough concentration threshold) is strongly influenced by the vadose zone thickness. Generally, for 70:30 initial source distributions, thicker vadose zone columns result in smaller K_d threshold values. Because the vadose zone thickness is highly variable across the 100-Area, a statistically significant K_d threshold value that is generally applicable throughout the 100-Area is useful for efficient determination of SSL and PRG values. Results from all representative columns that have been identified across the 100-Area are compared to calculate the required threshold K_d value. Separate comparisons were conducted for the SSL and PRG calculations resulting from the respective recharge scenarios associated with these calculations. In total, 35 representative columns that were developed for the various geographic areas within the 100-Area were included in this comparison. For each of these 35 representative stratigraphic columns, three different recharge rate time histories were applied (based on the three surface soil types; refer to Table 3 and Table 4) resulting in 105 representative stratigraphic column/recharge rate history combinations, all simulated under two recharge scenarios (irrigation for SSL values and native vegetation for PRG values).

The vadose zone thickness varied from 3.5 m to 35.5 m and the K_d threshold for SSLs (that are based on the irrigation recharge scenario) varied from 6 to 130 mL/g. The median K_d threshold value for SSL calculations was found to be 25 mL/g, which provides the most representative K_d threshold across the 100 Area. This value is similar to K_d threshold of 22 mL/g for SSL selected for the 100-D/H/K source areas (ECF-Hanford-11-0063). Based on results of this comparison, and in recognition of maintaining consistency with the 100-D/H/K calculations that yielded nearly the same K_d threshold value, a 22 mL/g K_d threshold is selected for SSL calculations throughout the 100 Area. Further, it is noted that the thickness of vadose zone in the representative stratigraphic columns was conservatively biased with respect to vadose thickness because these were developed for maximum water table conditions (conservative with respect to vadose zone thickness). Using, for example, average water table conditions would have resulted in thicker vadose zone columns, and thereby reduce the K_d threshold value calculated in this process. Recognizing this conservative bias, a K_d threshold of 22 mL/g is considered reasonable for the purpose of determining SSL values. Furthermore, contaminants with K_d in the range of 20 mL/g or more have not been observed in the 100 Area groundwater (in dissolved state), reinforcing confidence that the K_d threshold value of 22 mL/g is reasonable.

A similar approach is used to determine the K_d threshold for PRGs (that are based on the native vegetation recharge scenario). The breakthrough groundwater concentrations calculated for most of the representative stratigraphic columns for 100-D/H/K source area remained below the threshold breakthrough concentration between K_d of 1 and 2 mL/g (ECF-Hanford-11-0063); therefore a K_d

threshold of 1 mL/g is chosen. The results for other representative columns across the 100-Area are very similar and overwhelmingly indicate K_d threshold between 1 and 2 mL/g. Therefore, a K_d threshold of 1 mL/g is chosen for the PRG calculations for use throughout the 100 Area.

In summary, based on this evaluation, COPCs with K_d values exceeding the K_d threshold value of 22 mL/g for SSLs and 1 mL/g for PRGs are assigned the "NR" code.

5.5 Upper Bound on Soil Screening Levels and Preliminary Remediation Goals

SSL and PRG values were calculated from the peak groundwater concentrations using Equation 1 and the applicable surface water and groundwater regulatory standards for all representative soil columns. If simulated peak concentrations are very small, application of Equation 1 can lead to physically unrealistic soil concentrations, e.g., 10 kg of aluminum per kg of soil. To provide an upper physical bound, the maximum SSL and PRG values were capped at an estimate of the total COPC mass that could occupy the void volume within a kilogram of soil. PRG values pertain to soil with pore water present, so in the $K_d = 0$ case (unsorbed COPC) where no contaminant is in the soil, the concentration accounts the pore water portion of the pore space.

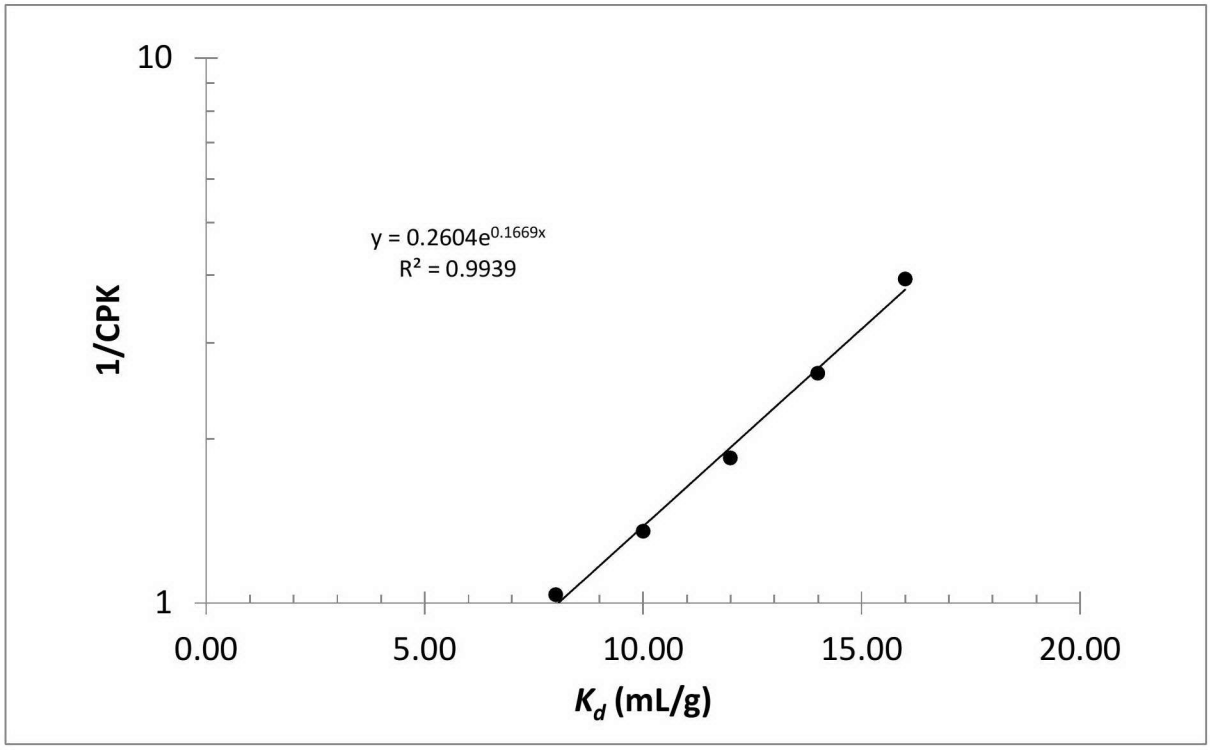


Figure 5. Regression Equation for Higher K_d Contaminants Under Irrigated Recharge Scenario for 100-F Column 1

The bulk density (ρ_B) of the soil in the 100 Area is 1930 kg/m^3. For 1 kg of soil, the total volume (V_T) of the soil is:

$$\frac{1\ \text{kg}}{1930\ \frac{\text{kg}}{\text{m}^3}} = 5.18 \times 10^{-4}\ \text{m}^3$$

The COPC is assumed to fully occupy the diffusive porosity. Thus, the maximum mass of COPC in the soil is

$$m_{max,p} = n_T \times V_T \times \rho_p$$

where n_T is the total porosity and ρ_p is the particle density of the COPC. In the 100 Area, the total porosity of the Hanford or Ringold formation is 0.28, and the particle density of the COPC is assumed to equal the particle density of the soil, 2650 kg/m^3 (PNNL-18564). The maximum mass of COPC in 1 kg soil is given by

$$m_{max,p} = (0.28) \times (5.18 \times 10^{-4}\ \mathrm{m}^3) \times \left(2650\ \frac{\mathrm{kg}}{\mathrm{m}^3}\right)$$

$$= 0.384\ \mathrm{kg} \times \left(\frac{1{,}000{,}000\ \mathrm{mg}}{1\ \mathrm{kg}}\right) = 3.84 \times 10^5 \mathrm{mg}$$

Thus the maximum SSL or PRG value for non-radionuclides is 384,000 mg per kg of soil. Any larger non-radionuclide SSL or PRG value with a larger value was replaced with the 384,000 mg per kg of soil value.

5.6 Selection of Most Restrictive Soil Screening Levels and Preliminary Remediation Goals

SSL and PRG values were conservatively selected as the minimum of the SSL or PRG calculated, respectively, for all representative stratigraphic columns and all surface soil types. The selected OU-specific SSL and PRG values for 100-F, IU-2 and IU-6 are presented in Attachments A and B, respectively.

5.7 Site-Specific Modeling

Where site measurements suggest the assumed initial concentration profiles (100:0 or 70:30, depending on sorption of the contaminant) is excessively bounding for sites that fail screening step and exceed PRGs as well, site-specific modeling using more detailed information is permitted under the graded approach (DOE/RL-2011-50). Such second-level modeling is used to evaluate if more realistic (that is, less bounding) evaluation using more site-specific information can remove a site from the list of exceedances.

5.7.1 Site 116-F-14

The EPC exceeded the SSL for Cr(VI) at this site in the first level of the Graded Approach. The small exceedance was not large, so the representativeness of the generalized conceptual site model, assumptions, and inputs parameter are evaluated here and demonstrated need for a site-specific model to refine the SSL and PRG values to be more representative.

5.7.1.1 Background

The following information is available in the Waste Information and Disposal System (WIDS) for this site:

Site Description: Site 116-F-14 was a rectangular, concrete-lined, open-top reservoir designed to retain reactor cooling water from the 105-F single-pass reactor prior to being discharged to the Columbia River. The basin had an estimated capacity of 5.67E+08 L (1.5E+08 gal). It was divided into two equal sections by weir walls running lengthwise from inlet to outlet end. Each section was subdivided by a series of wooden baffles. The site was surrounded by sprinklers (Hanford Drawing H-1-14321) installed on the top

of the wall to keep the sludge from drying out during those times when effluent was not being discharged to the basin. This site was located about 530 m east-northeast of the 105-F Reactor Building.

Site Comment: Shortly after the reactor was shut down in 1965, water inside the basin was pumped to the 116-F-2 overflow trench. One and a half meters (5 feet) of clean fill material was placed over the sludge in the bottom of the basin and the basin walls were spray coated with asphalt. The steel aboveground effluent pipeline that ran from the reactor building to the basin was cut into 6.1-m (20-ft) sections. The pipeline was 460 m (1,500 ft) long and 152-cm (60-in.) in diameter. The cut sections of effluent pipe were laid on top of the fill in the east section of the basin. Additional decommissioning was done in 1978-1979. The upper 3.1 m (10 ft) of the basin's vertical walls were knocked down. At this time the effluent pipe sections were moved to the west basin section. Sampling of the retention basin and vicinity was performed in 1975 with test pits and soil borings in and around the retention basin and nearby structures (Dorian and Richards 1978). Material sampled during this effort included the soil fill within the basin, residual sludge on the basin floor, concrete samples obtained from the basin floor and walls, soil from beneath the basin floor, and subsurface soils outside the basin. The sample locations and results can also be found in DOE/RL-90-33. Seven backhoe pits and three soil borings were dug inside the 116-F-14 basin. The test pits (identified as AN, BN, CN, DN, AS, CS, and DS) only extended to a depth equal to the bottom of the basin to collect samples of basin backfill material and sludge. The three boreholes (identified as S, T, and U) provided samples of the basin fill and sludge, but also extended through the bottom of the basin for the collection of soil samples from beneath the basin. Analytical results are recorded in UNI-946 and in DOE/RL-90-33. Based upon the reported sample depths, the thickness of the fill material ranged from 1.1 m (3.5 ft) to 1.8 meters (6 feet). The Dorian and Richards report (UNI-946) states that the sludge thickness averaged approximately 7 cm (3 in.). The highest concentrations of radionuclides were found in the sludge samples, with concentrations of europium-154 as high as 9,800 pCi/g, europium-152 as high as 14,000 pCi/g, and nickel-63 as high as 34,000 pCi/g. Extensive sampling (Dorian and Richards, 1978) was performed on other soil borings and surface samples taken from locations adjacent to the outside of the basin. The sample locations and results can be found in DOE/RL-90-33. The highest radionuclide concentrations were observed in borehole "L", located approximately 50 m (160 ft) southeast of the basin, and borehole "W", located near the northwest corner of the basin. Concentrations of europium-152 and europium-154 were as high as 6,200 pCi/g and concentrations of cobalt-60 were as high as 560 pCi/g in these boreholes. Elevated concentrations of these constituents were also observed in boreholes E, F, and X. The basin was decommissioned in stages over time from 1965 through 1999. Some areas of the basin that had been posted as a Surface Contamination Area (SCA) were radiologically surveyed and downposted to Underground Radioactive Material (URM) in 1994. The trench containing the cut pieces of effluent pipe remained posted as a Surface Contamination Area (SCA) until they were removed in 1999. The piping was transported to the Environmental Restoration Disposal Facility (ERDF). The area was covered with 30 cm (1 ft) of clean backfill material. The remaining posted contamination areas were downposted to URM in 1999. In a July 1, 2003 letter from BHI a reference was made about a steel surface pipeline that had been identified in early aerial photographs. The pipeline was used to pump liquid wastes from the north end of the 116-F-14 Retention Basin to the north end of the 116-F-2 Liquid Waste Disposal Trench. However, since the pipeline was not found during excavation of the 116-F-14 and the 116-F-2 sites, it was concluded that the steel surface pipeline had been removed prior to reactor shutdown. Since the pipeline was not found during remediation activities and whereas the soil at each end of the pipeline was sampled, it was discussed with and agreed by the regulators that no additional sampling was required.

Release Description: Numerous instances of retention basin and pipeline leakage occurred during the operation of the basin resulting in areas of soil contamination. The basin leaked at many locations along its walls and bottom. Hanford Drawing H-1-70247 (Retention Basin Leak Repair) shows some of the

many types of repairs performed on the basin, including repairs of vertical cracks in the basin walls, removal of spilled concrete, rebuilding of expansion joint and repairs of cracks in the floor of the basin. The largest recorded leak extended roughly 7.6 m (25 ft) from the foot of the unit wall. The leak, discovered in the summer of 1952, occurred in the effluent lines leading from the basin to the 148-F Pumphouse . Another release of contamination occurred at a large manhole located north of the 107-F basin (identified as P-22F on Hanford Drawing H-1-13850). Effluent overflowed intermittently for an extended period during the early 1950's before it was stopped. In 1955, water overflowed from the basin and contaminated the soils adjacent to the basin and a narrow path between the basin and the Columbia River. This release was identified as UPR-100-F-2. Contamination levels were 20,000 to 60,000 counts per minute with a maximum of 350 millirads/hour. HW-54636 contains information regarding the ground contamination size and shape. At least once during reactor operations, an unknown quantity of sludge was removed from the bottom of the basin and buried approximately 30.5 m (100 ft) southeast of the southeastern corner of the basin. An estimated 1.8E+06 kg (2,000 tons) of sludge remained in the retention basin (Dorian and Richards 1978). In 1952, a hole was dug adjacent to the basin inlet pipe to drain the pipe. The hole and associated soil contamination were stabilized by covering it with clean soil, gravel, and cobbles. In 1964, high winds spread contamination when the basin was emptied and dry for maintenance. Known leakage from the 116-F-14 basin appears to have occurred primarily along the south and west sides. Estimates of leakage rates are not well documented, but the presence of a groundwater mound beneath the basin extended as high as 3 m (10 ft) above the pre-existing water table elevation, suggests that significant leakage had occurred (Dorian and Richards 1978).

5.7.1.2 Basis for Site-Specific Evaluation

LFI borehole 199-F5-51 (A5682) was drilled at location shown in Figure 6 before interim remediation at this site (DOE/RL-93-82, *Limited Field Investigation Report for the 100-FR-1 Operable Unit*), and yielded only nondetects for Cr(VI) under this site. The cleanup verification package (CVP) for this site (CVP-2001-00009 Rev. 0, *Cleanup Verification Package for the 116-F-14 Retention Basin*) reported measurements of remaining contamination after remediation. The CVP data for Cr(VI) included shallow and deep zone results, although the applicable depth ranges to these respective zones were not defined. The shallow samples were collected from the sidewalls of the excavation, and the deep samples from the floor of the excavation. For the shallow zone, there were six nondetects and four detects (values 1.2, 0.76, 1.2, and 2.1 mg/kg). For the deep zone, 12 detects (ranging from 0.4 to 11 mg/kg) and 3 nondetects were reported.

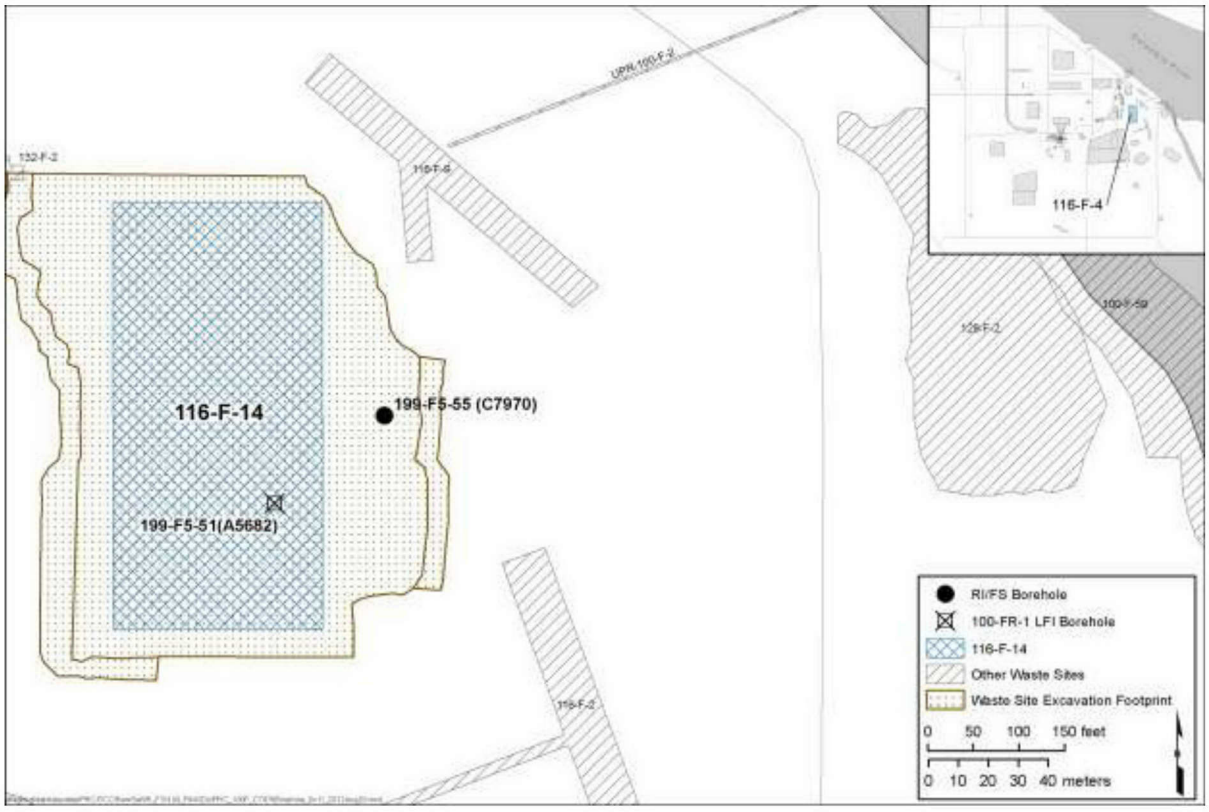


Figure 6. Site 116-F-14 Location, Interim Remedial Action Excavation Extent, and Locaiton of Limited Field Investigation and Remedial Investigation Boreholes

The RI borehole 199-F5-55 (C7970) was drilled to provide vertical information on the distribution of contaminants below this site (Figure 7); the location of this borehole is also shown in Figure 6. Note that this RI borehole was not located within the original extent of the waste site, but approximately 20 m (66 ft) west of the boundary; however, this is still within the extent excavated during the interim remedial action (see Figure 6) it represents an area where contamination from this basin could occur owing to redistribution during remedial activities. The excavation was roughly 20 ft below ground surface, which is where the RI borehole indicated Cr(VI) was present above detection levels, but not at deeper sampled locations.

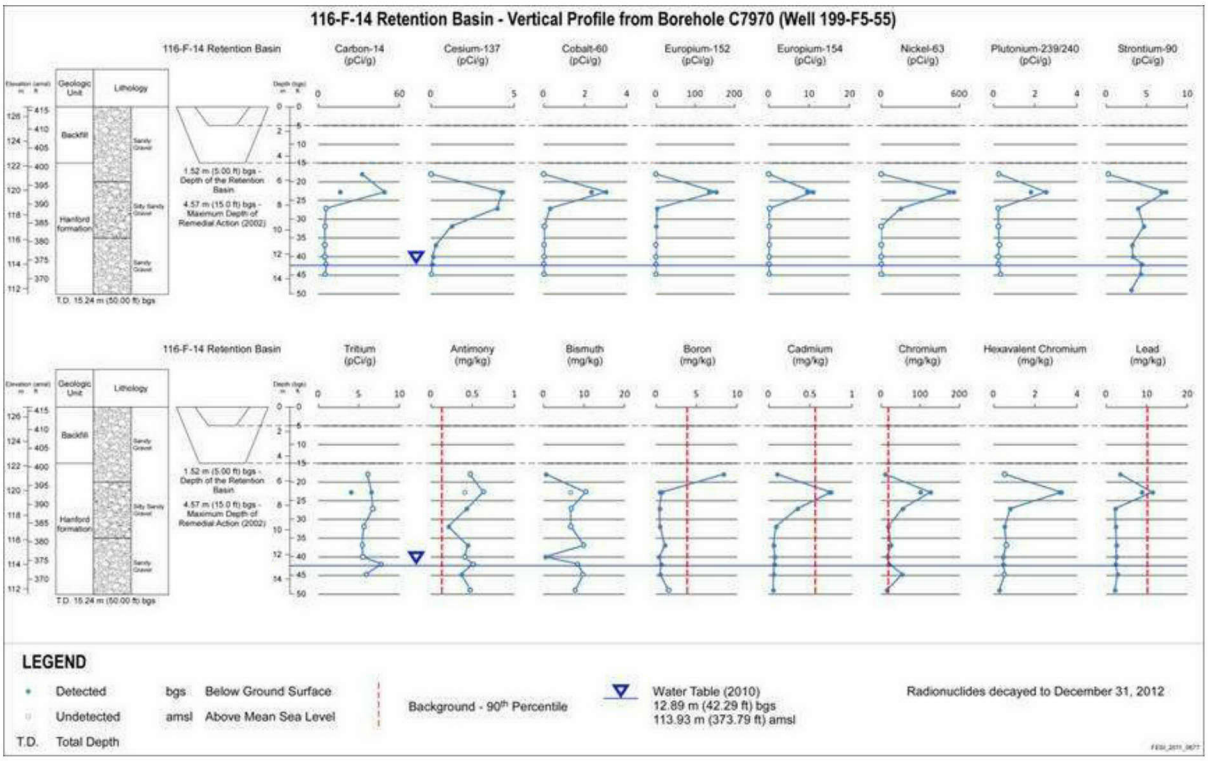


Figure 7. Vertical Profile from RI Well (199-F5-55)

Based on the above information and data, it is apparent that the initial distribution assumptions used in the first level of the Graded Approach for calculating SSLs and PRGs is excessively conservative with respect to Cr(VI) contamination at site 116-F-14. Hexavalent chromium contamination is mostly limited in spatial distribution to depths near the excavated depth, based on the RI borehole data and absence of Cr(VI) detections above background in the LFI well. Moreover, the distribution of this contaminant at this site is highly variable spatially, based inference from LFI borehole data and CVP data. This is consistent with the fact that this site was a concrete lined facility, wherein contamination was strongly correlated to structural breaks in the concrete liner would have resulted in a highly variable pattern of contamination compared to facilities designed for infiltration (e.g., infiltration trenches or cribs).

5.7.1.3 Site-Specific Model Development

Based on the spatial variability of the contaminant distribution observed above, a modeling approach is adopted that evaluates this site with variability directly incorporated as follows:

1. The vertical distribution of Cr(VI) contamination is represented by the soil contamination profile obtained from the RI borehole (C7590) (Figure 7); that is, the extent of the soil profile contaminated above background is used to represent the depth interval contaminated at any given location within this waste site.

2. Each individual CVP reported concentration of Cr(VI) is assumed to represent of a fraction of the waste site area, providing a measure of spatial variability of the contamination over this site.

3. Any CVP value represents the peak vertical concentration (consistent with RI vertical data) and will be distributed vertically in the same proportion as the RI well vertical profile.

4. A single one-dimensional representative column from 100-F, selected from the suite used for first-level modeling under the Graded Approach, will be selected as most representative of site 116-F-14. The column most representative is column 1 (see Figure 1).
5. The site dimension parallel to the direction of groundwater flow was set 10m based on site description.
6. The surface soil actually prevalent at site 116-F-14 is Rupert sand; only those recharge rates associated with this surface soil will be used for recharge scenarios in site-specific modeling of this site.
7. Multiple one-dimensional simulations will be performed, one per reported concentration (#2, above), distributed vertically consistent with the initial vertical distribution of Cr(VI) over the depth range of the RI borehole (#1, above).
8. A cumulative distribution function of the resulting peak concentrations for both native vegetation recharge and Irrigation recharge will be developed to illustrate the spatial variability.
9. Other model aspects remained as in the first-step model; A K_d value of 0.8 mL/g was used for Cr(VI).

5.7.1.4 Site-Specific Model Results

Simulations were performed using the site-specific information detailed above to predict peak Cr(VI) groundwater concentrations in this second-step site-specific model. The resulting concentrations for the spatially distributed representation of this site results in a distribution of predicted groundwater peak Cr(VI) concentrations. These are shown as a cumulative distribution plot in Figure 8.

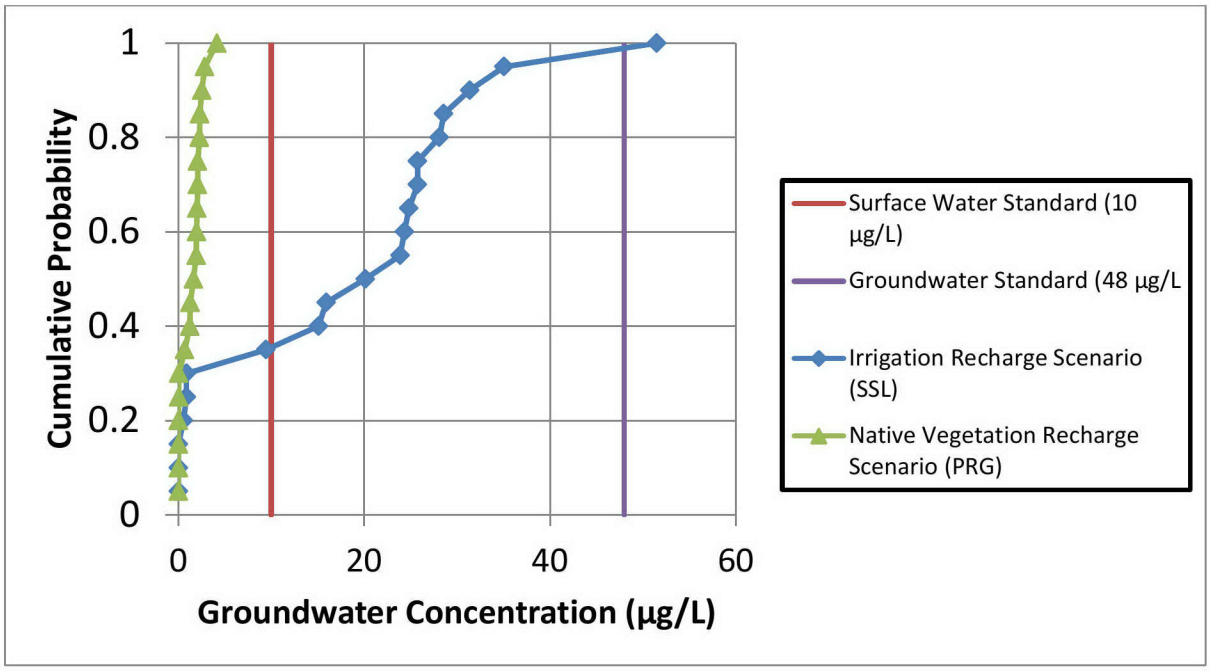


Figure 8. Cumulative Distribution of Predicted Peak Groundwater Concentration of Hexavalent Chromium for Site-Specific Spatially Distributed Model of Site 116-F-14

From Figure 8 it is evident that for, the native vegetation recharge scenario, 100 % of the peak concentrations fall below the groundwater (48 µg/L) and surface water (10 µg/L) standard. This is strongly indicative that residual Cr(VI) contamination at this site will not cause exceedances of either the groundwater or surface water standards. For the irrigation recharge scenario, while the distribution of concentrations that does not exceed the groundwater standard (100%), it does exceed the surface water standard over more than 60% of the area represented in this distributed model.

6 Results/Conclusions

Simulations using STOMP and scaling calculations with the results were used to estimate SSLs and PRGs for the 100-F, IU-2, and IU-6 Areas over a representative range of vadose zone thicknesses, lithologic composition, surface soil types, and recharge scenarios. Attachment A to this ECF contains the calculated SSLs protective of surface water for area. Attachment B to this ECF contains the calculated PRGs protective of surface water and of groundwater for each area.

Note the following provisions apply with regard to SSLs and PRGs reported in Attachments A and B to this ECF, respectively:

- The numerical threshold for breakthrough was set to a predicted groundwater concentration of 1.0×10^{-4} µg/L for non-radionuclide COPCs or 1.0×10^{-4} pCi/L for radionuclide COPCs. Based on evaluation of breakthrough above this threshold simulated for all representative stratigraphic columns developed throughout the 100 Area, K_d threshold values were identified to be 1 mL/g for PRG values and 22 mL/g for SSL values. For any COPC with a K_d value exceeding these thresholds, the "NR" symbol was applied for these COPCs to designate a non-representative result, signifying that the results were below a level of numerical significance.
- If the calculated SSL or PRG value for any COPC exceeded the physical upper bound of 384,000 µg/kg calculated in Section 5.5, then the SSL or PRG value was also assigned the "NR" symbol to denote a non-representative result for that COPC.
- If the calculated value for any SSL or PRG was less than the estimated quantitation limit (EQL) for soil concentration for a given COPC, then the SSL or PRG value was set equal to the EQL for that COPC.
- SSL and PRG values for Cr(VI) were limited to a maximum value of 6.0 mg/kg because the K_d value used in the model was derived from experiments with soil concentration less than that value, so that there is no basis to infer greater PRGs for Cr(VI) based on these data (ECF-Hanford-11-0165).
- For COPCs for which an applicable water quality standard is not available, the "NA" symbol was applied to the SSL and PRG values.

The PRG values resulting from the simulations and estimation are only intended to be applied to sites for which the conditions and assumptions underpinning these calculations are representative. Some waste sites may require a more rigorous investigation of site-specific conditions than those underlying the SSL and PRG values found in Attachments A and B to this ECF. This was done in the case of the 116-F-14 Retention Basins, where site-specific modeling was used to demonstrate this site would not cause exceedances of the groundwater standard, but has a significant expectation of exceeding the surface water standard at the POCal.

6.1 Sensitivity Analysis: Evaluation of K_d Influence on Contaminant Breakthrough

Representative stratigraphic column 1 for the 100-F Area (Figure 1) was simulated with irrigation recharge scenario for Ephrata sandy loam or stony loam using an effective 100:0 source distribution. Figure 9 shows the resulting breakthrough curves for K_d values ranging from 0.9 – 8.0 mL/g. Observation of the breakthrough curves in Figure 9 shows that all the peak concentrations all occur within the 1000 year simulation time limit. Because the irrigation recharge rate is high in this scenario, it results in flushing the contaminants through the vadose zone quickly even for high K_d values. Again, it is emphasized that the irrigation recharge scenario applied here does not represent the actual site conditions or DOE land use plans. Rather, it is used here only as a limiting conservative condition for the limited purpose of calculating SSLs only. Any waste site that does not pass the screening levels represented by SSLs will be further evaluated against appropriate PRG values for determination of site remediation actions.

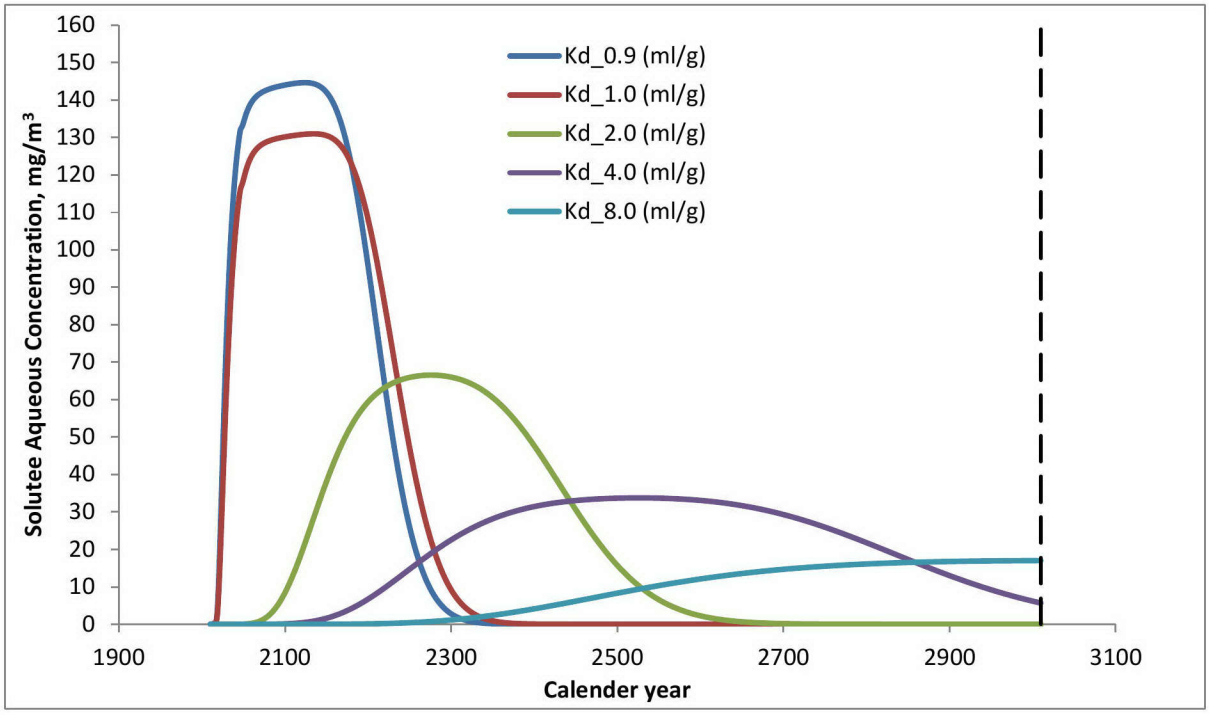


Figure 9. Breakthrough Curves for Different Distribution Coefficients with Irrigation Recharge

7 References

ANL/EAD-4, 2001, *User's Manual for RESRAD Version 6*, Argonne National Laboratory, Environmental Assessment Division, Argonne, Illinois. Available at: http://web.ead.anl.gov/resrad/documents/resrad6.pdf.

CHPRC-00176, 2010, *STOMP Software Management Plan*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

CHPRC-00211, 2011, *STOMP Software Test Plan*, Rev. 1, CH2M HILL Plateau Remediation Company, Richland, Washington.

CHPRC-00222, 2010, STOMP *Functional Requirements Document*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

CHPRC-00269, 2011, *STOMP Requirements Traceability Matrix*, Rev. 1, CH2M HILL Plateau Remediation Company, Richland, Washington.

CHPRC-00515, 2011, *STOMP Acceptance Test Report*, Rev. 1, CH2M HILL Plateau Remediation Company, Richland, Washington.

DOE/RL-96-17, 2009, *Remedial Design Report/Remedial Action Work Plan for the 100 Area*, Rev. 6 Draft A, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=0810240391.

DOE/RL-2007-27, 2010, *Feasibility Study for the Plutonium/Organic-Rich Process Waste Group Operable Unit: Includes the 200-PW-1, 200-PW-3, and 200-PW-6 Operable Units*, Draft C, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-2011-50, 2011, *Regulatory Basis and Implementation of a Graded Approach to Evaluation of Groundwater Protection*, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=0093361.

ECF-Hanford-10-0442, *Calculation of Nonradiological Soil Concentrations Protective of Groundwater Using the Fixed Parameter 3-Phase Equilibrium Partitioning Equation for the 100 Areas and 300 Area*, Rev. 1, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-Hanford-10-0429, *Documentation of Preliminary Remediation Goals (PRGs) for Radionuclides Using the IAROD Exposure Scenario for the 100 and 300 Area Remedial Investigation/Feasibility Study (RI/FS) Report*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-Hanford-11-0165, *Evaluation of Hexavalent Chromium Leach Test Data Conducted on Vadose Zone Sediment Samples from the 100-Area*, Rev. 1, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-200MW1-10-0080, *200-MW-1 Contaminant Fate and Transport Model to Evaluate Impacts to Groundwater in Support of DOE/RL-2008-38 Decision Draft,* Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=0093646.

ECF-200PW1/3/6-10-0326, *Screening Process and Contaminant Fate and Transport Model to Evaluate Impacts to Groundwater in Support of DOE/RL-2007-27 Draft B,* CH2M HILL Plateau Remediation Company, Richland, Washington.

EPA/540/1-89/002, 1989, *Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A)*, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://rais.ornl.gov/documents/HHEMA.pdf.

Huyakorn, P.S., and G.F. Pinder, 1983, Computational Methods in Subsurface Flow, Academic Press, San Diego, California, 473 pp.

Mualem, Y., 1976, "A New Model for Predicting the Hydraulic Conductivity of Unsaturated Porous Media," *Water Resources Research*, 12:513-522.

Patankar, S. V., 1980, Numerical Heat Transfer and Fluid Flow, Hemisphere Publishing Corporation, Washington, D. C.

PNNL-11216, 1997, *STOMP Subsurface Transport Over Multiple Phases: Application Guide*, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://stomp.pnl.gov/documentation/guides/application.pdf.

PNNL-12030, 2000, *STOMP Subsurface Transport Over Multiple Phases Version 2.0: Theory Guide*, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://stomp.pnl.gov/documentation/guides/theory.pdf.

PNNL-14702, 2006, *Vadose Zone Hydrology Data Package for Hanford Assessments*, Rev. 1, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://www.pnl.gov/main/publications/external/technical_reports/PNNL-14702rev1.pdf.

PNNL-15125, *Flow and Transport in the Hanford 300 Area Vadose Zone-Aquifer-River System*, PNNL-15125, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://www.pnl.gov/main/publications/external/technical_reports/PNNL-15125.pdf.

PNNL-15782, 2006, *STOMP Subsurface Transport Over Multiple Phases: Version 4.0: User's Guide*, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://stomp.pnl.gov/documentation/guides/userguide.pdf.

PNNL-17841, 2008, *Compendium of Data for the Hanford Site (Fiscal Years 2004 to 2008) Applicable to Estimation of Recharge Rates*, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://www.pnl.gov/main/publications/external/technical_reports/PNNL-17841.pdf.

PNNL-18564, 2009, *Selection and Traceability of Parameters to Support Hanford-Specific RESRAD Analyses*, Pacific Northwest National Laboratory, Richland, Washington. Available at: [link]

RPP-20621, 2004, *Far-Field Hydrology Data Package for the Integrated Disposal Facility Performance Assessment*, Rev.0, CH2M Hill Hanford Group, Richland, Washington.

SGW-40781, 2009, *100-HR-3 Remedial Process Optimization Modeling Data Package*, Rev.1 CH2M HILL Plateau Remediation Company, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=0907010823.

SGW-41213, 2009, *100-KR-4 Remedial Process Optimization Modeling Data Package*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=0908311235.

SGW-46279, 2010, *Conceptual Framework and Numerical Implementation of 100 Areas Groundwater Flow and Transport Model*, Rev.0, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-46279, 2012, *Conceptual Framework and Numerical Implementation of 100 Areas Groundwater Flow and Transport Model*, Rev.2, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-47040, 2011, *Geohydrologic Data Package in Support of 100-FR-3 modeling,* Rev. 1, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-50776, 2011, *Model Package Report: Vadose Zone Model for the River Corridor*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-51818, 2012, *Conceptual Basis for Distribution of Highly Sorbed Contaminants in 100 Areas Vadose Zone*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

van Genuchten, M. T., 1980, "A Closed-Form Solution for Predicting the Conductivity of Unsaturated Soils," *Soil Science Society of America Journal*, 44:892-898.

WAC 173 340 747, “Deriving Soil Concentrations for Ground Water Protection,” Washington Administrative Code, as amended, Washington State Department of Ecology, Olympia, Washington.

Attachment A

Soil Screening Levels Protective of Groundwater and Protective of Surface Water for the 100-F, IU-2, and IU-6 Areas

Table A-1. Soil Screening Levels for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
16887-00-6	Chloride	chloride	0	2.5E+05	2.00E+00	9.97E+03	3.53E+04	6.30E+04
14797-55-8	Nitrate	Nitrate	0	4.5E+04	2.50E+00	1.79E+03	6.36E+03	1.13E+04
14797-65-0	Nitrite	Nitrite	0	3.3E+03	2.50E+00	1.32E+02	4.66E+02	8.32E+02
NO3-N	Nitrogen in Nitrate	Nitrogen in Nitrate	0	1.0E+04	7.50E-01	3.99E+02	1.41E+03	2.52E+03
NO2-N	Nitrogen in Nitrite	Nitrogen in Nitrite	0	1.0E+03	7.50E-01	3.99E+01	1.41E+02	2.52E+02
NO2+NO3-N	Nitrogen in Nitrite and Nitrate	Nitrogen in Nitrite and Nitrate	0	1.0E+04	---	3.99E+02	1.41E+03	2.52E+03
14808-79-8	Sulfate	sulfate	0	2.5E+05	5.00E+00	9.97E+03	3.53E+04	6.30E+04
51-28-5	2,4-Dinitrophenol	dinitrophenol;2,4 -	0.00001	3.2E+01	8.25E-01	1.28E+00	4.52E+00	8.07E+00
67-64-1	Acetone	Acetone	0.0006	7.2E+03	2.00E-02	2.89E+02	1.03E+03	1.84E+03
107-21-1	Ethylene Glychol	Ethylene Glychol	0.001	16,000	---	6.46E+02	2.31E+03	4.12E+03
111-76-2	2-Butoxyethanol	Ethylene Glychol Mono Butyl Ether	0.001	800	---	3.23E+01	1.15E+02	2.06E+02
75-99-0	Dalapon	Dalapon	0.0027	200	---	8.24E+00	2.97E+01	5.31E+01
111-91-1	Bis(2-Chloroethoxy)methane	bis(2-chloroethoxyl)methane	0.00277	4.8E+01	3.30E-01	1.98E+00	7.15E+00	1.27E+01
78-93-3	2-Butanone	methyl ethyl ketone (MEK; 2-butanone)	0.00451	4.8E+03	1.00E-02	2.02E+02	7.38E+02	1.32E+03
74-87-3	Chloromethane	chloromethane	0.006	No Value	1.00E-02	NA	NA	NA
74-83-9	Bromomethane	bromomethane	0.009	1.1E+01	1.00E-02	4.99E-01	1.88E+00	3.35E+00
60-29-7	Diethylether	Diethylether	0.009699	1600	---	7.20E+01	2.72E+02	4.85E+02
75-09-2	Methylene chloride	methylene chloride	0.01	5.0E+00	5.00E-03	2.26E-01	8.55E-01	1.53E+00
108-10-1	4-Methyl-2-pentanone	methyl isobutyl ketone	0.0126	6.4E+02	1.00E-02	2.97E+01	1.14E+02	2.03E+02
591-78-6	2-Hexanone	HEXANONE;2-[MBK, methyl butyl ketone]	0.01498	4.0E+01	2.00E-02	1.91E+00	7.39E+00	1.32E+01
75-01-4	Vinyl chloride	vinyl chloride [chloroethene; 1-]	0.019	6.1E-02	5.00E-03	5.00E-03	1.20E-02	2.14E-02
75-00-3	Chloroethane	ethyl chloride	0.0217	No Value	1.00E-02	NA	NA	NA
621-64-7	n-Nitrosodi-n-dipropylamine	nitroso-di-n-propylamine;N-	0.024	1.3E-02	3.30E-01	3.30E-01	3.30E-01	3.30E-01
10061-01-5	cis-1,3-Dichloropropene	dichloropropene; 1,2-,cis	0.027	4.4E-01	5.00E-03	2.35E-02	9.57E-02	1.71E-01
10061-02-6	trans-1,3-Dichloropropene	dichloropropene; 1,3-,trans	0.027	4.4E-01	5.00E-03	2.35E-02	9.57E-02	1.71E-01
108-95-2	Phenol	Phenol	0.0288	2.4E+03	3.30E-01	1.31E+02	5.37E+02	9.59E+02
94-75-7	2,4-D	2,4-Dichlorophenoxy acetic acid	0.029	70	---	3.84E+00	1.57E+01	2.80E+01
1918-00-9	Dicamba	Dicamba	0.029	480	---	2.63E+01	1.08E+02	1.92E+02
131-11-3	Dimethyl phthalate	dimethyl phthalate	0.0316	No Value	3.30E-01	NA	NA	NA
156-59-2	cis-1,2-Dichloroethylene	dichloroethylene; 1,2-,cis	0.036	7.0E+01	5.00E-03	4.11E+00	1.73E+01	3.08E+01
107-06-2	1,2-Dichloroethane	dichloroethane;1,2-	0.038	4.8E-01	5.00E-03	2.88E-02	1.22E-01	2.18E-01
156-60-5	trans-1,2-Dichloroethylene	dichloroethylene; 1,2-,trans	0.038	1.0E+02	5.00E-03	5.99E+00	2.54E+01	4.54E+01
1918-02-1	4-Amino-3,5,6-trichloropicolinic acid	4-Amino-3,5,6-trichloropicolinic acid	0.039	500	---	3.03E+01	1.29E+02	2.30E+02
108-60-1	Bis(2-chloro-1-methylethyl)ether	bis(2-chloro-1-methyl-ethyl)ether	0.0392	6.3E-01	3.30E-01	3.30E-01	3.30E-01	3.30E-01
540-59-0	1,2-Dichloroethene (Total)	dichloroethylene, 1,2- (mixed isomers)	0.0396	7.2E+01	5.00E-03	4.39E+00	1.87E+01	3.34E+01
75-69-4	Trichloromonofluoromethane	Trichloromonofluoromethane	0.04389	2400	---	1.51E+02	6.53E+02	1.17E+03
75-15-0	Carbon disulfide	carbon disulfide	0.046	8.0E+02	5.00E-03	5.13E+01	2.22E+02	3.96E+02
78-59-1	Isophorone	isophorone	0.0468	4.6E+01	3.30E-01	2.97E+00	1.29E+01	2.30E+01

Table A-1. Soil Screening Levels for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
78-87-5	1,2-Dichloropropane	dichloropropane; 1,2-	0.047	1.2E+00	5.00E-03	7.85E-02	3.40E-01	6.07E-01
93-65-2	2-(2-methyl-4-chlorophenoxy) propionic acid	2-(2-methyl-4-chlorophenoxy) propionic acid	0.04851	1.6E+01	---	1.03E+00	4.48E+00	7.99E+00
93-76-5	2,4,5-T	2,4,5-Trichlorophenoxyacetic acid	0.049	160	---	1.05E+01	4.57E+01	8.15E+01
99-09-2	3-Nitroaniline	nitroaniline, 3-	0.0516	4.2E+00	3.30E-01	3.30E-01	1.22E+00	2.17E+00
100-01-6	4-Nitroaniline	nitroaniline, 4-	0.0516	4.4E+00	3.30E-01	3.30E-01	1.28E+00	2.28E+00
88-74-4	2-Nitroaniline	nitroaniline, 2-	0.0527	1.6E+02	3.30E-01	1.08E+01	4.73E+01	8.44E+01
75-34-3	1,1-Dichloroethane	dichloroethane;1,1-	0.053	1.6E+03	1.00E-02	1.08E+02	4.75E+02	8.47E+02
67-66-3	Chloroform	chloroform	0.053	1.4E+00	5.00E-03	9.57E-02	4.19E-01	7.47E-01
75-27-4	Bromodichloromethane	bromodichloromethane	0.055	7.1E-01	5.00E-03	4.86E-02	2.13E-01	3.81E-01
71-43-2	Benzene	Benzene	0.062	8.0E-01	5.00E-03	5.80E-02	2.57E-01	4.59E-01
124-48-1	Dibromochloromethane	chlorodibromomethane [dibromochloromethane]	0.063	5.2E-01	5.00E-03	3.82E-02	1.70E-01	3.03E-01
75-35-4	1,1-Dichloroethene	Dichloroethene;1,1-	0.065	7.0E+00	1.00E-02	5.21E-01	2.32E+00	4.13E+00
606-20-2	2,6-Dinitrotoluene	dinitrotoluene;2,6-	0.0692	1.6E+01	3.30E-01	1.22E+00	5.47E+00	9.76E+00
106-47-8	4-Chloroaniline	chloroaniline;p-	0.0725	2.2E-01	3.30E-01	3.30E-01	3.30E-01	3.30E-01
79-00-5	1,1,2-Trichloroethane	trichloroethane;1,1,2-	0.075	7.7E-01	5.00E-03	6.12E-02	2.75E-01	4.91E-01
111-44-4	Bis(2-chloroethyl) ether	bis(2-chloroethyl)ether	0.076	4.0E-02	3.30E-01	3.30E-01	3.30E-01	3.30E-01
79-34-5	1,1,2,2-Tetrachloroethane	tetrachloroethane;1,1,2,2-	0.079	2.2E-01	5.00E-03	1.80E-02	8.12E-02	1.45E-01
93-72-1	2,4,5-TP	(2-(2,4,5-Trichlorophenoxy)propionic acid)Silvex	0.08	50	---	4.14E+00	1.87E+01	3.34E+01
84-66-2	Diethylphthalate	diethyl phthalate	0.082	1.3E+04	3.30E-01	1.07E+03	4.86E+03	8.66E+03
79-01-6	Trichloroethene	trichloroethylene (TCE)	0.094	4.9E-01	5.00E-03	4.42E-02	2.03E-01	3.61E-01
121-14-2	2,4-Dinitrotoluene	dinitrotoluene;2,4-	0.0955	2.8E-01	3.30E-01	3.30E-01	3.30E-01	3.30E-01
94-82-6	2,4-DB	(4-(2,4-Dichlorophenoxy)butanoic acid)	0.1	128	---	1.20E+01	5.51E+01	9.84E+01
98-95-3	Nitrobenzene	Nitrobenzene	0.119	1.6E+01	3.30E-01	1.61E+00	7.46E+00	1.33E+01
75-25-2	Bromoform	bromoform	0.13	5.5E+00	5.00E-03	5.82E-01	2.71E+00	4.83E+00
71-55-6	1,1,1-Trichloroethane	Trichloroethane; 1,1,1-	0.14	2.0E+02	5.00E-03	2.19E+01	1.02E+02	1.83E+02
108-88-3	Toluene	Toluene	0.14	6.4E+02	5.00E-03	7.02E+01	3.28E+02	5.85E+02
120-83-2	2,4-Dichlorophenol	dichlorophenol;2,4-	0.147	2.4E+01	3.30E-01	2.71E+00	1.27E+01	2.27E+01
56-23-5	Carbon tetrachloride	carbon tetrachloride	0.152	3.4E-01	5.00E-03	3.89E-02	1.83E-01	3.26E-01
100-41-4	Ethylbenzene	ethylbenzene	0.2	4.0E+00	5.00E-03	5.88E-01	2.85E+00	5.08E+00
108-38-3	m-Xylene	Xylene, m-	0.2	1.6E+03	---	2.36E+02	1.15E+03	2.05E+03
105-67-9	2,4-Dimethylphenol	dimethylphenol;2,4-	0.209	1.6E+02	3.30E-01	2.43E+01	1.18E+02	2.10E+02
108-90-7	Chlorobenzene	chlorobenzene	0.22	1.0E+02	5.00E-03	1.57E+01	7.60E+01	1.36E+02
1330-20-7	Xylenes (total)	Xylenes (total)	0.23	1.6E+03	1.00E-02	2.58E+02	1.25E+03	2.24E+03
95-47-6	o-Xylene	xylene,o-	0.24	1.6E+03	---	2.67E+02	1.30E+03	2.31E+03
127-18-4	Tetrachloroethene	tetrachloroethylene	0.27	8.1E-02	5.00E-03	1.49E-02	7.27E-02	1.30E-01
88-75-5	2-Nitrophenol	nitrophenol;2-	0.297	No Value	6.60E-01	NA	NA	NA
100-02-7	4-Nitrophenol	nitrophenol;4-	0.309	1.3E+02	6.60E-01	2.69E+01	1.31E+02	2.35E+02
95-50-1	1,2-Dichlorobenzene	dichlorobenzene; 1,2- (ortho-Dichlorobenzene)	0.379	6.0E+02	3.30E-01	1.50E+02	7.34E+02	1.31E+03

Table A-1. Soil Screening Levels for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
88-06-2	2,4,6-Trichlorophenol	Trichlorophenol2,4,6-	0.381	4.0E+00	3.30E-01	9.99E-01	4.89E+00	8.72E+00
95-57-8	2-Chlorophenol	Chlorophenol;2-	0.388	4.0E+01	3.30E-01	1.02E+01	5.01E+01	8.94E+01
541-73-1	1,3-Dichlorobenzene	dichlorobenzene;1,3	0.434	No Value	3.30E-01	NA	NA	NA
95-48-7	2-Methylphenol (cresol, o-)	cresol;o-	0.434	4.0E+02	3.30E-01	1.13E+02	5.53E+02	9.87E+02
106-44-5	4-Methylphenol (cresol, p-)	cresol;p-	0.434	4.0E+01	---	1.13E+01	5.53E+01	9.87E+01
59-50-7	4-Chloro-3-methylphenol	chloro-3-methylphenol;4-	0.4918	1.6E+03	3.30E-01	5.08E+02	2.50E+03	4.45E+03
87-86-5	Pentachlorophenol	pentachlorophenol	0.592	7.3E-01	3.30E-01	3.30E-01	1.35E+00	2.41E+00
534-52-1	4,6-Dinitro-2-methylphenol	dinitro-2-methylphenol;4,6-	0.6015	1.3E+00	3.30E-01	4.91E-01	2.42E+00	4.31E+00
106-46-7	1,4-Dichlorobenzene	dichlorobenzene;1,4- (para-Dichlorobenzene)	0.616	8.1E+00	5.00E-03	3.17E+00	1.56E+01	2.78E+01
91-94-1	3,3'-Dichlorobenzidine	dichlorobenzidine;3,3'-	0.724	1.9E-01	3.30E-01	3.30E-01	4.38E-01	7.82E-01
18540-29-9	Hexavalent Chromium	chromium(VI)	0.8	4.8E+01	---	6[d]	6[d]	6[d]
100-42-5	Styrene	styrene	0.91	1.0E+02	5.00E-03	5.60E+01	2.82E+02	5.02E+02
91-20-3	Naphthalene	naphthalene	1.19	1.6E+02	1.00E-01	1.08E+02	5.43E+02	9.69E+02
86-30-6	n-Nitrosodiphenylamine	nitrosodiphenylamine;N-	1.29	1.8E+01	3.30E-01	1.27E+01	6.41E+01	1.14E+02
58-89-9	Gamma-BHC (Lindane)	lindane [gamma-BHC] (see hexachlorocyclohexane)	1.35	8.0E-02	1.65E-03	5.87E-02	2.95E-01	5.27E-01
84-74-2	Di-n-butylphthalate	di-butyl phthalate	1.57	1.6E+03	3.30E-01	1.36E+03	6.82E+03	1.22E+04
95-95-4	2,4,5-Trichlorophenol	Trichlorophenol;2,4,5-	1.6	8.0E+02	3.30E-01	6.93E+02	3.48E+03	6.21E+03
120-82-1	1,2,4-Trichlorobenzene	trichlorobenzene;1,2,4-	1.66	1.5E+00	3.30E-01	1.36E+00	6.85E+00	1.22E+01
319-84-6	Alpha-BHC	hexachlorocyclohexane;alpha (alpha-BHC, HCH)	1.76	1.4E-02	1.65E-03	1.35E-02	6.79E-02	1.21E-01
67-72-1	Hexachloroethane	hexachloroethane	1.78	3.1E+00	3.30E-01	3.09E+00	1.55E+01	2.77E+01
126-73-8	Tributyl phosphate	Tributyl phosphate	1.89	9.51	---	1.03E+01	5.17E+01	9.22E+01
7440-61-1	Uranium	Uranium	2	3.0E+01	---	3.59E+01	1.80E+02	3.21E+02
959-98-8	Endosulfan I	Endosulfan I	2.04	9.6E+01	1.65E-03	1.16E+02	5.87E+02	1.05E+03
33213-65-9	Endosulfan II	Endosulfan II	2.04	9.6E+01	3.30E-03	1.16E+02	5.87E+02	1.05E+03
1031-07-8	Endosulfan sulfate	Endosulfan sulfate	2.04	No Value	3.30E-03	NA	NA	NA
319-85-7	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	hexachlorocyclohexane;beta-	2.14	4.9E-02	1.65E-03	6.02E-02	3.12E-01	5.56E-01
319-86-8	Delta-BHC	hexachlorocyclohexane;delta-	2.81	No Value	1.65E-03	NA	NA	NA
91-58-7	2-Chloronaphthalene	beta-chloronaphthalene	2.98	6.4E+02	3.30E-01	1.01E+03	5.99E+03	1.07E+04
91-57-6	2-Methylnaphthalene	methylnapthalene;2-	2.98	3.2E+01	3.30E-01	5.04E+01	3.00E+02	5.35E+02
7440-42-8	Boron	Boron	3	3.2E+03	2.00E+00	5.07E+03	3.02E+04	5.38E+04
7005-72-3	4-Chlorophenylphenyl ether	chlorodiphenyl ether;4-	3.08	No Value	3.30E-01	NA	NA	NA
86-74-8	Carbazole	carbazole	3.39	4.4E+00	3.30E-01	7.94E+00	4.73E+01	8.44E+01
7723-14-0	Phosphorus	phosphorus	3.5	1.6E-01	5.00E+01	5.00E+01	5.00E+01	5.00E+01
88-85-7	Dinoseb	2-secButyl-4,6-dinitrophenol	3.5	7	---	1.33E+01	7.89E+01	1.41E+02

Table A-1. Soil Screening Levels for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
7440-36-0	Antimony	antimony	3.76	6.0E+00	6.00E-01	1.26E+01	7.53E+01	1.34E+02
7782-49-2	Selenium	selenium and compounds	5	5.0E+01	1.00E+00	1.41E+02	8.61E+02	1.54E+03
208-96-8	Acenaphthylene	acenaphthylene (Not in CLARC database tables; use acenaphthene as surrogate)	5.03	No Value	1.00E-01	NA	NA	NA
83-32-9	Acenaphthene	acenaphthene	6.12	9.6E+02	1.00E-01	3.41E+03	2.09E+04	3.73E+04
86-73-7	Fluorene	fluorene	7.71	6.4E+02	3.00E-02	2.85E+03	1.74E+04	3.11E+04
76-44-8	Heptachlor	heptachlor	9.53	1.9E-02	1.65E-03	1.11E-01	6.52E-01	1.17E+00
53494-70-5	Endrin ketone	Endrin ketone	9.72	No Value	3.30E-03	NA	NA	NA
57-12-5	Cyanide	cyanide	9.9	2.0E+02	---	1.21E+03	6.94E+03	1.26E+04
11104-28-2	Aroclor-1221	aroclor 1221 [PCB]	10.3	4.4E-02	1.65E-02	2.83E-01	1.58E+00	2.85E+00
11141-16-5	Aroclor-1232	aroclor 1232 [PCB]	10.3	4.4E-02	1.65E-02	2.83E-01	1.58E+00	2.85E+00
72-20-8	Endrin	endrin	10.8	2.0E+00	3.30E-03	1.40E+01	7.56E+01	1.36E+02
7421-93-4	Endrin aldehyde	Endrin aldehyde	10.8	No Value	3.30E-03	NA	NA	NA
132-64-9	Dibenzofuran	dibenzofuran	11.3	1.6E+01	3.30E-01	1.22E+02	2.35E+02	1.14E+03
85-68-7	Butylbenzylphthalate	butyl benzyl phthalate	13.8	4.6E+01	3.30E-01	5.25E+02	8.66E+02	4.13E+03
85-01-8	Phenanthrene	Phenanthrene	16.7	No Value	5.00E-02	NA	NA	NA
7439-98-7	Molybdenum	molybdenum	20	8.0E+01	2.00E+00	2.47E+03	2.78E+03	1.18E+04
7440-50-8	Copper	copper	22	6.4E+02	1.00E+00	2.34E+04	2.71E+04	1.11E+05
120-12-7	Anthracene	anthracene	23.5	4.8E+03	5.00E-02	NR	NR	NR
7440-39-3	Barium	Barium	25	2.0E+03	5.00E-01	NR	NR	NR
7439-89-6	Iron	Iron	25	3.0E+02	5.00E+00	NR	NR	NR
7440-24-6	Strontium	strontium	25	9.6E+03	1.00E+00	NR	NR	NR
60-57-1	Dieldrin	dieldrin	25.6	5.5E-03	3.30E-03	NR	NR	NR
7440-38-2	Arsenic	arsenic, inorganic	29	5.8E-02	1.00E+00	NR	NR	NR
7440-43-9	Cadmium	cadmium	30	5.0E+00	2.00E-01	NR	NR	NR
7439-92-1	Lead	lead	30	1.5E+01	5.00E-01	NR	NR	NR
7439-97-6	Mercury	mercury	30	2.0E+00	---	NR	NR	NR
7440-66-6	Zinc	zinc	30	4.8E+03	1.00E+00	NR	NR	NR
12672-29-6	Aroclor-1248	aroclor 1248 [PCB]	43.9	4.4E-02	1.65E-02	NR	NR	NR
53469-21-9	Aroclor-1242	aroclor 1242 [PCB]	44.8	4.4E-02	1.65E-02	NR	NR	NR
72-54-8	4,4'-DDD (Dichlorodiphenyldichloroethane)	ddd	45.8	3.6E-01	3.30E-03	NR	NR	NR
309-00-2	Aldrin	aldrin	48.7	2.6E-03	1.65E-03	NR	NR	NR
206-44-0	Fluoranthene	fluoranthene	49.1	6.4E+02	5.00E-02	NR	NR	NR
7440-48-4	Cobalt	Cobalt	50	4.8E+00	2.00E+00	NR	NR	NR
7439-93-2	Lithium	Lithium	50	3.2E+01	2.50E+00	NR	NR	NR
7439-96-5	Manganese	manganese	50	5.0E+01	5.00E+00	NR	NR	NR
5103-71-9	Alpha-Chlordane	Alpha-Chlordane	51	2.5E-01	1.65E-02	NR	NR	NR
57-74-9	Chlordane	chlordane	51	2.5E-01	1.65E-02	NR	NR	NR
87-68-3	Hexachlorobutadiene	hexachlorobutadiene	53.7	5.6E-01	3.30E-01	NR	NR	NR
7440-02-0	Nickel	nickel soluble salts	65	1.0E+02	4.00E+00	NR	NR	NR
129-00-0	Pyrene	pyrene	68	4.8E+02	5.00E-02	NR	NR	NR
7440-28-0	Thallium	Thallium, soluable salts	71	5.0E-01	5.00E-01	NR	NR	NR
11097-69-1	Aroclor-1254	aroclor 1254 (PCB)	75.6	4.4E-02	1.65E-02	NR	NR	NR
118-74-1	Hexachlorobenzene	hexachlorobenzene	80	5.5E-02	3.30E-01	NR	NR	NR
72-43-5	Methoxychlor	methoxychlor	80	4.0E+01	1.65E-02	NR	NR	NR
1024-57-3	Heptachlor epoxide	Heptachlor epoxide	83.2	4.8E-03	1.65E-03	NR	NR	NR

Table A-1. Soil Screening Levels for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
72-55-9	4,4'-DDE (Dichlorodiphenyldichloroethylene)	dde	86.4	2.6E-01	3.30E-03	NR	NR	NR
7440-22-4	Silver	silver	90	8.0E+01	2.00E-01	NR	NR	NR
8001-35-2	Toxaphene	toxaphene	95.8	8.0E-02	1.65E-01	NR	NR	NR
12674-11-2	Aroclor-1016	aroclor 1016 (PCB)	107	5.0E-01	1.65E-02	NR	NR	NR
117-81-7	Bis(2-ethylhexyl) phthalate	bis(2-ethylhexyl) phthalate	110	6.0E+00	3.30E-01	NR	NR	NR
7440-31-5	Tin	tin	130	9.6E+03	1.00E+01	NR	NR	NR
16984-48-8	Fluoride	fluoride (using fluorine)	150	9.6E+02	5.00E+00	NR	NR	NR
7440-47-3	Chromium	chromium (total)	200	1.0E+02	2.00E-01	NR	NR	NR
218-01-9	Chrysene	Chrysene	200	1.2E+00	1.00E-01	NR	NR	NR
77-47-4	Hexachlorocyclopentadiene	hexachlorocyclopentadiene	200	4.8E+01	3.30E-01	NR	NR	NR
56-55-3	Benzo(a)anthracene	Benzo(a)anthracene	360	1.2E-01	1.50E-02	NR	NR	NR
50-29-3	4,4'-DDT (Dichlorodiphenyltrichloroethane)	ddt	678	2.6E-01	3.30E-03	NR	NR	NR
7440-41-7	Beryllium	beryllium	790	4.0E+00	2.00E-01	NR	NR	NR
205-99-2	Benzo(b)fluoranthene	Benzo(b)fluoranthene	803	1.2E-01	1.50E-02	NR	NR	NR
11096-82-5	Aroclor-1260	aroclor 1260 (PCB)	822	4.4E-02	1.65E-02	NR	NR	NR
7440-62-2	Vanadium	vanadium	1000	8.0E+01	2.50E+00	NR	NR	NR
207-08-9	Benzo(k)fluoranthene	Benzo(k)fluoranthene	1230	1.2E-01	1.50E-02	NR	NR	NR
7429-90-5	Aluminum	Aluminum (soluble)	1500	5.0E+01	5.00E+00	NR	NR	NR
53-70-3	Dibenz[a,h]anthracene	Dibenz[a,h]anthracene	1790	1.2E-01	3.00E-02	NR	NR	NR
191-24-2	Benzo(ghi)perylene	BENZO(g,h,i)PERYLENE (using pyrene as a surrogate)	1950	No Value	3.00E-02	NA	NA	NA
193-39-5	Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	3470	1.2E-01	3.00E-02	NR	NR	NR
50-32-8	Benzo(a)pyrene	Benzo(a)pyrene	5500	1.2E-02	1.50E-02	NR	NR	NR
117-84-0	Di-n-octylphthalate	di-n-octyl phthalate	83000	No Value	3.30E-01	NA	NA	NA
65794-96-9	3+4 Methylphenol (cresol, m+p)	methylphenol,3+4 (cresol, m+p)	No Value	No Value	3.30E-01	NA	NA	NA
101-55-3	4-Bromophenylphenyl ether	bromodiphenyl ether;4-	No Value	No Value	3.30E-01	NA	NA	NA
7440-69-9	Bismuth	Bismuth	No Value	No Value	1.00E+01	NA	NA	NA
24959-67-9	Bromide	Bromide	No Value	No Value	2.50E+00	NA	NA	NA
7440-70-2	Calcium	Calcium	No Value	No Value	1.00E+02	NA	NA	NA
PCB1242/1016	Co-elution of Aroclor 1242 and Aroclor 1016	Co-elution of Aroclor 1242 and Aroclor 1017	No Value	No Value	---	NA	NA	NA
7439-95-4	Magnesium	Magnesium (Not in CLARC database Tables)	No Value	No Value	7.50E+01	NA	NA	NA
14265-44-2	Phosphate	Phosphate	No Value	No Value	5.00E+00	NA	NA	NA
PO4-P	Phosphorus in phosphate	Phosphorus in phosphate	No Value	No Value	---	NA	NA	NA
7440-09-7	Potassium	Potassium	No Value	No Value	4.00E+02	NA	NA	NA
7440-21-3	Silicon	Silicon	No Value	No Value	2.00E+00	NA	NA	NA
7440-23-5	Sodium	Sodium	No Value	No Value	5.00E+01	NA	NA	NA
TPHDIESEL	Total petroleum hydrocarbons - diesel range	Total petroleum hydrocarbons - diesel range	No Value	5.0E+02	---	NA	NA	NA
TPH/OILH	Total petroleum hydrocarbons - motor oil (high boiling)	Total petroleum hydrocarbons - motor oil (high boiling)	No Value	5.0E+02	---	NA	NA	NA

Table A-1. Soil Screening Levels for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6

a. The soil screening level defaults to the estimated quantitation limit for any analyte where the calculated value is less than the estimated quantitation limit.

b. The "NA" sign is applied when there is no available applicable water quality standard is to calculate the soil screening level.

c. The "NR" sign designates a non-representative result for analytes were breakthrough was not simulated to occur in more than one representative stratigraphic column within 1000 years, where breakthrough is defined as concentrations exceeding 1.0E-04 µg/L (limit of numerical significance).

d. The Cr(VI) soil screening level is limited to a maximum value of 6.0 mg/kg because the Kd value used in the model was derived from experiments with soil concentrations less than that value.

Table A-2. Soil Screening Levels for Non-Radionuclides Protective of Surface Water

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Surface Water (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
16887-00-6	Chloride	chloride	0	2.3E+05	2.00E+00	9.17E+03	3.25E+04	5.80E+04
14797-55-8	Nitrate	Nitrate	0	4.5E+04	2.50E+00	1.79E+03	6.36E+03	1.13E+04
14797-65-0	Nitrite	Nitrite	0	No Value	2.50E+00	NA	NA	NA
NO3-N	Nitrogen in Nitrate	Nitrogen in Nitrate	0	1.0E+04	7.50E-01	3.99E+02	1.41E+03	2.52E+03
NO2-N	Nitrogen in Nitrite	Nitrogen in Nitrite	0	No Value	7.50E-01	NA	NA	NA
NO2+NO3-N	Nitrogen in Nitrite and Nitrate	Nitrogen in Nitrite and Nitrate	0	1.0E+04	---	3.99E+02	1.41E+03	2.52E+03
14808-79-8	Sulfate	sulfate	0	No Value	5.00E+00	NA	NA	NA
51-28-5	2,4-Dinitrophenol	dinitrophenol;2,4-	0.00001	6.9E+01	8.25E-01	2.75E+00	9.75E+00	1.74E+01
67-64-1	Acetone	Acetone	0.0006	7.4E+05	2.00E-02	2.97E+04	1.06E+05	1.89E+05
107-21-1	Ethylene Glychol	Ethylene Glychol	0.001	1,640,000	---	6.62E+04	2.37E+05	NR
111-76-2	2-Butoxyethanol	Ethylene Glychol Mono Butyl Ether	0.001	82044	---	3.31E+03	1.18E+04	2.11E+04
75-99-0	Dalapon	Dalapon	0.0027	10773	---	4.44E+02	1.60E+03	2.86E+03
111-91-1	Bis(2-Chloroethoxy)methane	bis(2-chloroethoxyl)methane	0.00277	2.3E+03	3.30E-01	9.66E+01	3.49E+02	6.22E+02
78-93-3	2-Butanone	methyl ethyl ketone (MEK; 2-butanone)	0.00451	4.9E+05	1.00E-02	2.07E+04	7.56E+04	1.35E+05
74-87-3	Chloromethane	chloromethane	0.006	No Value	1.00E-02	NA	NA	NA
74-83-9	Bromomethane	bromomethane	0.009	4.7E+01	1.00E-02	2.09E+00	7.88E+00	1.41E+01
60-29-7	Diethylether	Diethylether	0.009699	96000	---	4.32E+03	1.63E+04	2.91E+04
75-09-2	Methylene chloride	methylene chloride	0.01	4.6E+00	5.00E-03	2.08E-01	7.87E-01	1.40E+00
108-10-1	4-Methyl-2-pentanone	methyl isobutyl ketone	0.0126	6.1E+04	1.00E-02	2.83E+03	1.09E+04	1.94E+04
591-78-6	2-Hexanone	HEXANONE;2-[MBK, methyl butyl ketone]	0.01498	3.4E+03	2.00E-02	1.63E+02	6.34E+02	1.13E+03
75-01-4	Vinyl chloride	vinyl chloride [chloroethene; 1-]	0.019	2.5E-02	5.00E-03	5.00E-03	5.00E-03	8.81E-03
75-00-3	Chloroethane	ethyl chloride	0.0217	No Value	1.00E-02	NA	NA	NA
621-64-7	n-Nitrosodi-n-dipropylamine	nitroso-di-n-propylamine;N-	0.024	5.0E-03	3.30E-01	3.30E-01	3.30E-01	3.30E-01
10061-01-5	cis-1,3-Dichloropropene	dichloropropene; 1,2-,cis	0.027	3.4E-01	5.00E-03	1.83E-02	7.44E-02	1.33E-01
10061-02-6	trans-1,3-Dichloropropene	dichloropropene; 1,3-,trans	0.027	3.4E-01	5.00E-03	1.83E-02	7.44E-02	1.33E-01
108-95-2	Phenol	Phenol	0.0288	1.0E+04	3.30E-01	5.47E+02	2.24E+03	4.00E+03
94-75-7	2,4-D	2,4-Dichlorophenoxy acetic acid	0.029	100	---	5.48E+00	2.25E+01	4.01E+01
1918-00-9	Dicamba	Dicamba	0.029	24613	---	1.35E+03	5.53E+03	9.86E+03
131-11-3	Dimethyl phthalate	dimethyl phthalate	0.0316	2.7E+05	3.30E-01	1.52E+04	6.27E+04	1.12E+05
156-59-2	cis-1,2-Dichloroethylene	dichloroethylene; 1,2-,cis	0.036	2.3E+03	5.00E-03	1.37E+02	5.77E+02	1.03E+03
107-06-2	1,2-Dichloroethane	dichloroethane;1,2-	0.038	3.8E-01	5.00E-03	2.28E-02	9.66E-02	1.72E-01
156-60-5	trans-1,2-Dichloroethylene	dichloroethylene; 1,2-,trans	0.038	1.4E+02	5.00E-03	8.39E+00	3.56E+01	6.35E+01
1918-02-1	4-Amino-3,5,6-trichloropicolinic acid	4-Amino-3,5,6-trichloropicolinic acid	0.039	57431	---	3.48E+03	1.48E+04	2.64E+04
108-60-1	Bis(2-chloro-1-methylethyl)ether	bis(2-chloro-1-methyl-ethyl)ether	0.0392	3.7E+01	3.30E-01	2.27E+00	9.70E+00	1.73E+01
540-59-0	1,2-Dichloroethene (Total)	dichloroethylene, 1,2- (mixed isomers)	0.0396	2.1E+03	5.00E-03	1.28E+02	5.47E+02	9.76E+02
75-69-4	Trichloromonofluoromethane	Trichloromonofluoromethane	0.04389	35800	---	2.26E+03	9.74E+03	1.74E+04
75-15-0	Carbon disulfide	carbon disulfide	0.046	1.3E+04	5.00E-03	8.52E+02	3.69E+03	6.58E+03
78-59-1	Isophorone	isophorone	0.0468	8.4E+00	3.30E-01	5.42E-01	2.35E+00	4.19E+00
78-87-5	1,2-Dichloropropane	dichloropropane; 1,2-	0.047	5.0E-01	5.00E-03	3.23E-02	1.40E-01	2.50E-01

Table A-2. Soil Screening Levels for Non-Radionuclides Protective of Surface Water

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Surface Water (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
93-65-2	2-(2-methyl-4-chlorophenoxy) propionic acid	2-(2-methyl-4-chlorophenoxy) propionic acid	0.04851	8.2E+02	---	5.30E+01	2.30E+02	4.10E+02
93-76-5	2,4,5-T	2,4,5-Trichlorophenoxy acetic acid	0.049	No Value	---	NA	NA	NA
99-09-2	3-Nitroaniline	nitroaniline, 3-	0.0516	1.0E+02	3.30E-01	6.89E+00	3.01E+01	5.37E+01
100-01-6	4-Nitroaniline	nitroaniline, 4-	0.0516	8.1E+01	3.30E-01	5.43E+00	2.37E+01	4.23E+01
88-74-4	2-Nitroaniline	nitroaniline, 2-	0.0527	2.6E+03	3.30E-01	1.75E+02	7.67E+02	1.37E+03
75-34-3	1,1-Dichloroethane	dichloroethane;1,1-	0.053	7.4E+04	1.00E-02	4.99E+03	2.18E+04	3.89E+04
67-66-3	Chloroform	chloroform	0.053	5.7E+00	5.00E-03	3.86E-01	1.69E+00	3.02E+00
75-27-4	Bromodichloromethane	bromodichloromethane	0.055	2.7E-01	5.00E-03	1.86E-02	8.17E-02	1.46E-01
71-43-2	Benzene	Benzene	0.062	1.2E+00	5.00E-03	8.75E-02	3.88E-01	6.92E-01
124-48-1	Dibromochloromethane	chlorodibromomethane [dibromochloromethane]	0.063	4.0E-01	5.00E-03	2.94E-02	1.30E-01	2.33E-01
75-35-4	1,1-Dichloroethene	Dichloroethene;1,1-	0.065	5.7E-02	1.00E-02	1.00E-02	1.89E-02	3.37E-02
606-20-2	2,6-Dinitrotoluene	dinitrotoluene;2,6-	0.0692	1.2E+02	3.30E-01	9.02E+00	4.03E+01	7.19E+01
106-47-8	4-Chloroaniline	chloroaniline;p-	0.0725	4.6E+00	3.30E-01	3.64E-01	1.63E+00	2.91E+00
79-00-5	1,1,2-Trichloroethane	trichloroethane;1,1,2-	0.075	5.9E-01	5.00E-03	4.71E-02	2.12E-01	3.78E-01
111-44-4	Bis(2-chloroethyl) ether	bis(2-chloroethyl)ether	0.076	3.0E-02	3.30E-01	3.30E-01	3.30E-01	3.30E-01
79-34-5	1,1,2,2-Tetrachloroethane	tetrachloroethane;1,1,2,2-	0.079	1.7E-01	5.00E-03	1.40E-02	6.31E-02	1.13E-01
93-72-1	2,4,5-TP	(2-(2,4,5-Trichlorophenoxy)propionic acid)Silvex	0.08	10	---	8.27E-01	3.74E+00	6.68E+00
84-66-2	Diethylphthalate	diethyl phthalate	0.082	1.7E+04	3.30E-01	1.42E+03	6.45E+03	1.15E+04
79-01-6	Trichloroethene	trichloroethylene (TCE)	0.094	2.5E+00	5.00E-03	2.25E-01	1.03E+00	1.84E+00
121-14-2	2,4-Dinitrotoluene	dinitrotoluene;2,4-	0.0955	1.1E-01	3.30E-01	3.30E-01	3.30E-01	3.30E-01
94-82-6	2,4-DB	(4-(2,4-Dichlorophenoxy)butanoic acid)	0.1	6564	---	6.14E+02	2.83E+03	5.04E+03
98-95-3	Nitrobenzene	Nitrobenzene	0.119	1.7E+01	3.30E-01	1.71E+00	7.92E+00	1.41E+01
75-25-2	Bromoform	bromoform	0.13	4.3E+00	5.00E-03	4.52E-01	2.10E+00	3.75E+00
71-55-6	1,1,1-Trichloroethane	Trichloroethane;1,1,1-	0.14	9.3E+05	5.00E-03	1.02E+05	NR	NR
108-88-3	Toluene	Toluene	0.14	1.3E+03	5.00E-03	1.43E+02	6.66E+02	1.19E+03
120-83-2	2,4-Dichlorophenol	dichlorophenol;2,4-	0.147	7.7E+01	3.30E-01	8.70E+00	4.08E+01	7.28E+01
56-23-5	Carbon tetrachloride	carbon tetrachloride	0.152	2.3E-01	5.00E-03	2.66E-02	1.25E-01	2.23E-01
100-41-4	Ethylbenzene	ethylbenzene	0.2	1.6E+01	5.00E-03	2.32E+00	1.13E+01	2.01E+01
108-38-3	m-Xylene	Xylene, m-	0.2	No Value	---	NA	NA	NA
105-67-9	2,4-Dimethylphenol	dimethylphenol;2,4-	0.209	3.8E+02	3.30E-01	5.76E+01	2.80E+02	4.99E+02
108-90-7	Chlorobenzene	chlorobenzene	0.22	1.3E+02	5.00E-03	2.04E+01	9.88E+01	1.76E+02
1330-20-7	Xylenes (total)	Xylenes (total)	0.23	No Value	1.00E-02	NA	NA	NA
95-47-6	o-Xylene	xylene,o-	0.24	No Value	---	NA	NA	NA
127-18-4	Tetrachloroethene	tetrachloroethylene	0.27	3.9E-01	5.00E-03	7.14E-02	3.47E-01	6.20E-01
88-75-5	2-Nitrophenol	nitrophenol;2-	0.297	No Value	6.60E-01	NA	NA	NA
100-02-7	4-Nitrophenol	nitrophenol;4-	0.309	4.0E+03	6.60E-01	8.49E+02	4.14E+03	7.39E+03
95-50-1	1,2-Dichlorobenzene	dichlorobenzene;1,2- (ortho-Dichlorobenzene)	0.379	4.2E+02	3.30E-01	1.05E+02	5.14E+02	9.16E+02
88-06-2	2,4,6-Trichlorophenol	Trichlorophenol2,4,6-	0.381	1.4E+00	3.30E-01	3.52E-01	1.72E+00	3.07E+00
95-57-8	2-Chlorophenol	Chlorophenol;2-	0.388	8.1E+01	3.30E-01	2.07E+01	1.02E+02	1.81E+02

Table A-2. Soil Screening Levels for Non-Radionuclides Protective of Surface Water

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Surface Water (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
541-73-1	1,3-Dichlorobenzene	dichlorobenzene; 1,3	0.434	3.2E+02	3.30E-01	9.03E+01	4.43E+02	7.90E+02
95-48-7	2-Methylphenol (cresol, o-)	cresol;o-	0.434	1.2E+04	3.30E-01	3.42E+03	1.68E+04	2.99E+04
106-44-5	4-Methylphenol (cresol, p-)	cresol;p-	0.434	1.5E+03	---	4.13E+02	2.03E+03	3.61E+03
59-50-7	4-Chloro-3-methylphenol	chloro-3-methylphenol;4-	0.4918	3.1E+04	3.30E-01	9.68E+03	4.76E+04	8.49E+04
87-86-5	Pentachlorophenol	pentachlorophenol	0.592	2.7E-01	3.30E-01	3.30E-01	5.01E-01	8.94E-01
534-52-1	4,6-Dinitro-2-methylphenol	dinitro-2-methylphenol;4,6-	0.6015	1.3E+01	3.30E-01	4.99E+00	2.45E+01	4.38E+01
106-46-7	1,4-Dichlorobenzene	dichlorobenzene; 1,4- (para-Dichlorobenzene)	0.616	2.2E+01	5.00E-03	8.44E+00	4.16E+01	7.42E+01
91-94-1	3,3'-Dichlorobenzidine	dichlorobenzidine;3,3'-	0.724	2.1E-02	3.30E-01	3.30E-01	3.30E-01	3.30E-01
18540-29-9	Hexavalent Chromium	chromium(VI)	0.8	1.0E+01	---	4.98E+00	6 [d]	6 [d]
100-42-5	Styrene	styrene	0.91	3.8E+04	5.00E-03	2.15E+04	1.08E+05	1.93E+05
91-20-3	Naphthalene	naphthalene	1.19	4.9E+03	1.00E-01	3.33E+03	1.68E+04	2.99E+04
86-30-6	n-Nitrosodiphenylamine	nitrosodiphenylamine;N-	1.29	3.3E+00	3.30E-01	2.35E+00	1.18E+01	2.11E+01
58-89-9	Gamma-BHC (Lindane)	lindane [gamma-BHC] (see hexachlorocyclohexane)	1.35	1.9E-02	1.65E-03	1.40E-02	7.06E-02	1.26E-01
84-74-2	Di-n-butylphthalate	di-butyl phthalate	1.57	2.0E+03	3.30E-01	1.70E+03	8.53E+03	1.52E+04
95-95-4	2,4,5-Trichlorophenol	Trichlorophenol;2,4,5-	1.6	4.9E+02	3.30E-01	4.21E+02	2.12E+03	3.78E+03
120-82-1	1,2,4-Trichlorobenzene	trichlorobenzene; 1,2,4-	1.66	2.0E+00	3.30E-01	1.77E+00	8.90E+00	1.59E+01
319-84-6	Alpha-BHC	hexachlorocyclohexane;alpha (alpha-BHC, HCH)	1.76	2.6E-03	1.65E-03	2.53E-03	1.27E-02	2.27E-02
67-72-1	Hexachloroethane	hexachloroethane	1.78	1.4E+00	3.30E-01	1.38E+00	6.95E+00	1.24E+01
126-73-8	Tributyl phosphate	Tributyl phosphate	1.89	24.3	---	2.63E+01	1.32E+02	2.36E+02
7440-61-1	Uranium	Uranium	2	7.8E+02	---	9.30E+02	4.67E+03	8.33E+03
959-98-8	Endosulfan I	Endosulfan I	2.04	5.6E-02	1.65E-03	6.76E-02	3.42E-01	6.11E-01
33213-65-9	Endosulfan II	Endosulfan II	2.04	5.6E-02	3.30E-03	6.76E-02	3.42E-01	6.11E-01
1031-07-8	Endosulfan sulfate	Endosulfan sulfate	2.04	9.3E-01	3.30E-03	1.12E+00	5.69E+00	1.01E+01
319-85-7	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	hexachlorocyclohexane;beta-	2.14	9.1E-03	1.65E-03	1.13E-02	5.84E-02	1.04E-01
319-86-8	Delta-BHC	hexachlorocyclohexane;delta-	2.81	No Value	1.65E-03	NA	NA	NA
91-58-7	2-Chloronaphthalene	beta-chloronaphthalene	2.98	1.0E+03	3.30E-01	1.58E+03	9.36E+03	1.67E+04
91-57-6	2-Methylnaphthalene	methylnapthalene;2-	2.98	1.4E+02	3.30E-01	2.19E+02	1.30E+03	2.32E+03
7440-42-8	Boron	Boron	3	No Value	2.00E+00	NA	NA	NA
7005-72-3	4-Chlorophenylphenyl ether	chlorodiphenyl ether;4-	3.08	No Value	3.30E-01	NA	NA	NA
86-74-8	Carbazole	carbazole	3.39	No Value	3.30E-01	NA	NA	NA
7723-14-0	Phosphorus	phosphorus	3.5	No Value	5.00E+01	NA	NA	NA
88-85-7	Dinoseb	2-secButyl-4,6-dinitrophenol	3.5	No Value	---	NA	NA	NA
7440-36-0	Antimony	antimony	3.76	5.6E+00	6.00E-01	1.18E+01	7.03E+01	1.25E+02
7782-49-2	Selenium	selenium and compounds	5	5.0E+00	1.00E+00	1.41E+01	8.61E+01	1.54E+02

Table A-2. Soil Screening Levels for Non-Radionuclides Protective of Surface Water

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Surface Water (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
208-96-8	Acenaphthylene	acenaphthylene (Not in CLARC database tables; use acenaphthene as surrogate)	5.03	No Value	1.00E-01	NA	NA	NA
83-32-9	Acenaphthene	acenaphthene	6.12	6.4E+02	1.00E-01	2.29E+03	1.40E+04	2.50E+04
86-73-7	Fluorene	fluorene	7.71	1.1E+03	3.00E-02	4.89E+03	3.00E+04	5.35E+04
76-44-8	Heptachlor	heptachlor	9.53	7.9E-05	1.65E-03	1.65E-03	2.65E-03	4.74E-03
53494-70-5	Endrin ketone	Endrin ketone	9.72	No Value	3.30E-03	NA	NA	NA
57-12-5	Cyanide	cyanide	9.9	5.2E+00	---	3.15E+01	1.80E+02	3.26E+02
11104-28-2	Aroclor-1221	aroclor 1221 [PCB]	10.3	6.4E-05	1.65E-02	1.65E-02	1.65E-02	1.65E-02
11141-16-5	Aroclor-1232	aroclor 1232 [PCB]	10.3	6.4E-05	1.65E-02	1.65E-02	1.65E-02	1.65E-02
72-20-8	Endrin	endrin	10.8	2.3E-03	3.30E-03	1.61E-02	8.70E-02	1.57E-01
7421-93-4	Endrin aldehyde	Endrin aldehyde	10.8	2.9E-01	3.30E-03	2.03E+00	1.10E+01	1.97E+01
132-64-9	Dibenzofuran	dibenzofuran	11.3	1.7E+00	3.30E-01	1.30E+01	2.50E+01	1.22E+02
85-68-7	Butylbenzylphthalate	butyl benzyl phthalate	13.8	8.2E+00	3.30E-01	9.40E+01	1.55E+02	7.39E+02
85-01-8	Phenanthrene	Phenanthrene	16.7	No Value	5.00E-02	NA	NA	NA
7439-98-7	Molybdenum	molybdenum	20	1.3E+03	2.00E+00	3.99E+04	4.51E+04	1.92E+05
7440-50-8	Copper	copper	22	9.0E+00	1.00E+00	3.29E+02	3.82E+02	1.56E+03
120-12-7	Anthracene	anthracene	23.5	8.3E+03	5.00E-02	NR	NR	NR
7440-39-3	Barium	Barium	25	1.0E+03	5.00E-01	NR	NR	NR
7439-89-6	Iron	Iron	25	3.0E+02	5.00E+00	NR	NR	NR
7440-24-6	Strontium	strontium	25	2.6E+04	1.00E+00	NR	NR	NR
60-57-1	Dieldrin	dieldrin	25.6	5.2E-05	3.30E-03	NR	NR	NR
7440-38-2	Arsenic	arsenic, inorganic	29	1.8E-02	1.00E+00	NR	NR	NR
7440-43-9	Cadmium	cadmium	30	2.5E-01	2.00E-01	NR	NR	NR
7439-92-1	Lead	lead	30	2.1E+00	5.00E-01	NR	NR	NR
7439-97-6	Mercury	mercury	30	1.2E-02	---	NR	NR	NR
7440-66-6	Zinc	zinc	30	9.1E+01	1.00E+00	NR	NR	NR
12672-29-6	Aroclor-1248	aroclor 1248 [PCB]	43.9	6.4E-05	1.65E-02	NR	NR	NR
53469-21-9	Aroclor-1242	aroclor 1242 [PCB]	44.8	6.4E-05	1.65E-02	NR	NR	NR
72-54-8	4,4'-DDD (Dichlorodiphenyl dichloroethane)	ddd	45.8	3.1E-04	3.30E-03	NR	NR	NR
309-00-2	Aldrin	aldrin	48.7	4.9E-05	1.65E-03	NR	NR	NR
206-44-0	Fluoranthene	fluoranthene	49.1	9.0E+01	5.00E-02	NR	NR	NR
7440-48-4	Cobalt	Cobalt	50	2.6E+00	2.00E+00	NR	NR	NR
7439-93-2	Lithium	Lithium	50	No Value	2.50E+00	NA	NA	NA
7439-96-5	Manganese	manganese	50	5.0E+01	5.00E+00	NR	NR	NR
5103-71-9	Alpha-Chlordane	Alpha-Chlordane	51	5.7E-04	1.65E-02	NR	NR	NR
57-74-9	Chlordane	chlordane	51	5.7E-04	1.65E-02	NR	NR	NR
87-68-3	Hexachlorobutadiene	hexachlorobutadiene	53.7	4.4E-01	3.30E-01	NR	NR	NR
7440-02-0	Nickel	nickel soluble salts	65	5.2E+01	4.00E+00	NR	NR	NR
129-00-0	Pyrene	pyrene	68	8.3E+02	5.00E-02	NR	NR	NR
7440-28-0	Thallium	Thallium, soluable salts	71	2.4E-01	5.00E-01	NR	NR	NR
11097-69-1	Aroclor-1254	aroclor 1254 (PCB)	75.6	6.4E-05	1.65E-02	NR	NR	NR
118-74-1	Hexachlorobenzene	hexachlorobenzene	80	2.8E-04	3.30E-01	NR	NR	NR
72-43-5	Methoxychlor	methoxychlor	80	3.0E-02	1.65E-02	NR	NR	NR
1024-57-3	Heptachlor epoxide	Heptachlor epoxide	83.2	3.9E-05	1.65E-03	NR	NR	NR
72-55-9	4,4'-DDE (Dichlorodiphenyl dichloroethylene)	dde	86.4	2.2E-04	3.30E-03	NR	NR	NR

Table A-2. Soil Screening Levels for Non-Radionuclides Protective of Surface Water

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Surface Water (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
7440-22-4	Silver	silver	90	2.6E+00	2.00E-01	NR	NR	NR
8001-35-2	Toxaphene	toxaphene	95.8	2.0E-04	1.65E-01	NR	NR	NR
12674-11-2	Aroclor-1016	aroclor 1016 (PCB)	107	6.4E-05	1.65E-02	NR	NR	NR
117-81-7	Bis(2-ethylhexyl) phthalate	bis(2-ethylhexyl) phthalate	110	1.2E+00	3.30E-01	NR	NR	NR
7440-31-5	Tin	tin	130	5.2E+02	1.00E+01	NR	NR	NR
16984-48-8	Fluoride	fluoride (using fluorine)	150	1.6E+04	5.00E+00	NR	NR	NR
7440-47-3	Chromium	chromium (total)	200	6.5E+01	2.00E-01	NR	NR	NR
218-01-9	Chrysene	Chrysene	200	2.8E-03	1.00E-01	NR	NR	NR
77-47-4	Hexachlorocyclo pentadiene	hexachlorocyclop entadiene	200	4.0E+01	3.30E-01	NR	NR	NR
56-55-3	Benzo(a)anthrac ene	Benzo(a)anthrac ene	360	2.8E-03	1.50E-02	NR	NR	NR
50-29-3	4,4'-DDT (Dichlorodiphenyl trichloroethane)	ddt	678	2.2E-04	3.30E-03	NR	NR	NR
7440-41-7	Beryllium	beryllium	790	2.7E+02	2.00E-01	NR	NR	NR
205-99-2	Benzo(b)fluorant hene	Benzo(b)fluorant hene	803	2.8E-03	1.50E-02	NR	NR	NR
11096-82-5	Aroclor-1260	aroclor 1260 (PCB)	822	6.4E-05	1.65E-02	NR	NR	NR
7440-62-2	Vanadium	vanadium	1000	No Value	2.50E+00	NA	NA	NA
207-08-9	Benzo(k)fluorant hene	Benzo(k)fluorant hene	1230	2.8E-03	1.50E-02	NR	NR	NR
7429-90-5	Aluminum	Aluminum (soluble)	1500	8.7E+01	5.00E+00	NR	NR	NR
53-70-3	Dibenz[a,h]anthr acene	Dibenz[a,h]anthr acene	1790	2.8E-03	3.00E-02	NR	NR	NR
191-24-2	Benzo(ghi)peryle ne	BENZO(g,h,i)PE RYLENE (using pyrene as a surrogate)	1950	No Value	3.00E-02	NA	NA	NA
193-39-5	Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	3470	2.8E-03	3.00E-02	NR	NR	NR
50-32-8	Benzo(a)pyrene	Benzo(a)pyrene	5500	2.8E-03	1.50E-02	NR	NR	NR
117-84-0	Di-n-octylphthalate	di-n-octyl phthalate	83000	No Value	3.30E-01	NA	NA	NA
65794-96-9	3+4 Methylphenol (cresol, m+p)	methylphenol,3+4 (cresol, m+p)	No Value	No Value	3.30E-01	NA	NA	NA
101-55-3	4-Bromophenylphe nyl ether	bromodiphenyl ether;4-	No Value	No Value	3.30E-01	NA	NA	NA
7440-69-9	Bismuth	Bismuth	No Value	No Value	1.00E+01	NA	NA	NA
24959-67-9	Bromide	Bromide	No Value	No Value	2.50E+00	NA	NA	NA
7440-70-2	Calcium	Calcium	No Value	No Value	1.00E+02	NA	NA	NA
PCB1242/1016	Co-elution of Aroclor 1242 and Aroclor 1016	Co-elution of Aroclor 1242 and Aroclor 1017	No Value	No Value	---	NA	NA	NA
7439-95-4	Magnesium	Magnesium (Not in CLARC database Tables)	No Value	No Value	7.50E+01	NA	NA	NA
14265-44-2	Phosphate	Phosphate	No Value	No Value	5.00E+00	NA	NA	NA
PO4-P	Phosphorus in phosphate	Phosphorus in phosphate	No Value	No Value	---	NA	NA	NA
7440-09-7	Potassium	Potassium	No Value	No Value	4.00E+02	NA	NA	NA
7440-21-3	Silicon	Silicon	No Value	No Value	2.00E+00	NA	NA	NA
7440-23-5	Sodium	Sodium	No Value	No Value	5.00E+01	NA	NA	NA
TPHDIESEL	Total petroleum hydrocarbons - diesel range	Total petroleum hydrocarbons - diesel range	No Value	No Value	---	NA	NA	NA
TPH/OILH	Total petroleum hydrocarbons - motor oil (high boiling)	Total petroleum hydrocarbons - motor oil (high boiling)	No Value	No Value	---	NA	NA	NA

Table A-2. Soil Screening Levels for Non-Radionuclides Protective of Surface Water

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Surface Water (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6

a. The soil screening level defaults to the estimated quantitation limit for any analyte where the calculated value is less than the estimated quantitation limit.

b. The "NA" sign is applied when there is no available applicable water quality standard is to calculate the soil screening level.

c. The "NR" sign designates a non-representative result for analytes were breakthrough was not simulated to occur in more than one representative stratigraphic column within 1000 years, where breakthrough is defined as concentrations exceeding 1.0E-04 µg/L (limit of numerical significance).

d. The Cr(VI) soil screening level is limited to a maximum value of 6.0 mg/kg because the Kd value used in the model was derived from experiments with soil concentrations less than that value.

Table A-3. Soil Screening Levels for Radionuclides Protective of Groundwater

Radionuclide	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Maximum Contaminant Level (pCi/L)	Half-life (yr)	Estimated Quantitation Limit (mg/kg)	Soil Screening Level Protective of Groundwater (pCi/g) [a,b,c]		
					100-F	IU-2	IU-6
Carbon-14 [d]	0	2000	5.7300E+03	---	7.99E+01	2.84E+02	5.07E+02
Technetium-99	0	900	2.1300E+05	---	3.59E+01	1.27E+02	2.27E+02
Tritium	0	20000	1.2350E+01	---	1.66E+03	7.46E+03	1.33E+04
Iodine-129	1	1	1.5700E+07	---	6.12E-01	3.08E+00	5.50E+00
Uranium-233/234	2	No Value	2.4450E+05	1.00E+00	NA	NA	NA
Uranium-235	2	No Value	7.0380E+08	5.00E-01	NA	NA	NA
Uranium-238	2	No Value	4.4680E+09	1.00E+00	NA	NA	NA
Neptunium-237	15	15	2.1400E+06	---	2.09E+02	8.42E+02	1.50E+03
Strontium-90 [e]	25	8	2.9120E+01	---	2.46E+04	6.42E+04	1.04E+05
Nickel-63	30	50	9.6000E+01	---	NR	NR	NR
Cesium-137	50	200	3.0000E+01	1.00E-01	NR	NR	NR
Cobalt-60	50	100	5.7210E+00	5.00E-02	NR	NR	NR
Americium-241	200	15	4.32E+02	1.00E+00	NR	NR	NR
Carbon-14 [f]	200	2,000	5.73E+03	---	NR	NR	NR
Curium-243	200	15	2.85E+01	---	NR	NR	NR
Curium-244	200	15	1.81E+01	---	NR	NR	NR
Europium-152	200	200	1.33E+01	1.00E-01	NR	NR	NR
Europium-154	200	60	8.80E+00	1.00E-01	NR	NR	NR
Europium-155	200	600	4.96E+00	1.00E-01	NR	NR	NR
Niobium-94	200	No Value	2.03E+04	---	NR	NR	NR
Plutonium-238	200	15	8.77E+01	1.00E+00	NA	NA	NA
Plutonium-239	200	15	2.41E+04	1.00E+00	NR	NR	NR
Plutonium-240	200	15	6.54E+03	1.00E+00	NR	NR	NR
Plutonium-241	200	300	1.40E+01	---	NR	NR	NR
Radium-226	200	5	1.60E+03	---	NR	NR	NR
Radium-228	200	5	5.75E+00	2.00E-01	NR	NR	NR
Thorium-228	200	15	1.91E+00	---	NR	NR	NR
Thorium-230	200	15	7.70E+04	---	NR	NR	NR
Thorium-232	200	15	1.41E+10	---	NR	NR	NR

a. The soil screening level defaults to the estimated quantitation limit for any analyte where the calculated value is less than the estimated quantitation limit.

b. The "NA" sign is applied when there is no available applicable water quality standard is to calculate the soil screening level.

c. The "NR" sign designates a non-representative result for analytes were breakthrough was not simulated to occur in more than one representative stratigraphic column within 1000 years, where breakthrough is defined as concentrations exceeding 1.0E-04 pCi/L (limit of numerical significance).

d. Carbon-14 in liquid form (typically associated with reactor gas condensate).

e. Strontium-90 is calculated based on a 100:0 initial source distribution, an exception to the convention that analytes with $K_d \geq 2$ were calculated based on a 70:30 initial source distribution, because of data that indicated strontium-90 distributed throughout the vadose zone at some locations in these OUs.

f. Carbon-14 in solid form (typically associated with graphite).

Attachment B

Preliminary Remediation Goals Protective of Groundwater and Protective of Surface Water for 100-F, IU-2, and IU-6 Areas

Table B-1. Preliminary Remediation Goals for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
16887-00-6	Chloride	chloride	0	2.5E+05	2.00E+00	2.43E+04	6.47E+04	1.15E+05
14797-55-8	Nitrate	Nitrate	0	4.5E+04	2.50E+00	4.37E+03	1.16E+04	2.08E+04
14797-65-0	Nitrite	Nitrite	0	3.3E+03	2.50E+00	3.21E+02	8.54E+02	1.52E+03
NO3-N	Nitrogen in Nitrate	Nitrogen in Nitrate	0	1.0E+04	7.50E-01	9.72E+02	2.59E+03	4.62E+03
NO2-N	Nitrogen in Nitrite	Nitrogen in Nitrite	0	1.0E+03	7.50E-01	9.72E+01	2.59E+02	4.62E+02
NO2+NO3-N	Nitrogen in Nitrite and Nitrate	Nitrogen in Nitrite and Nitrate	0	1.0E+04	---	9.72E+02	2.59E+03	4.62E+03
14808-79-8	Sulfate	sulfate	0	2.5E+05	5.00E+00	2.43E+04	6.47E+04	1.15E+05
51-28-5	2,4-Dinitrophenol	dinitrophenol;2,4-	0.00001	3.2E+01	8.25E-01	3.11E+00	8.28E+00	1.48E+01
67-64-1	Acetone	Acetone	0.0006	7.2E+03	2.00E-02	7.05E+02	1.89E+03	3.36E+03
107-21-1	Ethylene Glychol	Ethylene Glychol	0.001	16,000	---	1.58E+03	4.22E+03	7.53E+03
111-76-2	2-Butoxyethanol	Ethylene Glychol Mono Butyl Ether	0.001	800	---	7.88E+01	2.11E+02	3.76E+02
75-99-0	Dalapon	Dalapon	0.0027	200	---	2.01E+01	5.43E+01	9.68E+01
111-91-1	Bis(2-Chloroethoxy)methane	bis(2-chloroethoxyl)methane	0.00277	4.8E+01	3.30E-01	4.83E+00	1.30E+01	2.33E+01
78-93-3	2-Butanone	methyl ethyl ketone (MEK; 2-butanone)	0.00451	4.8E+03	1.00E-02	4.94E+02	1.34E+03	2.40E+03
74-87-3	Chloromethane	chloromethane	0.006	No Value	1.00E-02	NA	NA	NA
74-83-9	Bromomethane	bromomethane	0.009	1.1E+01	1.00E-02	1.22E+00	3.40E+00	6.06E+00
60-29-7	Diethylether	Diethylether	0.009699	1600	---	1.76E+02	4.92E+02	8.78E+02
75-09-2	Methylene chloride	methylene chloride	0.01	5.0E+00	5.00E-03	5.52E-01	1.55E+00	2.76E+00
108-10-1	4-Methyl-2-pentanone	methyl isobutyl ketone	0.0126	6.4E+02	1.00E-02	7.28E+01	2.06E+02	3.67E+02
591-78-6	2-Hexanone	HEXANONE;2-[MBK, methyl butyl ketone]	0.01498	4.0E+01	2.00E-02	4.68E+00	1.33E+01	2.37E+01
75-01-4	Vinyl chloride	vinyl chloride [chloroethene; 1-]	0.019	6.1E-02	5.00E-03	7.45E-03	2.15E-02	3.84E-02
75-00-3	Chloroethane	ethyl chloride	0.0217	No Value	1.00E-02	NA	NA	NA
621-64-7	n-Nitrosodi-n-dipropylamine	nitroso-di-n-propylamine;N-	0.024	1.3E-02	3.30E-01	3.30E-01	3.30E-01	3.30E-01
10061-01-5	cis-1,3-Dichloropropene	dichloropropene; 1,2-,cis	0.027	4.4E-01	5.00E-03	5.83E-02	1.71E-01	3.04E-01
10061-02-6	trans-1,3-Dichloropropene	dichloropropene; 1,3-,trans	0.027	4.4E-01	5.00E-03	5.83E-02	1.71E-01	3.04E-01
108-95-2	Phenol	Phenol	0.0288	2.4E+03	3.30E-01	3.26E+02	9.57E+02	1.71E+03
94-75-7	2,4-D	2,4-Dichlorophenoxy acetic acid	0.029	70	---	9.52E+00	2.80E+01	4.99E+01
1918-00-9	Dicamba	Dicamba	0.029	480	---	6.53E+01	1.92E+02	3.42E+02
131-11-3	Dimethyl phthalate	dimethyl phthalate	0.0316	No Value	3.30E-01	NA	NA	NA
156-59-2	cis-1,2-Dichloroethylene	dichloroethylene; 1,2-,cis	0.036	7.0E+01	5.00E-03	1.03E+01	3.06E+01	5.45E+01
107-06-2	1,2-Dichloroethane	dichloroethane;1,2-	0.038	4.8E-01	5.00E-03	7.22E-02	2.16E-01	3.85E-01
156-60-5	trans-1,2-Dichloroethylene	dichloroethylene; 1,2-,trans	0.038	1.0E+02	5.00E-03	1.50E+01	4.49E+01	8.00E+01
1918-02-1	4-Amino-3,5,6-trichloropicolinic acid	4-Amino-3,5,6-trichloropicolinic acid	0.039	500	---	7.60E+01	2.27E+02	4.05E+02
108-60-1	Bis(2-chloro-1-methylethyl)ether	bis(2-chloro-1-methyl-ethyl)ether	0.0392	6.3E-01	3.30E-01	3.30E-01	3.30E-01	5.08E-01
540-59-0	1,2-Dichloroethene (Total)	dichloroethylene, 1,2- (mixed isomers)	0.0396	7.2E+01	5.00E-03	1.10E+01	3.30E+01	5.89E+01
75-69-4	Trichloromonofluoromethane	Trichloromonofluoromethane	0.04389	2400	---	3.82E+02	1.15E+03	2.04E+03
75-15-0	Carbon disulfide	carbon disulfide	0.046	8.0E+02	5.00E-03	1.30E+02	3.90E+02	6.95E+02
78-59-1	Isophorone	isophorone	0.0468	4.6E+01	3.30E-01	7.53E+00	2.26E+01	4.03E+01
78-87-5	1,2-Dichloropropane	dichloropropane; 1,2-	0.047	1.2E+00	5.00E-03	1.99E-01	5.98E-01	1.07E+00

Table B-1. Preliminary Remediation Goals for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
93-65-2	2-(2-methyl-4-chlorophenoxy) propionic acid	2-(2-methyl-4-chlorophenoxy) propionic acid	0.04851	1.6E+01	---	2.62E+00	7.87E+00	1.40E+01
93-76-5	2,4,5-T	2,4,5-Trichlorophenoxy acetic acid	0.049	160	---	2.67E+01	8.02E+01	1.43E+02
99-09-2	3-Nitroaniline	nitroaniline, 3-	0.0516	4.2E+00	3.30E-01	7.13E-01	2.14E+00	3.82E+00
100-01-6	4-Nitroaniline	nitroaniline, 4-	0.0516	4.4E+00	3.30E-01	7.49E-01	2.25E+00	4.01E+00
88-74-4	2-Nitroaniline	nitroaniline, 2-	0.0527	1.6E+02	3.30E-01	2.77E+01	8.32E+01	1.48E+02
75-34-3	1,1-Dichloroethane	dichloroethane;1,1-	0.053	1.6E+03	1.00E-02	2.78E+02	8.35E+02	1.49E+03
67-66-3	Chloroform	chloroform	0.053	1.4E+00	5.00E-03	2.45E-01	7.36E-01	1.31E+00
75-27-4	Bromodichloromethane	bromodichloromethane	0.055	7.1E-01	5.00E-03	1.25E-01	3.76E-01	6.70E-01
71-43-2	Benzene	Benzene	0.062	8.0E-01	5.00E-03	1.51E-01	4.54E-01	8.09E-01
124-48-1	Dibromochloromethane	chlorodibromomethane [dibromochloromethane]	0.063	5.2E-01	5.00E-03	9.96E-02	2.99E-01	5.34E-01
75-35-4	1,1-Dichloroethene	Dichloroethene;1,1-	0.065	7.0E+00	1.00E-02	1.36E+00	4.09E+00	7.29E+00
606-20-2	2,6-Dinitrotoluene	dinitrotoluene;2,6-	0.0692	1.6E+01	3.30E-01	3.23E+00	9.66E+00	1.72E+01
106-47-8	4-Chloroaniline	chloroaniline;p-	0.0725	2.2E-01	3.30E-01	3.30E-01	3.30E-01	3.30E-01
79-00-5	1,1,2-Trichloroethane	trichloroethane;1,1,2-	0.075	7.7E-01	5.00E-03	1.63E-01	4.87E-01	8.68E-01
111-44-4	Bis(2-chloroethyl) ether	bis(2-chloroethyl)ether	0.076	4.0E-02	3.30E-01	3.30E-01	3.30E-01	3.30E-01
79-34-5	1,1,2,2-Tetrachloroethane	tetrachloroethane;1,1,2,2-	0.079	2.2E-01	5.00E-03	4.83E-02	1.44E-01	2.56E-01
93-72-1	2,4,5-TP	(2-(2,4,5-Trichlorophenoxy)propionic acid)Silvex	0.08	50	---	1.11E+01	3.31E+01	5.91E+01
84-66-2	Diethylphthalate	diethyl phthalate	0.082	1.3E+04	3.30E-01	2.90E+03	8.59E+03	1.53E+04
79-01-6	Trichloroethene	trichloroethylene (TCE)	0.094	4.9E-01	5.00E-03	1.23E-01	3.59E-01	6.41E-01
121-14-2	2,4-Dinitrotoluene	dinitrotoluene;2,4-	0.0955	2.8E-01	3.30E-01	3.30E-01	3.30E-01	3.72E-01
94-82-6	2,4-DB	(4-(2,4-Dichlorophenoxy)butanoic acid)	0.1	128	---	3.38E+01	9.79E+01	1.75E+02
98-95-3	Nitrobenzene	Nitrobenzene	0.119	1.6E+01	3.30E-01	4.68E+00	1.33E+01	2.37E+01
75-25-2	Bromoform	bromoform	0.13	5.5E+00	5.00E-03	1.73E+00	4.85E+00	8.65E+00
71-55-6	1,1,1-Trichloroethane	Trichloroethane;1,1,1-	0.14	2.0E+02	5.00E-03	6.65E+01	1.84E+02	3.28E+02
108-88-3	Toluene	Toluene	0.14	6.4E+02	5.00E-03	2.13E+02	5.89E+02	1.05E+03
120-83-2	2,4-Dichlorophenol	dichlorophenol;2,4-	0.147	2.4E+01	3.30E-01	8.36E+00	2.29E+01	4.09E+01
56-23-5	Carbon tetrachloride	carbon tetrachloride	0.152	3.4E-01	5.00E-03	1.21E-01	3.30E-01	5.89E-01
100-41-4	Ethylbenzene	ethylbenzene	0.2	4.0E+00	5.00E-03	2.17E+00	5.28E+00	9.41E+00
108-38-3	m-Xylene	Xylene, m-	0.2	1.6E+03	---	8.74E+02	2.12E+03	3.79E+03
105-67-9	2,4-Dimethylphenol	dimethylphenol;2,4-	0.209	1.6E+02	3.30E-01	9.11E+01	2.19E+02	3.91E+02
108-90-7	Chlorobenzene	chlorobenzene	0.22	1.0E+02	5.00E-03	6.00E+01	1.42E+02	2.54E+02
1330-20-7	Xylenes (total)	Xylenes (total)	0.23	1.6E+03	1.00E-02	1.01E+03	2.37E+03	4.22E+03
95-47-6	o-Xylene	xylene,o-	0.24	1.6E+03	---	1.07E+03	2.46E+03	4.39E+03
127-18-4	Tetrachloroethene	tetrachloroethylene	0.27	8.1E-02	5.00E-03	6.47E-02	1.41E-01	2.52E-01
88-75-5	2-Nitrophenol	nitrophenol;2-	0.297	No Value	6.60E-01	NA	NA	NA
100-02-7	4-Nitrophenol	nitrophenol;4-	0.309	1.3E+02	6.60E-01	1.32E+02	2.65E+02	4.73E+02
95-50-1	1,2-Dichlorobenzene	dichlorobenzene;1,2- (ortho-Dichlorobenzene)	0.379	6.0E+02	3.30E-01	8.76E+02	1.58E+03	2.83E+03
88-06-2	2,4,6-Trichlorophenol	Trichlorophenol2,4,6-	0.381	4.0E+00	3.30E-01	5.88E+00	1.06E+01	1.89E+01
95-57-8	2-Chlorophenol	Chlorophenol;2-	0.388	4.0E+01	3.30E-01	6.17E+01	1.09E+02	1.95E+02

Table B-1. Preliminary Remediation Goals for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
541-73-1	1,3-Dichlorobenzene	dichlorobenzene; 1,3	0.434	No Value	3.30E-01	NA	NA	NA
95-48-7	2-Methylphenol (cresol, o-)	cresol;o-	0.434	4.0E+02	3.30E-01	7.60E+02	1.27E+03	2.26E+03
106-44-5	4-Methylphenol (cresol, p-)	cresol;p-	0.434	4.0E+01	---	7.60E+01	1.27E+02	2.26E+02
59-50-7	4-Chloro-3-methylphenol	chloro-3-methylphenol;4-	0.4918	1.6E+03	3.30E-01	4.00E+03	6.11E+03	1.09E+04
87-86-5	Pentachlorophenol	pentachlorophenol	0.592	7.3E-01	3.30E-01	2.74E+00	3.70E+00	6.60E+00
534-52-1	4,6-Dinitro-2-methylphenol	dinitro-2-methylphenol;4,6-	0.6015	1.3E+00	3.30E-01	5.02E+00	6.69E+00	1.19E+01
106-46-7	1,4-Dichlorobenzene	dichlorobenzene; 1,4- (para-Dichlorobenzene)	0.616	8.1E+00	5.00E-03	3.32E+01	4.38E+01	7.80E+01
91-94-1	3,3'-Dichlorobenzidine	dichlorobenzidine;3,3'-	0.724	1.9E-01	3.30E-01	1.17E+00	1.38E+00	2.45E+00
18540-29-9	Hexavalent Chromium	chromium(VI)	0.8	4.8E+01	---	6 [d]	6 [d]	6 [d]
100-42-5	Styrene	styrene	0.91	1.0E+02	5.00E-03	1.03E+03	1.08E+03	1.92E+03
91-20-3	Naphthalene	naphthalene	1.19	1.6E+02	1.00E-01	NR	NR	NR
86-30-6	n-Nitrosodiphenylamine	nitrosodiphenylamine;N-	1.29	1.8E+01	3.30E-01	NR	NR	NR
58-89-9	Gamma-BHC (Lindane)	lindane [gamma-BHC] (see hexachlorocyclohexane)	1.35	8.0E-02	1.65E-03	NR	NR	NR
84-74-2	Di-n-butylphthalate	di-butyl phthalate	1.57	1.6E+03	3.30E-01	NR	NR	NR
95-95-4	2,4,5-Trichlorophenol	Trichlorophenol;2,4,5-	1.6	8.0E+02	3.30E-01	NR	NR	NR
120-82-1	1,2,4-Trichlorobenzene	trichlorobenzene; 1,2,4-	1.66	1.5E+00	3.30E-01	NR	NR	NR
319-84-6	Alpha-BHC	hexachlorocyclohexane;alpha (alpha-BHC, HCH)	1.76	1.4E-02	1.65E-03	NR	NR	NR
67-72-1	Hexachloroethane	hexachloroethane	1.78	3.1E+00	3.30E-01	NR	NR	NR
126-73-8	Tributyl phosphate	Tributyl phosphate	1.89	9.51	---	NR	NR	NR
7440-61-1	Uranium	Uranium	2	3.0E+01	---	NR	NR	NR
959-98-8	Endosulfan I	Endosulfan I	2.04	9.6E+01	1.65E-03	NR	NR	NR
33213-65-9	Endosulfan II	Endosulfan II	2.04	9.6E+01	3.30E-03	NR	NR	NR
1031-07-8	Endosulfan sulfate	Endosulfan sulfate	2.04	No Value	3.30E-03	NA	NA	NA
319-85-7	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	hexachlorocyclohexane;beta-	2.14	4.9E-02	1.65E-03	NR	NR	NR
319-86-8	Delta-BHC	hexachlorocyclohexane;delta-	2.81	No Value	1.65E-03	NA	NA	NA
91-58-7	2-Chloronaphthalene	beta-chloronaphthalene	2.98	6.4E+02	3.30E-01	NR	NR	NR
91-57-6	2-Methylnaphthalene	methylnapthalene;2-	2.98	3.2E+01	3.30E-01	NR	NR	NR
7440-42-8	Boron	Boron	3	3.2E+03	2.00E+00	NR	NR	NR
7005-72-3	4-Chlorophenylphenyl ether	chlorodiphenyl ether;4-	3.08	No Value	3.30E-01	NA	NA	NA
86-74-8	Carbazole	carbazole	3.39	4.4E+00	3.30E-01	NR	NR	NR
7723-14-0	Phosphorus	phosphorus	3.5	1.6E-01	5.00E+01	NR	NR	NR
88-85-7	Dinoseb	2-secButyl-4,6-dinitrophenol	3.5	7	---	NR	NR	NR
7440-36-0	Antimony	antimony	3.76	6.0E+00	6.00E-01	NR	NR	NR
7782-49-2	Selenium	selenium and compounds	5	5.0E+01	1.00E+00	NR	NR	NR

Table B-1. Preliminary Remediation Goals for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
208-96-8	Acenaphthylene	acenaphthylene (Not in CLARC database tables; use acenaphthene as surrogate)	5.03	No Value	1.00E-01	NA	NA	NA
83-32-9	Acenaphthene	acenaphthene	6.12	9.6E+02	1.00E-01	NR	NR	NR
86-73-7	Fluorene	fluorene	7.71	6.4E+02	3.00E-02	NR	NR	NR
76-44-8	Heptachlor	heptachlor	9.53	1.9E-02	1.65E-03	NR	NR	NR
53494-70-5	Endrin ketone	Endrin ketone	9.72	No Value	3.30E-03	NA	NA	NA
57-12-5	Cyanide	cyanide	9.9	2.0E+02	---	NR	NR	NR
11104-28-2	Aroclor-1221	aroclor 1221 [PCB]	10.3	4.4E-02	1.65E-02	NR	NR	NR
11141-16-5	Aroclor-1232	aroclor 1232 [PCB]	10.3	4.4E-02	1.65E-02	NR	NR	NR
72-20-8	Endrin	endrin	10.8	2.0E+00	3.30E-03	NR	NR	NR
7421-93-4	Endrin aldehyde	Endrin aldehyde	10.8	No Value	3.30E-03	NA	NA	NA
132-64-9	Dibenzofuran	dibenzofuran	11.3	1.6E+01	3.30E-01	NR	NR	NR
85-68-7	Butylbenzylphthalate	butyl benzyl phthalate	13.8	4.6E+01	3.30E-01	NR	NR	NR
85-01-8	Phenanthrene	Phenanthrene	16.7	No Value	5.00E-02	NA	NA	NA
7439-98-7	Molybdenum	molybdenum	20	8.0E+01	2.00E+00	NR	NR	NR
7440-50-8	Copper	copper	22	6.4E+02	1.00E+00	NR	NR	NR
120-12-7	Anthracene	anthracene	23.5	4.8E+03	5.00E-02	NR	NR	NR
7440-39-3	Barium	Barium	25	2.0E+03	5.00E-01	NR	NR	NR
7439-89-6	Iron	Iron	25	3.0E+02	5.00E+00	NR	NR	NR
7440-24-6	Strontium	strontium	25	9.6E+03	1.00E+00	NR	NR	NR
60-57-1	Dieldrin	dieldrin	25.6	5.5E-03	3.30E-03	NR	NR	NR
7440-38-2	Arsenic	arsenic, inorganic	29	5.8E-02	1.00E+00	NR	NR	NR
7440-43-9	Cadmium	cadmium	30	5.0E+00	2.00E-01	NR	NR	NR
7439-92-1	Lead	lead	30	1.5E+01	5.00E-01	NR	NR	NR
7439-97-6	Mercury	mercury	30	2.0E+00	---	NR	NR	NR
7440-66-6	Zinc	zinc	30	4.8E+03	1.00E+00	NR	NR	NR
12672-29-6	Aroclor-1248	aroclor 1248 [PCB]	43.9	4.4E-02	1.65E-02	NR	NR	NR
53469-21-9	Aroclor-1242	aroclor 1242 [PCB]	44.8	4.4E-02	1.65E-02	NR	NR	NR
72-54-8	4,4'-DDD (Dichlorodiphenyl dichloroethane)	ddd	45.8	3.6E-01	3.30E-03	NR	NR	NR
309-00-2	Aldrin	aldrin	48.7	2.6E-03	1.65E-03	NR	NR	NR
206-44-0	Fluoranthene	fluoranthene	49.1	6.4E+02	5.00E-02	NR	NR	NR
7440-48-4	Cobalt	Cobalt	50	4.8E+00	2.00E+00	NR	NR	NR
7439-93-2	Lithium	Lithium	50	3.2E+01	2.50E+00	NR	NR	NR
7439-96-5	Manganese	manganese	50	5.0E+01	5.00E+00	NR	NR	NR
5103-71-9	Alpha-Chlordane	Alpha-Chlordane	51	2.5E-01	1.65E-02	NR	NR	NR
57-74-9	Chlordane	chlordane	51	2.5E-01	1.65E-02	NR	NR	NR
87-68-3	Hexachlorobutadiene	hexachlorobutadiene	53.7	5.6E-01	3.30E-01	NR	NR	NR
7440-02-0	Nickel	nickel soluble salts	65	1.0E+02	4.00E+00	NR	NR	NR
129-00-0	Pyrene	pyrene	68	4.8E+02	5.00E-02	NR	NR	NR
7440-28-0	Thallium	Thallium, soluable salts	71	5.0E-01	5.00E-01	NR	NR	NR
11097-69-1	Aroclor-1254	aroclor 1254 (PCB)	75.6	4.4E-02	1.65E-02	NR	NR	NR
118-74-1	Hexachlorobenzene	hexachlorobenzene	80	5.5E-02	3.30E-01	NR	NR	NR
72-43-5	Methoxychlor	methoxychlor	80	4.0E+01	1.65E-02	NR	NR	NR
1024-57-3	Heptachlor epoxide	Heptachlor epoxide	83.2	4.8E-03	1.65E-03	NR	NR	NR
72-55-9	4,4'-DDE (Dichlorodiphenyl dichloroethylene)	dde	86.4	2.6E-01	3.30E-03	NR	NR	NR

Table B-1. Preliminary Remediation Goals for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
7440-22-4	Silver	silver	90	8.0E+01	2.00E-01	NR	NR	NR
8001-35-2	Toxaphene	toxaphene	95.8	8.0E-02	1.65E-01	NR	NR	NR
12674-11-2	Aroclor-1016	aroclor 1016 (PCB)	107	5.0E-01	1.65E-02	NR	NR	NR
117-81-7	Bis(2-ethylhexyl) phthalate	bis(2-ethylhexyl) phthalate	110	6.0E+00	3.30E-01	NR	NR	NR
7440-31-5	Tin	tin	130	9.6E+03	1.00E+01	NR	NR	NR
16984-48-8	Fluoride	fluoride (using fluorine)	150	9.6E+02	5.00E+00	NR	NR	NR
7440-47-3	Chromium	chromium (total)	200	1.0E+02	2.00E-01	NR	NR	NR
218-01-9	Chrysene	Chrysene	200	1.2E+00	1.00E-01	NR	NR	NR
77-47-4	Hexachlorocyclo pentadiene	hexachlorocyclop entadiene	200	4.8E+01	3.30E-01	NR	NR	NR
56-55-3	Benzo(a)anthrac ene	Benzo(a)anthrac ene	360	1.2E-01	1.50E-02	NR	NR	NR
50-29-3	4,4'-DDT (Dichlorodiphenyl trichloroethane)	ddt	678	2.6E-01	3.30E-03	NR	NR	NR
7440-41-7	Beryllium	beryllium	790	4.0E+00	2.00E-01	NR	NR	NR
205-99-2	Benzo(b)fluorant hene	Benzo(b)fluorant hene	803	1.2E-01	1.50E-02	NR	NR	NR
11096-82-5	Aroclor-1260	aroclor 1260 (PCB)	822	4.4E-02	1.65E-02	NR	NR	NR
7440-62-2	Vanadium	vanadium	1000	8.0E+01	2.50E+00	NR	NR	NR
207-08-9	Benzo(k)fluorant hene	Benzo(k)fluorant hene	1230	1.2E-01	1.50E-02	NR	NR	NR
7429-90-5	Aluminum	Aluminum (soluble)	1500	5.0E+01	5.00E+00	NR	NR	NR
53-70-3	Dibenz[a,h]anthr acene	Dibenz[a,h]anthr acene	1790	1.2E-01	3.00E-02	NR	NR	NR
191-24-2	Benzo(ghi)peryle ne	BENZO(g,h,i)PE RYLENE (using pyrene as a surrogate)	1950	No Value	3.00E-02	NA	NA	NA
193-39-5	Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	3470	1.2E-01	3.00E-02	NR	NR	NR
50-32-8	Benzo(a)pyrene	Benzo(a)pyrene	5500	1.2E-02	1.50E-02	NR	NR	NR
117-84-0	Di-n-octylphthalate	di-n-octyl phthalate	83000	No Value	3.30E-01	NA	NA	NA
65794-96-9	3+4 Methylphenol (cresol, m+p)	methylphenol,3+4 (cresol, m+p)	No Value	No Value	3.30E-01	NA	NA	NA
101-55-3	4-Bromophenylphe nyl ether	bromodiphenyl ether;4-	No Value	No Value	3.30E-01	NA	NA	NA
7440-69-9	Bismuth	Bismuth	No Value	No Value	1.00E+01	NA	NA	NA
24959-67-9	Bromide	Bromide	No Value	No Value	2.50E+00	NA	NA	NA
7440-70-2	Calcium	Calcium	No Value	No Value	1.00E+02	NA	NA	NA
PCB1242/1016	Co-elution of Aroclor 1242 and Aroclor 1016	Co-elution of Aroclor 1242 and Aroclor 1017	No Value	No Value	---	NA	NA	NA
7439-95-4	Magnesium	Magnesium (Not in CLARC database Tables)	No Value	No Value	7.50E+01	NA	NA	NA
14265-44-2	Phosphate	Phosphate	No Value	No Value	5.00E+00	NA	NA	NA
PO4-P	Phosphorus in phosphate	Phosphorus in phosphate	No Value	No Value	---	NA	NA	NA
7440-09-7	Potassium	Potassium	No Value	No Value	4.00E+02	NA	NA	NA
7440-21-3	Silicon	Silicon	No Value	No Value	2.00E+00	NA	NA	NA
7440-23-5	Sodium	Sodium	No Value	No Value	5.00E+01	NA	NA	NA
TPHDIESEL	Total petroleum hydrocarbons - diesel range	Total petroleum hydrocarbons - diesel range	No Value	5.0E+02	---	NA	NA	NA
TPH/OILH	Total petroleum hydrocarbons - motor oil (high boiling)	Total petroleum hydrocarbons - motor oil (high boiling)	No Value	5.0E+02	---	NA	NA	NA

Table B-1. Preliminary Remediation Goals for Non-Radionuclides Protective of Groundwater

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Ground Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Groundwater (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6

a. The preliminary remediation goal defaults to the estimated quantitation limit for any analyte where the calculated value is less than the estimated quantitation limit.

b. The "NA" sign is applied when there is no available applicable water quality standard is to calculate the preliminary remediation goal.

c. The "NR" sign designates a non-representative result for analytes were breakthrough was not simulated to occur in more than one representative stratigraphic column within 1000 years, where breakthrough is defined as concentrations exceeding 1.0E-04 µg/L (limit of numerical significance).

d. The Cr(VI) preliminary remediation goal is limited to a maximum value of 6.0 mg/kg because the Kd value used in the model was derived from experiments with soil concentrations less than that value.

Table B-2. Preliminary Remediation Goals for Non-Radionuclides Protective of Surface Water

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Surface Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Surface Water (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
16887-00-6	Chloride	chloride	0	2.3E+05	2.00E+00	2.24E+04	5.95E+04	1.06E+05
14797-55-8	Nitrate	Nitrate	0	4.5E+04	2.50E+00	4.37E+03	1.16E+04	2.08E+04
14797-65-0	Nitrite	Nitrite	0	No Value	2.50E+00	NA	NA	NA
NO3-N	Nitrogen in Nitrate	Nitrogen in Nitrate	0	1.0E+04	7.50E-01	9.72E+02	2.59E+03	4.62E+03
NO2-N	Nitrogen in Nitrite	Nitrogen in Nitrite	0	No Value	7.50E-01	NA	NA	NA
NO2+NO3-N	Nitrogen in Nitrite and Nitrate	Nitrogen in Nitrite and Nitrate	0	1.0E+04	---	9.72E+02	2.59E+03	4.62E+03
14808-79-8	Sulfate	sulfate	0	No Value	5.00E+00	NA	NA	NA
51-28-5	2,4-Dinitrophenol	dinitrophenol;2,4-	0.00001	6.9E+01	8.25E-01	6.71E+00	1.79E+01	3.19E+01
67-64-1	Acetone	Acetone	0.0006	7.4E+05	2.00E-02	7.23E+04	1.93E+05	3.45E+05
107-21-1	Ethylene Glychol	Ethylene Glychol	0.001	1,640,000	---	1.62E+05	NR	NR
111-76-2	2-Butoxyethanol	Ethylene Glychol Mono Butyl Ether	0.001	82044	---	8.08E+03	2.16E+04	3.86E+04
75-99-0	Dalapon	Dalapon	0.0027	10773	---	1.08E+03	2.92E+03	5.21E+03
111-91-1	Bis(2-Chloroethoxy)methane	bis(2-chloroethoxyl)methane	0.00277	2.3E+03	3.30E-01	2.36E+02	6.37E+02	1.14E+03
78-93-3	2-Butanone	methyl ethyl ketone (MEK; 2-butanone)	0.00451	4.9E+05	1.00E-02	5.06E+04	1.38E+05	2.46E+05
74-87-3	Chloromethane	chloromethane	0.006	No Value	1.00E-02	NA	NA	NA
74-83-9	Bromomethane	bromomethane	0.009	4.7E+01	1.00E-02	5.12E+00	1.43E+01	2.55E+01
60-29-7	Diethylether	Diethylether	0.009699	96000	---	1.06E+04	2.95E+04	5.27E+04
75-09-2	Methylene chloride	methylene chloride	0.01	4.6E+00	5.00E-03	5.08E-01	1.42E+00	2.54E+00
108-10-1	4-Methyl-2-pentanone	methyl isobutyl ketone	0.0126	6.1E+04	1.00E-02	6.94E+03	1.96E+04	3.49E+04
591-78-6	2-Hexanone	HEXANONE;2-[MBK, methyl butyl ketone]	0.01498	3.4E+03	2.00E-02	4.01E+02	1.14E+03	2.04E+03
75-01-4	Vinyl chloride	vinyl chloride [chloroethene; 1-]	0.019	2.5E-02	5.00E-03	5.00E-03	8.86E-03	1.58E-02
75-00-3	Chloroethane	ethyl chloride	0.0217	No Value	1.00E-02	NA	NA	NA
621-64-7	n-Nitrosodi-n-dipropylamine	nitroso-di-n-propylamine;N-	0.024	5.0E-03	3.30E-01	3.30E-01	3.30E-01	3.30E-01
10061-01-5	cis-1,3-Dichloropropene	dichloropropene; 1,2-,cis	0.027	3.4E-01	5.00E-03	4.53E-02	1.33E-01	2.36E-01
10061-02-6	trans-1,3-Dichloropropene	dichloropropene; 1,3-,trans	0.027	3.4E-01	5.00E-03	4.53E-02	1.33E-01	2.36E-01
108-95-2	Phenol	Phenol	0.0288	1.0E+04	3.30E-01	1.36E+03	3.99E+03	7.11E+03
94-75-7	2,4-D	2,4-Dichlorophenoxy acetic acid	0.029	100	---	1.36E+01	4.00E+01	7.12E+01
1918-00-9	Dicamba	Dicamba	0.029	24613	---	3.35E+03	9.83E+03	1.75E+04
131-11-3	Dimethyl phthalate	dimethyl phthalate	0.0316	2.7E+05	3.30E-01	3.77E+04	1.11E+05	1.99E+05
156-59-2	cis-1,2-Dichloroethylene	dichloroethylene; 1,2-,cis	0.036	2.3E+03	5.00E-03	3.43E+02	1.02E+03	1.82E+03
107-06-2	1,2-Dichloroethane	dichloroethane;1,2-	0.038	3.8E-01	5.00E-03	5.71E-02	1.70E-01	3.04E-01
156-60-5	trans-1,2-Dichloroethylene	dichloroethylene; 1,2-,trans	0.038	1.4E+02	5.00E-03	2.10E+01	6.28E+01	1.12E+02
1918-02-1	4-Amino-3,5,6-trichloropicolinic acid	4-Amino-3,5,6-trichloropicolinic acid	0.039	57431	---	8.72E+03	2.61E+04	4.66E+04
108-60-1	Bis(2-chloro-1-methylethyl)ether	bis(2-chloro-1-methyl-ethyl)ether	0.0392	3.7E+01	3.30E-01	5.71E+00	1.71E+01	3.05E+01
540-59-0	1,2-Dichloroethene (Total)	dichloroethylene, 1,2- (mixed isomers)	0.0396	2.1E+03	5.00E-03	3.22E+02	9.64E+02	1.72E+03
75-69-4	Trichloromonofluoromethane	Trichloromonofluoromethane	0.04389	35800	---	5.70E+03	1.71E+04	3.05E+04
75-15-0	Carbon disulfide	carbon disulfide	0.046	1.3E+04	5.00E-03	2.16E+03	6.48E+03	1.16E+04
78-59-1	Isophorone	isophorone	0.0468	8.4E+00	3.30E-01	1.37E+00	4.12E+00	7.35E+00
78-87-5	1,2-Dichloropropane	dichloropropane; 1,2-	0.047	5.0E-01	5.00E-03	8.19E-02	2.46E-01	4.39E-01

Table B-2. Preliminary Remediation Goals for Non-Radionuclides Protective of Surface Water

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Surface Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Surface Water (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6
93-65-2	2-(2-methyl-4-chlorophenoxy) propionic acid	2-(2-methyl-4-chlorophenoxy) propionic acid	0.04851	8.2E+02	---	1.34E+02	4.03E+02	7.19E+02
93-76-5	2,4,5-T	2,4,5-Trichlorophenoxy acetic acid	0.049	No Value	---	NA	NA	NA
99-09-2	3-Nitroaniline	nitroaniline, 3-	0.0516	1.0E+02	3.30E-01	1.76E+01	5.29E+01	9.44E+01
100-01-6	4-Nitroaniline	nitroaniline, 4-	0.0516	8.1E+01	3.30E-01	1.39E+01	4.17E+01	7.43E+01
88-74-4	2-Nitroaniline	nitroaniline, 2-	0.0527	2.6E+03	3.30E-01	4.49E+02	1.35E+03	2.40E+03
75-34-3	1,1-Dichloroethane	dichloroethane;1,1-	0.053	7.4E+04	1.00E-02	1.28E+04	3.84E+04	6.84E+04
67-66-3	Chloroform	chloroform	0.053	5.7E+00	5.00E-03	9.89E-01	2.97E+00	5.30E+00
75-27-4	Bromodichloromethane	bromodichloromethane	0.055	2.7E-01	5.00E-03	4.78E-02	1.44E-01	2.56E-01
71-43-2	Benzene	Benzene	0.062	1.2E+00	5.00E-03	2.27E-01	6.84E-01	1.22E+00
124-48-1	Dibromochloromethane	chlorodibromomethane [dibromochloromethane]	0.063	4.0E-01	5.00E-03	7.65E-02	2.30E-01	4.10E-01
75-35-4	1,1-Dichloroethene	Dichloroethene;1,1-	0.065	5.7E-02	1.00E-02	1.11E-02	3.33E-02	5.93E-02
606-20-2	2,6-Dinitrotoluene	dinitrotoluene;2,6-	0.0692	1.2E+02	3.30E-01	2.38E+01	7.12E+01	1.27E+02
106-47-8	4-Chloroaniline	chloroaniline;p-	0.0725	4.6E+00	3.30E-01	9.64E-01	2.88E+00	5.14E+00
79-00-5	1,1,2-Trichloroethane	trichloroethane;1,1,2-	0.075	5.9E-01	5.00E-03	1.25E-01	3.74E-01	6.67E-01
111-44-4	Bis(2-chloroethyl) ether	bis(2-chloroethyl)ether	0.076	3.0E-02	3.30E-01	3.30E-01	3.30E-01	3.30E-01
79-34-5	1,1,2,2-Tetrachloroethane	tetrachloroethane;1,1,2,2-	0.079	1.7E-01	5.00E-03	3.75E-02	1.12E-01	1.99E-01
93-72-1	2,4,5-TP	(2-(2,4,5-Trichlorophenoxy)propionic acid)Silvex	0.08	10	---	2.23E+00	6.62E+00	1.18E+01
84-66-2	Diethylphthalate	diethyl phthalate	0.082	1.7E+04	3.30E-01	3.85E+03	1.14E+04	2.04E+04
79-01-6	Trichloroethene	trichloroethylene (TCE)	0.094	2.5E+00	5.00E-03	6.25E-01	1.83E+00	3.26E+00
121-14-2	2,4-Dinitrotoluene	dinitrotoluene;2,4-	0.0955	1.1E-01	3.30E-01	3.30E-01	3.30E-01	3.30E-01
94-82-6	2,4-DB	(4-(2,4-Dichlorophenoxy)butanoic acid)	0.1	6564	---	1.73E+03	5.02E+03	8.95E+03
98-95-3	Nitrobenzene	Nitrobenzene	0.119	1.7E+01	3.30E-01	4.97E+00	1.41E+01	2.52E+01
75-25-2	Bromoform	bromoform	0.13	4.3E+00	5.00E-03	1.34E+00	3.77E+00	6.72E+00
71-55-6	1,1,1-Trichloroethane	Trichloroethane;1,1,1-	0.14	9.3E+05	5.00E-03	3.08E+05	NR	NR
108-88-3	Toluene	Toluene	0.14	1.3E+03	5.00E-03	4.32E+02	1.20E+03	2.13E+03
120-83-2	2,4-Dichlorophenol	dichlorophenol;2,4-	0.147	7.7E+01	3.30E-01	2.68E+01	7.35E+01	1.31E+02
56-23-5	Carbon tetrachloride	carbon tetrachloride	0.152	2.3E-01	5.00E-03	8.30E-02	2.26E-01	4.02E-01
100-41-4	Ethylbenzene	ethylbenzene	0.2	1.6E+01	5.00E-03	8.58E+00	2.08E+01	3.72E+01
108-38-3	m-Xylene	Xylene, m-	0.2	No Value	---	NA	NA	NA
105-67-9	2,4-Dimethylphenol	dimethylphenol;2,4-	0.209	3.8E+02	3.30E-01	2.16E+02	5.20E+02	9.28E+02
108-90-7	Chlorobenzene	chlorobenzene	0.22	1.3E+02	5.00E-03	7.80E+01	1.85E+02	3.30E+02
1330-20-7	Xylenes (total)	Xylenes (total)	0.23	No Value	1.00E-02	NA	NA	NA
95-47-6	o-Xylene	xylene,o-	0.24	No Value	---	NA	NA	NA
127-18-4	Tetrachloroethene	tetrachloroethylene	0.27	3.9E-01	5.00E-03	3.09E-01	6.76E-01	1.20E+00
88-75-5	2-Nitrophenol	nitrophenol;2-	0.297	No Value	6.60E-01	NA	NA	NA
100-02-7	4-Nitrophenol	nitrophenol;4-	0.309	4.0E+03	6.60E-01	4.17E+03	8.37E+03	1.49E+04
95-50-1	1,2-Dichlorobenzene	dichlorobenzene;1,2- (ortho-Dichlorobenzene)	0.379	4.2E+02	3.30E-01	6.13E+02	1.11E+03	1.98E+03
88-06-2	2,4,6-Trichlorophenol	Trichlorophenol2,4,6-	0.381	1.4E+00	3.30E-01	2.07E+00	3.73E+00	6.64E+00
95-57-8	2-Chlorophenol	Chlorophenol;2-	0.388	8.1E+01	3.30E-01	1.25E+02	2.22E+02	3.95E+02

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						100-F	IU-2	IU-6
541-73-1	1,3-Dichlorobenzene	dichlorobenzene; 1,3	0.434	3.2E+02	3.30E-01	6.08E+02	1.01E+03	1.81E+03
95-48-7	2-Methylphenol (cresol, o-)	cresol;o-	0.434	1.2E+04	3.30E-01	2.30E+04	3.84E+04	6.84E+04
106-44-5	4-Methylphenol (cresol, p-)	cresol;p-	0.434	1.5E+03	---	2.78E+03	4.64E+03	8.27E+03
59-50-7	4-Chloro-3-methylphenol	chloro-3-methylphenol;4-	0.4918	3.1E+04	3.30E-01	7.62E+04	1.16E+05	2.08E+05
87-86-5	Pentachlorophenol	pentachlorophenol	0.592	2.7E-01	3.30E-01	1.01E+00	1.37E+00	2.44E+00
534-52-1	4,6-Dinitro-2-methylphenol	dinitro-2-methylphenol;4,6-	0.6015	1.3E+01	3.30E-01	5.10E+01	6.79E+01	1.21E+02
106-46-7	1,4-Dichlorobenzene	dichlorobenzene; 1,4- (para-Dichlorobenzene)	0.616	2.2E+01	5.00E-03	8.86E+01	1.17E+02	2.08E+02
91-94-1	3,3'-Dichlorobenzidine	dichlorobenzidine;3,3'-	0.724	2.1E-02	3.30E-01	3.30E-01	3.30E-01	3.30E-01
18540-29-9	Hexavalent Chromium	chromium(VI)	0.8	1.0E+01	---	6 [d]	6 [d]	6 [d]
100-42-5	Styrene	styrene	0.91	3.8E+04	5.00E-03	NR	NR	NR
91-20-3	Naphthalene	naphthalene	1.19	4.9E+03	1.00E-01	NR	NR	NR
86-30-6	n-Nitrosodiphenylamine	nitrosodiphenylamine;N-	1.29	3.3E+00	3.30E-01	NR	NR	NR
58-89-9	Gamma-BHC (Lindane)	lindane [gamma-BHC] (see hexachlorocyclohexane)	1.35	1.9E-02	1.65E-03	NR	NR	NR
84-74-2	Di-n-butylphthalate	di-butyl phthalate	1.57	2.0E+03	3.30E-01	NR	NR	NR
95-95-4	2,4,5-Trichlorophenol	Trichlorophenol;2,4,5-	1.6	4.9E+02	3.30E-01	NR	NR	NR
120-82-1	1,2,4-Trichlorobenzene	trichlorobenzene; 1,2,4-	1.66	2.0E+00	3.30E-01	NR	NR	NR
319-84-6	Alpha-BHC	hexachlorocyclohexane;alpha (alpha-BHC, HCH)	1.76	2.6E-03	1.65E-03	NR	NR	NR
67-72-1	Hexachloroethane	hexachloroethane	1.78	1.4E+00	3.30E-01	NR	NR	NR
126-73-8	Tributyl phosphate	Tributyl phosphate	1.89	24.3	---	NR	NR	NR
7440-61-1	Uranium	Uranium	2	7.8E+02	---	NR	NR	NR
959-98-8	Endosulfan I	Endosulfan I	2.04	5.6E-02	1.65E-03	NR	NR	NR
33213-65-9	Endosulfan II	Endosulfan II	2.04	5.6E-02	3.30E-03	NR	NR	NR
1031-07-8	Endosulfan sulfate	Endosulfan sulfate	2.04	9.3E-01	3.30E-03	NR	NR	NR
319-85-7	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	hexachlorocyclohexane;beta-	2.14	9.1E-03	1.65E-03	NR	NR	NR
319-86-8	Delta-BHC	hexachlorocyclohexane;delta-	2.81	No Value	1.65E-03	NA	NA	NA
91-58-7	2-Chloronaphthalene	beta-chloronaphthalene	2.98	1.0E+03	3.30E-01	NR	NR	NR
91-57-6	2-Methylnaphthalene	methylnapthalene;2-	2.98	1.4E+02	3.30E-01	NR	NR	NR
7440-42-8	Boron	Boron	3	No Value	2.00E+00	NA	NA	NA
7005-72-3	4-Chlorophenylphenyl ether	chlorodiphenyl ether;4-	3.08	No Value	3.30E-01	NA	NA	NA
86-74-8	Carbazole	carbazole	3.39	No Value	3.30E-01	NA	NA	NA
7723-14-0	Phosphorus	phosphorus	3.5	No Value	5.00E+01	NA	NA	NA
88-85-7	Dinoseb	2-secButyl-4,6-dinitrophenol	3.5	No Value	---	NA	NA	NA
7440-36-0	Antimony	antimony	3.76	5.6E+00	6.00E-01	NR	NR	NR
7782-49-2	Selenium	selenium and compounds	5	5.0E+00	1.00E+00	NR	NR	NR

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						100-F	IU-2	IU-6
208-96-8	Acenaphthylene	acenaphthylene (Not in CLARC database tables; use acenaphthene as surrogate)	5.03	No Value	1.00E-01	NA	NA	NA
83-32-9	Acenaphthene	acenaphthene	6.12	6.4E+02	1.00E-01	NR	NR	NR
86-73-7	Fluorene	fluorene	7.71	1.1E+03	3.00E-02	NR	NR	NR
76-44-8	Heptachlor	heptachlor	9.53	7.9E-05	1.65E-03	NR	NR	NR
53494-70-5	Endrin ketone	Endrin ketone	9.72	No Value	3.30E-03	NA	NA	NA
57-12-5	Cyanide	cyanide	9.9	5.2E+00	---	NR	NR	NR
11104-28-2	Aroclor-1221	aroclor 1221 [PCB]	10.3	6.4E-05	1.65E-02	NR	NR	NR
11141-16-5	Aroclor-1232	aroclor 1232 [PCB]	10.3	6.4E-05	1.65E-02	NR	NR	NR
72-20-8	Endrin	endrin	10.8	2.3E-03	3.30E-03	NR	NR	NR
7421-93-4	Endrin aldehyde	Endrin aldehyde	10.8	2.9E-01	3.30E-03	NR	NR	NR
132-64-9	Dibenzofuran	dibenzofuran	11.3	1.7E+00	3.30E-01	NR	NR	NR
85-68-7	Butylbenzylphthalate	butyl benzyl phthalate	13.8	8.2E+00	3.30E-01	NR	NR	NR
85-01-8	Phenanthrene	Phenanthrene	16.7	No Value	5.00E-02	NA	NA	NA
7439-98-7	Molybdenum	molybdenum	20	1.3E+03	2.00E+00	NR	NR	NR
7440-50-8	Copper	copper	22	9.0E+00	1.00E+00	NR	NR	NR
120-12-7	Anthracene	anthracene	23.5	8.3E+03	5.00E-02	NR	NR	NR
7440-39-3	Barium	Barium	25	1.0E+03	5.00E-01	NR	NR	NR
7439-89-6	Iron	Iron	25	3.0E+02	5.00E+00	NR	NR	NR
7440-24-6	Strontium	strontium	25	2.6E+04	1.00E+00	NR	NR	NR
60-57-1	Dieldrin	dieldrin	25.6	5.2E-05	3.30E-03	NR	NR	NR
7440-38-2	Arsenic	arsenic, inorganic	29	1.8E-02	1.00E+00	NR	NR	NR
7440-43-9	Cadmium	cadmium	30	2.5E-01	2.00E-01	NR	NR	NR
7439-92-1	Lead	lead	30	2.1E+00	5.00E-01	NR	NR	NR
7439-97-6	Mercury	mercury	30	1.2E-02	---	NR	NR	NR
7440-66-6	Zinc	zinc	30	9.1E+01	1.00E+00	NR	NR	NR
12672-29-6	Aroclor-1248	aroclor 1248 [PCB]	43.9	6.4E-05	1.65E-02	NR	NR	NR
53469-21-9	Aroclor-1242	aroclor 1242 [PCB]	44.8	6.4E-05	1.65E-02	NR	NR	NR
72-54-8	4,4'-DDD (Dichlorodiphenyl dichloroethane)	ddd	45.8	3.1E-04	3.30E-03	NR	NR	NR
309-00-2	Aldrin	aldrin	48.7	4.9E-05	1.65E-03	NR	NR	NR
206-44-0	Fluoranthene	fluoranthene	49.1	9.0E+01	5.00E-02	NR	NR	NR
7440-48-4	Cobalt	Cobalt	50	2.6E+00	2.00E+00	NR	NR	NR
7439-93-2	Lithium	Lithium	50	No Value	2.50E+00	NA	NA	NA
7439-96-5	Manganese	manganese	50	5.0E+01	5.00E+00	NR	NR	NR
5103-71-9	Alpha-Chlordane	Alpha-Chlordane	51	5.7E-04	1.65E-02	NR	NR	NR
57-74-9	Chlordane	chlordane	51	5.7E-04	1.65E-02	NR	NR	NR
87-68-3	Hexachlorobutadiene	hexachlorobutadiene	53.7	4.4E-01	3.30E-01	NR	NR	NR
7440-02-0	Nickel	nickel soluble salts	65	5.2E+01	4.00E+00	NR	NR	NR
129-00-0	Pyrene	pyrene	68	8.3E+02	5.00E-02	NR	NR	NR
7440-28-0	Thallium	Thallium, soluable salts	71	2.4E-01	5.00E-01	NR	NR	NR
11097-69-1	Aroclor-1254	aroclor 1254 (PCB)	75.6	6.4E-05	1.65E-02	NR	NR	NR
118-74-1	Hexachlorobenzene	hexachlorobenzene	80	2.8E-04	3.30E-01	NR	NR	NR
72-43-5	Methoxychlor	methoxychlor	80	3.0E-02	1.65E-02	NR	NR	NR
1024-57-3	Heptachlor epoxide	Heptachlor epoxide	83.2	3.9E-05	1.65E-03	NR	NR	NR
72-55-9	4,4'-DDE (Dichlorodiphenyl dichloroethylene)	dde	86.4	2.2E-04	3.30E-03	NR	NR	NR

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						100-F	IU-2	IU-6
7440-22-4	Silver	silver	90	2.6E+00	2.00E-01	NR	NR	NR
8001-35-2	Toxaphene	toxaphene	95.8	2.0E-04	1.65E-01	NR	NR	NR
12674-11-2	Aroclor-1016	aroclor 1016 (PCB)	107	6.4E-05	1.65E-02	NR	NR	NR
117-81-7	Bis(2-ethylhexyl) phthalate	bis(2-ethylhexyl) phthalate	110	1.2E+00	3.30E-01	NR	NR	NR
7440-31-5	Tin	tin	130	5.2E+02	1.00E+01	NR	NR	NR
16984-48-8	Fluoride	fluoride (using fluorine)	150	1.6E+04	5.00E+00	NR	NR	NR
7440-47-3	Chromium	chromium (total)	200	6.5E+01	2.00E-01	NR	NR	NR
218-01-9	Chrysene	Chrysene	200	2.8E-03	1.00E-01	NR	NR	NR
77-47-4	Hexachlorocyclo pentadiene	hexachlorocyclop entadiene	200	4.0E+01	3.30E-01	NR	NR	NR
56-55-3	Benzo(a)anthrac ene	Benzo(a)anthrac ene	360	2.8E-03	1.50E-02	NR	NR	NR
50-29-3	4,4'-DDT (Dichlorodiphenyl trichloroethane)	ddt	678	2.2E-04	3.30E-03	NR	NR	NR
7440-41-7	Beryllium	beryllium	790	2.7E+02	2.00E-01	NR	NR	NR
205-99-2	Benzo(b)fluorant hene	Benzo(b)fluorant hene	803	2.8E-03	1.50E-02	NR	NR	NR
11096-82-5	Aroclor-1260	aroclor 1260 (PCB)	822	6.4E-05	1.65E-02	NR	NR	NR
7440-62-2	Vanadium	vanadium	1000	No Value	2.50E+00	NA	NA	NA
207-08-9	Benzo(k)fluorant hene	Benzo(k)fluorant hene	1230	2.8E-03	1.50E-02	NR	NR	NR
7429-90-5	Aluminum	Aluminum (soluble)	1500	8.7E+01	5.00E+00	NR	NR	NR
53-70-3	Dibenz[a,h]anthr acene	Dibenz[a,h]anthr acene	1790	2.8E-03	3.00E-02	NR	NR	NR
191-24-2	Benzo(ghi)peryle ne	BENZO(g,h,i)PE RYLENE (using pyrene as a surrogate)	1950	No Value	3.00E-02	NA	NA	NA
193-39-5	Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	3470	2.8E-03	3.00E-02	NR	NR	NR
50-32-8	Benzo(a)pyrene	Benzo(a)pyrene	5500	2.8E-03	1.50E-02	NR	NR	NR
117-84-0	Di-n-octylphthalate	di-n-octyl phthalate	83000	No Value	3.30E-01	NA	NA	NA
65794-96-9	3+4 Methylphenol (cresol, m+p)	methylphenol,3+4 (cresol, m+p)	No Value	No Value	3.30E-01	NA	NA	NA
101-55-3	4-Bromophenylphe nyl ether	bromodiphenyl ether;4-	No Value	No Value	3.30E-01	NA	NA	NA
7440-69-9	Bismuth	Bismuth	No Value	No Value	1.00E+01	NA	NA	NA
24959-67-9	Bromide	Bromide	No Value	No Value	2.50E+00	NA	NA	NA
7440-70-2	Calcium	Calcium	No Value	No Value	1.00E+02	NA	NA	NA
PCB1242/1016	Co-elution of Aroclor 1242 and Aroclor 1016	Co-elution of Aroclor 1242 and Aroclor 1017	No Value	No Value	---	NA	NA	NA
7439-95-4	Magnesium	Magnesium (Not in CLARC database Tables)	No Value	No Value	7.50E+01	NA	NA	NA
14265-44-2	Phosphate	Phosphate	No Value	No Value	5.00E+00	NA	NA	NA
PO4-P	Phosphorus in phosphate	Phosphorus in phosphate	No Value	No Value	---	NA	NA	NA
7440-09-7	Potassium	Potassium	No Value	No Value	4.00E+02	NA	NA	NA
7440-21-3	Silicon	Silicon	No Value	No Value	2.00E+00	NA	NA	NA
7440-23-5	Sodium	Sodium	No Value	No Value	5.00E+01	NA	NA	NA
TPHDIESEL	Total petroleum hydrocarbons - diesel range	Total petroleum hydrocarbons - diesel range	No Value	No Value	---	NA	NA	NA
TPH/OILH	Total petroleum hydrocarbons - motor oil (high boiling)	Total petroleum hydrocarbons - motor oil (high boiling)	No Value	No Value	---	NA	NA	NA

Table B-2. Preliminary Remediation Goals for Non-Radionuclides Protective of Surface Water

CAS No.	Analyte	Alternate Name Referenced In EPA Regional Screening Table	100 Areas K_d Value used to Calculate Groundwater Protection (mL/g)	Surface Water Standard (µg/L)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Surface Water (mg/kg) [a,b,c]		
						100-F	IU-2	IU-6

a. The preliminary remediation goal defaults to the estimated quantitation limit for any analyte where the calculated value is less than the estimated quantitation limit.

b. The "NA" sign is applied when there is no available applicable water quality standard is to calculate the preliminary remediation goal.

c. The "NR" sign designates a non-representative result for analytes were breakthrough was not simulated to occur in more than one representative stratigraphic column within 1000 years, where breakthrough is defined as concentrations exceeding 1.0E-04 µg/L (limit of numerical significance).

d. The Cr(VI) soil screening level is limited to a maximum value of 6.0 mg/kg because the Kd value used in the model was derived from experiments with soil concentrations less than that value.

Table B-3. Preliminary Remediation Goals for Radionuclides Protective of Groundwater

Radionuclide	100 Areas Kd Value used to Calculate Groundwater Protection (mL/g)	Maximum Contaminant Level (pCi/L)	Half-life (yr)	Estimated Quantitation Limit (mg/kg)	Preliminary Remediation Goal Protective of Groundwater (pCi/g) [a,b,c]		
					100-F	IU-2	IU-6
Carbon-14 [d]	0	2000	5.73E+03	---	1.95E+02	5.18E+02	9.24E+02
Technetium-99	0	900	2.13E+05	---	8.75E+01	2.33E+02	4.15E+02
Tritium	0	20000	1.24E+01	---	2.67E+03	9.11E+03	1.62E+04
Iodine-129	1	1	1.57E+07	---	NR	NR	NR
Uranium-233/234	2	No Value	2.45E+05	1.00E+00	NA	NA	NA
Uranium-235	2	No Value	7.04E+08	5.00E-01	NA	NA	NA
Uranium-238	2	No Value	4.47E+09	1.00E+00	NA	NA	NA
Neptunium-237	15	15	2.14E+06	---	NR	NR	NR
Strontium-90 [e]	25	8	2.91E+01	---	NR	NR	NR
Nickel-63	30	50	9.60E+01	---	NR	NR	NR
Cesium-137	50	200	3.00E+01	1.00E-01	NR	NR	NR
Cobalt-60	50	100	5.72E+00	5.00E-02	NR	NR	NR
Americium-241	200	15	4.32E+02	1.00E+00	NR	NR	NR
Carbon-14 [f]	200	2,000	5.73E+03	---	NR	NR	NR
Curium-243	200	15	2.85E+01	---	NR	NR	NR
Curium-244	200	15	1.81E+01	---	NR	NR	NR
Europium-152	200	200	1.33E+01	1.00E-01	NR	NR	NR
Europium-154	200	60	8.80E+00	1.00E-01	NR	NR	NR
Europium-155	200	600	4.96E+00	1.00E-01	NR	NR	NR
Niobium-94	200	No Value	2.03E+04	---	NA	NA	NA
Plutonium-238	200	15	8.77E+01	1.00E+00	NR	NR	NR
Plutonium-239	200	15	2.41E+04	1.00E+00	NR	NR	NR
Plutonium-240	200	15	6.54E+03	1.00E+00	NR	NR	NR
Plutonium-241	200	300	1.40E+01	---	NR	NR	NR
Radium-226	200	5	1.60E+03	---	NR	NR	NR
Radium-228	200	5	5.75E+00	2.00E-01	NR	NR	NR
Thorium-228	200	15	1.91E+00	---	NR	NR	NR
Thorium-230	200	15	7.70E+04	---	NR	NR	NR
Thorium-232	200	15	1.41E+10	---	NR	NR	NR

a. The preliminary remediation goal defaults to the estimated quantitation limit for any analyte where the calculated value is less than the estimated quantitation limit.

b. The "NA" sign is applied when there is no available applicable water quality standard is to calculate the preliminary remediation goal.

c. The "NR" sign designates a non-representative result for analytes were breakthrough was not simulated to occur in more than one representative stratigraphic column within 1000 years, where breakthrough is defined as concentrations exceeding 1.0E-04 pCi/L (limit of numerical significance).

d. Carbon-14 in liquid form (typically associated with reactor gas condensate).

e. Strontium-90 is calculated based on a 100:0 initial source distribution, an exception to the convention that analytes with $K_d \geq 2$ were calculated based on a 70:30 initial source distribution, because of data that indicated strontium-90 distributed throughout the vadose zone at some locations in these OUs.

f. Carbon-14 in solid form (typically associated with graphite).

Attachment C

Software Installation and Checkout Forms for STOMP

CHPRC SOFTWARE INSTALLATION AND CHECKOUT FORM

Software Owner Instructions:
Complete Fields 1-13, then run test cases in Field 14. Compare test case results listed in Field 15 to corresponding Test Report outputs. If results are the same, sign and date Field 19. If not, resolve differences and repeat above steps.

Software Subject Matter Expert Instructions:
Assign test personnel. Approve the installation of the code by signing and dating Field 21, then maintain form as part of the software support documentation..

GENERAL INFORMATION:

1. Software Name: STOMP (Subsurface Transport Over Multiple Phases) Software Version No.: Build2

EXECUTABLE INFORMATION:

2. Executable Name (include path):

```
a51dc453e98a084b391c08ac2ac3a976  stomp-wae-bd-chprc02i.x
70fd1a594885ff9118d5802be8aaaa47  stomp-wae-cg-chprc02i.x
c2ddd7624276023bd4d3d0ef1817a40e  stomp-wae-cgs-chprc02i.x
21713e06e4676a0204d8292680911bdd  stomp-w-bd-chprc02i.x
7d712b548eea0326a6b3e5fd956ee61b  stomp-w-cg-chprc02i.x
32c15e8d89b508e78814ff091d2a49d0  stomp-w-cgs-chprc02i.x
6988abf48a371ec20ff652920f72d6c6  stomp-w-r-bd-chprc02i.x
```

3. Executable Size (bytes): MD5 signatures shown above uniquely identify executables

COMPILATION INFORMATION:

4. Hardware System (i.e., property number or ID):

RANSAC Linux Cluster (WD56054)

5. Operating System (include version number):

Redhat Enterprise Linux WS3 (Taroon Update)

INSTALLATION AND CHECKOUT INFORMATION:

6. Hardware System (i.e., property number or ID):

INTERA GREEN Linux File Server (INTERA-00469)

7. Operating System (include version number):

Linux green 2.6.32-30-server #59-Ubuntu SMP Tue Mar 1 22:46:09 UTC 2011 x86_64 GNU/Linux

8. Open Problem Report? (•) No ( ) Yes PR/CR No.

TEST CASE INFORMATION:

9. Directory/Path:

/srv/samba/saved_data/test/stomp/build-02

10. Procedure(s):

CHPRC-00211 Rev. 1, STOMP Software Test Plan

11. Libraries:

N/A (static linking)

12. Input Files:

Input files for ATC-STOMP-1, ATC-STOMP-2, and ATC-STOMP-2

13. Output Files:

plot.* files produced by STOMP executables

14. Test Cases:

ATC-STOMP-1, ATC-STOMP-2, and ATC-STOMP-3

15. Test Case Results:

Page 1 of 2 A-6005-149 (REV 0)

CHPRC SOFTWARE INSTALLATION AND CHECKOUT FORM (continued)

1. Software Name: STOMP (Subsurface Transport Over Multiple Phases) Software Version No.: Build2

PASS (diff all plot files showed no numerical differences)

16. Test Performed By: WE Nichols

17. Test Results: (•) Satisfactory, Accepted for Use ( ) Unsatisfactory

18. Disposition (include HISI update):

Installation added to STOMP HISI Entry. This is a multiuser server; approved software users include T Clemo, J Ludwig, T Budge, N Hasan, A Mayenna, H Rashid, C Courbet, W Nichols, T Dale, S Mehta.

Prepared By: William E. Nichols

19.		WE Nichols	
	Software Owner (Signature)	Print	Date

20. Test Personnel:			
William E Nichols		WE Nichols	
Sign		Print	Date
Sign		Print	Date
Sign		Print	Date

Approved By:

21.		N/R	
	Software SME (Signature)	Print	Date

Page 2 of 2

A-6005-149 (REV 0)

CHPRC ADMINISTRATIVE DOCUMENT PROCESSING AND APPROVAL

DOCUMENT TITLE:	**OWNING ORGANIZATION/FACILITY:**
Comparison of the 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water	EP&SP

Document Number: ECF-100FR1-11-0085	**Revision/Change Number:** Draft A

DOCUMENT TYPE *(Check Applicable)* [ ] Plan [X] Report [ ] Study [ ] Description Document [ ] Other

DOCUMENT ACTION *(Check One)* [ ] New [X] Revision [ ] Cancellation

RESPONSIBLE CONTACTS

	Name	Phone Number
Author:	Jason Hulstrom	
Manager:	AH Aly	376-0300

DOCUMENT CONTROL

Is the document intended to be controlled within the Document Management Control System (DMCS)? [X] Yes [ ] No
Does document contain scientific and technical information intended for public use? [X] Yes [ ] No
Does document contain controlled-use information [ ] Yes [X] No
("yes" requires information clearance review in accordance with PRC-PRO-IRM-184)

DOCUMENT REVISION SUMMARY

NOTE: Provide a brief description or summary of the changes for the document listed.

Added new waste sites. Incorporated revised SSLs for all analytes based on simulations with 70:30/100:0 contaminant source model. Incorporated revised background values for gap analytes. Excluded naturally occurring radionuclides. Eliminated time-to-peak screening step. Eliminated comparisons to SSLs based on fixed parameter 3-phase model.

REVIEWERS **Others**

Name *(print)*	Organization
Doug Evans	
Donna Morgans	

APPROVAL SIGNATURES

Author: Jason Hulstrom		11/28/12 Date	RELEASE / ISSUE
Name: (Print)	Jason Hulstrom		
Responsible Manager: AH Aly		11/28/12 Date	
Name: (print)	AH Aly		
Other:		Date	
Name: (print)			DRAFT - NON-DMCS

A-6005-184 (REV 3)

Date Received for Clearance Process (MM/DD/YYYY)
11/28/2012

INFORMATION CLEARANCE FORM

A. Information Category

- ☐ Abstract
- ☐ Journal Article
- ☐ Summary
- ☐ Internet
- ☐ Visual Aid
- ☐ Software
- ☐ Full Paper
- ☒ Report
- ☐ Other _____

B. Document Number ECF-100FR1-11-0085 Draft A

C. Title
Comparison of the 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective fo Surface Water

D. Proposed Internet Address

E. Required Information (MANDATORY)

1. Is document potentially Classified? ◉ No ○ Yes

Aly, Alaa H Approved via IDMS data file
Manager Required (Print and Sign)

If Yes _____
ADC Required (Print and Sign) ○ No ○ Yes Classified

2. Official Use Only ◉ No ○ Yes Exemption No. ____
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4. UCNI ◉ No ○ Yes
5. Applied Technology ◉ No ○ Yes OUO Exemption No. 5
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(Print and Sign)

Responsible Manager
Aly, Alaa H Approved via IDMS data file
(Print and Sign)

Approval by Direct Report to President (Speech/Articles Only) _____
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J. Comments

Information Clearance Approval

Approved for Public Release; Further Dissemination Unlimited

APPROVED
By Shauna E. Adams at 1:49 pm, Dec 04, 2012

If Additional Comments, Please Attach Separate Sheet

A-6001-401 (REV 5)

DOE/RL-2010-98, DRAFT A
DECEMBER 2012

ECF-100FR1-11-0085
Draft A

Comparison of the 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective fo Surface Water

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

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ECF-100FR1-11-0085
Draft A

Comparison of the 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective fo Surface Water

Document Type: ENV Program/Project: EP & SP

J. Hulstrom
INTERA

Date Published
November 2012

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

APPROVED
By Shauna E. Adams at 1:50 pm, Dec 04, 2012

Release Approval Date

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Environmental Calculation Cover Page

Part 1: Completed by the Responsible Manager

Project: 100 Areas and 300 Area Remedial Investigation/Feasibility Study Reports **Date: September 26, 2012**

Calculation Title & Description: **Comparison of 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water**

Preparer: Jason Hulstrom	Basis of Qualification: Education and Experience
Checker: Doug Evans	Basis of Qualification: Education and Experience
Senior Reviewer: Donna Morgans	Basis of Qualification: Education and Experience

Part 2: Completed by Preparer

Calculation No.: ECF-100FR1-11-0085 **Revision No.:** Draft A

Revision History:

Revision No.	Description	Date	Affected Pages
Draft A	Added new waste sites. Incorporated revised SSLs for all analytes based on simulations with 70:30/100:0 contaminant source model. Incorporated revised background values for gap analytes. Excluded naturally occurring radionuclides. Eliminated time-to-peak screening step. Eliminated comparisons to SSLs based on fixed parameter 3-phase model.	8/23/2012	All

Part 3: Document Review & Approval:

Preparer:
Jason Hulstrom/ Environmental Scientist
NAME/POSITION
Jason Hulstrom
SIGNATURE
9/27/2012
DATE

Checker:
Doug Evans/Senior Risk Assessor
NAME/POSITION
Doug Evans
SIGNATURE
9/27/2012
DATE

Senior Reviewer:
Donna Morgans/Senior Risk Assessor
NAME/POSITION
Donna L Morgans
SIGNATURE
9/27/12
DATE

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Plateau Remediation Company

Environmental Calculation Cover Page

Part 1: Completed by the Responsible Manager

Project: 100 Areas and 300 Area Remedial Investigation/Feasibility Study Reports

Date: September 26, 2012

Calculation Title & Description: **Comparison of 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water**

Preparer: Jason Hulstrom	**Basis of Qualification: Education and Experience**
Checker: Doug Evans	**Basis of Qualification: Education and Experience**
Senior Reviewer: Donna Morgans	**Basis of Qualification: Education and Experience**

Part 2: Completed by Preparer

Calculation No.: ECF-100FR1-11-0085

Revision No.: Draft A

Responsible Manager: **Alaa Aly/Risk and Modeling Integration Manager**

NAME/POSITION

SIGNATURE

9/27/12
DATE

Contents

1 Purpose **1**

2 Background **1**

3 Methodology **1**

4 Assumptions and Inputs **2**

4.1 Soil Screening Levels 2

4.1.1 Soil Screening Levels Protective of Groundwater 2

4.1.2 Soil Screening Levels Protective of Surface Water 3

4.2 Exposure Point Concentrations 3

4.3 Hanford Site Background 3

5 Software Applications **4**

6 Calculation **4**

7 Results/Conclusions **4**

8 References **5**

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Terms

CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
COPC	contaminant of potential concern
DOE	U.S. Department of Energy
ECF	Environmental Calculation File
EPA	Environmental Protection Agency
EPC	Exposure point concentration
FS	Feasibility study
OU	Operable unit
RI	Remedial investigation
STOMP	Subsurface Transport Over Multiple Phases

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1 Purpose

This environmental calculation documents the methodology used to determine if current site conditions for the 100-F Area based on post-remediation soil sample results exceed soil screening levels for the protection of groundwater and the protection of surface water. The 100-F Area is associated with two source operable units (OUs): the 100-FR-1 OU and 100-FR-2 OU. These OUs are referred to collectively herein as the 100-F Source OU. The exposure point concentrations (EPCs) for each waste site decision unit in the 100-F Source OU are compared to soil screening levels to identify contaminants of potential concern (COPCs) for the protection of groundwater pathway and the protection of surface water pathway. This procedure is consistent with the guidance described in EPA 540/R-96/018, *Soil Screening Guidance: Users Guide.* The identified COPCs will be used to support the remedial investigation/feasibility study (RI/FS) process being conducted for the 100 Areas and 300 Area under the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA).

This environmental calculation supports DOE/RL-2010-98, *Remedial Investigation/Feasibility Study for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units*, under CERCLA. A summary based upon the comparison of EPCs to soil screening levels described in this environmental calculation will be presented in the RI/FS report.

2 Background

Based on agreements with the Senior Executive Council, modeling with the STOMP simulator (PNNL-15782, *STOMP Subsurface Transport Over Multiple Phases, Version 4: User's Guide*) was performed to provide a basis for estimating soil screening levels for groundwater protection and surface water protection. Soil screening levels for the protection of groundwater and the protection of surface water were estimated using the STOMP 1D 70:30/100:0 Contaminant Source Model, which is a one-dimensional model that assumes either 70 percent contamination of the vadose zone (upper 70 percent contaminated, lower 30 percent uncontaminated [70:30]) or 100 percent contamination of the vadose zone (zero percent uncontaminated [100:0]) beneath a backfilled waste site. Source distributions are assigned based on analyte distribution coefficients (K_d). A 70:30 source distribution is assumed for analytes with a $K_d \geq 2$ mL/g and a 100:0 source distribution is assumed for analytes with a $K_d < 2$ mL/g. As implemented for determination of soil screening levels, the STOMP 1D 70:30/100:0 Contaminant Source Model includes recharge from irrigation and assumes that all contamination moves downward with no dispersion, volatilization, or credit for mixing with river water.

Comparisons are first conducted between the analyte-specific soil screening levels and EPC values for each waste site decision unit. Comparisons are then conducted between the EPCs and Hanford Site soil background concentrations. Analytes with EPCs that exceed both the 90th percentile background concentration and a soil screening level are considered COPCs and are carried forward to the RI/FS report.

3 Methodology

This section describes the methodology used to compare EPCs for each waste site decision unit to soil screening levels for groundwater protection and surface water protection.

For all detected analytes for the 100-F waste site decision units, the following steps are performed:

1. Obtain soil screening levels for the protection of groundwater and the protection of surface water calculated using the STOMP 1D 70:30/100:0 Contaminant Source model.

2. Obtain EPC values for each waste site decision unit within the 100-F Source OU.
3. Individually compare EPCs for each waste site decision unit within the 100-F Source OU to soil screening levels for the protection of groundwater and the protection of surface water.

The previous steps are conducted for all detected analytes in the 100-F Source OU. The following steps are used to provide a list of analytes that also exceed applicable 90th percentile background concentrations.

4. Obtain 90th percentile background values.
5. Compare the EPC value to the applicable lognormal 90th percentile background value.
6. If the EPC is less than or equal to the lognormal 90th percentile background value, then no further comparison is made.
7. If the EPC is greater than the lognormal 90th percentile value, then a comparison to soil screening levels is made.
8. If a lognormal 90th percentile value is not available, then a comparison to soil screening levels is made.

Analytes with EPCs that exceed both the 90th percentile soil background concentration and a STOMP 1D soil screening level are considered COPCs and are carried forward to the RI/FS report.

4 Assumptions and Inputs

Assumptions and inputs associated with soil screening levels, EPCs, and soil background concentrations are described below.

4.1 Soil Screening Levels

Table 4-1 documents the source of information for soil screening levels.

Table 4-1. Soil Screening Level References

Soil Screening Level	Pathway	Reference
STOMP 1D 70:30/100:0 Contaminant Source Model	Groundwater	ECF-HANFORD-12-0004
	Surface Water	ECF-HANFORD-12-0004

Notes:

ECF-HANDFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

4.1.1 Soil Screening Levels Protective of Groundwater

Soil screening levels for the protection of groundwater at and near the 100-F Source OU have been derived using the following model:

- STOMP 1D 70:30/100:0 Contaminant Source Model

The STOMP 1D groundwater protective soil screening levels for all detected analytes in the 100-F Source OU are provided in Table 4-2.

The STOMP 1D 70:30/100:0 Contaminant Source Model as implemented for determination of soil screening levels uses an irrigation recharge scenario and assumes that either the upper 70 percent of the vadose zone is contaminated (for $K_d \geq 2$ mL/g analytes) or the entire vadose zone is contaminated (for $K_d < 2$ mL/g analytes) below clean fill. Operable unit-specific soil screening levels protective of groundwater for the 100-K Source OU calculated using the STOMP 1D 70:30/100:0 Contaminant Source Model are documented in ECF-HANFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

4.1.2 Soil Screening Levels Protective of Surface Water

Soil screening levels for the protection of surface water are used in the River Corridor RI/FS process because the operable units in this area abut surface water. Soil screening levels for the protection of surface water at and near the 100-F Source OU have been derived using the following models:

- STOMP 1D 70:30/100:0 Contaminant Source Model

The STOMP 1D surface water protective soil screening levels for all detected analytes in the 100-F Source OU are provided in Table 4-3.

The STOMP 1D 70:30/100:0 Contaminant Source Model as implemented for determination of soil screening levels uses an irrigation recharge scenario and assumes that either the upper 70 percent of the vadose zone is contaminated (for $K_d \geq 2$ mL/g analytes) or the entire vadose zone is contaminated (for $K_d < 2$ mL/g analytes) below clean fill. The model takes no credit for dilution of groundwater by mixing with surface water. Operable unit-specific soil screening levels protective of surface water for the 100-K Source OU calculated using the STOMP 1D 70:30/100:0 Contaminant Source Model are documented in ECF-HANFORD-12-0004.

4.2 Exposure Point Concentrations

OSWER 9285.6-10, *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*, states that, "an exposure point concentration (EPC) is a conservative estimate of the average chemical concentration in an exposure medium." OSWER Publication 9285.7-081, *Supplemental Guidance to RAGS: Calculating the Concentration Term,* states that, "because of the uncertainty associated with estimating the true average concentration at a site, the 95 percent upper confidence limit (UCL) of the arithmetic mean should be used for this variable."

The EPCs used for comparison to soil screening levels are the analyte-specific values computed from the post-remediation soil sample results for each waste site decision unit in the 100-F Source OU, as described in ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units.* The EPCs for each waste site decision unit are presented in Table 4-4 for the 100-F Source OU.

4.3 Hanford Site Background

EPA 540-R-01-003, *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites*, provides national policy considerations for application of background data in risk assessment and remedy selection. This policy recommends an approach that addresses site-specific background issues in the risk characterization. EPA 540-R-01-003 indicates the following:

> "COPCs that have both release-related and background-related sources should be included in the risk assessment. When concentrations of naturally occurring elements at

a site exceed risk-based screening levels, that information should be discussed qualitatively in the risk characterization."

EPA 540-R-01-003 defines background constituents as the following: (1) *anthropogenic* - natural and human-made substances present in the environment as a result of human activities (not specifically related to the CERCLA release in question), and (2) *naturally occurring* - substances present in the environment in forms that have not been influenced by human activity.

Lognormal 90th percentile background values for the Hanford Site (representative of both naturally occurring and anthropogenic substances) have been developed for inorganic chemicals and identified in DOE/RL-92-24, *Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes*, Summary Table 2. Radionuclide background values are identified in DOE/RL-96-12, *Hanford Site Background: Part 2, Soil Background for Radionuclides*, Table 5-1. ECF-HANFORD-11-0038, *Soil Background Data for Interim Use at the Hanford Site*, reports lognormal 90th percentile background values for most of the metals that are absent from DOE/RL-92-24. The analyte-specific background concentrations are presented in Table 4-5.

5 Software Applications

Microsoft Excel® was used to tabulate the data in electronic spreadsheets. These spreadsheets are provided as tables that accompany this environmental calculation.

6 Calculation

Contaminants of potential concern for groundwater protection and surface water protection at the 100-F Source OU are identified by comparing EPCs to soil screening levels and background concentrations, as described in Sections 3. The comparison results are provided in summary in Section 7 and in full in Appendix A. The comparison tables all share a similar format, providing both the values being compared as well as a "Yes/No" column indicating the outcome of the comparison.

7 Results/Conclusions

A summary of the 100-F Source OU waste site decision unit EPCs that exceed soil screening levels for groundwater protection and surface water protection, *without consideration of soil background concentrations*, are presented in Tables 7-1 and 7-2, respectively.

A summary of the 100-F Source OU waste site decision unit EPCs that exceed soil screening levels for groundwater protection and surface water protection, *as well as soil background concentrations*, are presented in Tables 7-3 and 7-4, respectively.

Analytes that have an EPC that exceeds both the 90th percentile background concentration as well as a STOMP 1D soil screening level, are considered COPCs to be carried forward for further analysis.

Detailed tables showing the full series of comparison steps carried out in producing the summary tables presented in Tables 7-1 through 7-4 are provided in Appendix A.

® Microsoft Excel is a registered product of the Microsoft Corporation.

8 References

DOE/RL-92-24, 2001, *Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes*, Rev. 4, 2 vols., U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www2.hanford.gov/arpir/?content=findpage&AKey=0096062. http://www2.hanford.gov/arpir/?content=findpage&AKey=0096061.

DOE/RL-96-12, 1996, *Hanford Site Background: Part 2, Soil Background for Radionuclides,* Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www2.hanford.gov/arpir/?content=findpage&AKey=D1808987.

DOE/RL-96-17, 2009, *Remedial Design Report/Remedial Action Work Plan for the 100 Area*, Rev. 6, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=1112281625

DOE/RL-2009-43, 2010, *Sampling and Analysis Plan for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units Remedial Investigation/Feasibility Study,* Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=1006220803

DOE/RL-2010-98, 2012, *Remedial Investigation/Feasibility Study for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units*, Draft A, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

ECF-100FR1-11-0020, 2012, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units*, Decisional Draft, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-HANFORD-11-0038, 2011, *Soil Background Data for Interim Use at the Hanford Site*, Draft, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-HANFORD-12-0004, 2012, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas*, Draft A, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-HANFORD-12-0023, 2012, *Groundwater and Surface Water Cleanup Levels and Distribution Coefficients for Nonradiological and Radiological Analytes in the 100 Areas and 300 Area*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

Ecology, 2012, "CLARC Cleanup Levels and Risk Calculations," Washington State Department of Ecology Web-Based Application. Available at https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx.

Ecology 94-115, 1994, *Natural Background Soil Metals Concentrations in Washington State*, Toxics Cleanup Program, Washington State Department of Ecology, Olympia, Washington. Available at: http://www.ecy.wa.gov/pubs/94115.pdf.

EPA 540-R-01-003, 2002, *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites*, OSWER 9285.7-41, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.epa.gov/oswer/riskassessment/pdf/background.pdf.

EPA/540/R-96/018, 1996, *Soil Screening Guidance: Users Guide*, Publication 9355.4-23, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.epa.gov/superfund/health/conmedia/soil/index.htm.

OSWER 9285.6-10, 2002, *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://epa.gov/oswer/riskassessment/pdf/ucl.pdf.

OSWER Publication 9285.7-081, 1992, *Supplemental Guidance to RAGS: Calculating the Concentration Term*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.deq.state.or.us/lq/pubs/forms/tanks/UCLsEPASupGuidance.pdf.

PNNL-15782, 2006, *STOMP Subsurface Transport Over Multiple Phases, Version 4.0: User's Guide*, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://stomp.pnnl.gov/.

Appendix A
Detailed Comparison Tables

The full series of comparison steps carried out in identifying COPCs for groundwater protection and surface water protection for the 100-F Source OU are presented in the tables listed below.

Tables for the 100-F Source Operable Unit EPC Comparison to Groundwater Protective Soil Screening Levels and Surface Water Protective Soil Screening Levels

100-F Source Operable Unit
Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)
Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)
Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values
Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)
Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Table 4-2. Summary of Groundwater Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]
Radionuclides				
Americium-241	14596-10-2	200	1.0	--[d]
Carbon-14	14762-75-5	200	--	--[d]
Cesium-137	10045-97-3	50	0.10	--[d]
Cobalt-60	10198-40-0	50	0.050	--[d]
Curium-244	13981-15-2	200	--	--[d]
Europium-152	14683-23-9	200	0.10	--[d]
Europium-154	15585-10-1	200	0.10	--[d]
Europium-155	14391-16-3	200	0.10	--[d]
Nickel-63	13981-37-8	30	--	--[d]
Plutonium-238	13981-16-3	200	1.0	--[d]
Plutonium-239/240	PU-239/240	200	1.0	--[d]
Plutonium-241	14119-32-5	200	1.0	--[d]
Strontium-90	10098-97-2	25	--	24,600
Technetium-99	14133-76-7	0	--	36
Total beta radiostrontium	SR-RAD	25	--	24,600
Tritium	10028-17-8	0	--	1,660
Uranium-233/234	U-233/234	2.0	1.0	--[e]
Uranium-235	15117-96-1	2.0	0.50	--[e]
Uranium-238	U-238	2.0	1.0	--[e]
Nonradionuclides				
1,1-Dichloroethene	75-35-4	0.065	10	521
1,4-Dichlorobenzene	106-46-7	0.62	5.0	3,168
2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	0.049	---	1,033
2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	0.10	---	11,973
2-Butanone	78-93-3	0.0045	10	202,192
2-Hexanone	591-78-6	0.015	20	1,907
2-Methylnaphthalene	91-57-6	3.0	330	50,401
4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	46	3.3	--[d]

Table 4-2. Summary of Groundwater Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]
4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	86	3.3	--[d]
4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	678	3.3	--[d]
4-Methyl-2-Pentanone	108-10-1	0.013	10	29,716
4-Nitroaniline	100-01-6	0.052	330	330
Acenaphthene	83-32-9	6.1	100	3.41E+06
Acetone	67-64-1	6.00E-04	20	289,264
Aldrin	309-00-2	49	1.7	--[d]
Alpha-BHC	319-84-6	1.8	1.7	14
Alpha-Chlordane	5103-71-9	51	17	--[d]
Aluminum	7429-90-5	1,500	5,000	--[d]
Anthracene	120-12-7	24	50	--[d]
Antimony	7440-36-0	3.8	600	12,637
Aroclor-1016	12674-11-2	107	17	--[d]
Aroclor-1248	12672-29-6	44	17	--[d]
Aroclor-1254	11097-69-1	76	17	--[d]
Aroclor-1260	11096-82-5	822	17	--[d]
Arsenic	7440-38-2	29	1,000	--[d]
Barium	7440-39-3	25	500	--[d]
Benzo(a)anthracene	56-55-3	360	15	--[d]
Benzo(a)pyrene	50-32-8	5,500	15	--[d]
Benzo(b)fluoranthene	205-99-2	803	15	--[d]
Benzo(k)fluoranthene	207-08-9	1,230	15	--[d]
Beryllium	7440-41-7	790	200	--[d]
beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	2.1	1.7	60
Bis(2-ethylhexyl) phthalate	117-81-7	110	330	--[d]
Boron	7440-42-8	3.0	2,000	5.07E+06
Butylbenzylphthalate	85-68-7	14	330	525,145
Cadmium	7440-43-9	30	200	--[d]

Table 4-2. Summary of Groundwater Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]
Carbazole	86-74-8	3.4	330	7,944
Chlordane	57-74-9	51	17	--[d]
Chlorobenzene	108-90-7	0.22	5.0	15,662
Chloroform	67-66-3	0.053	5.0	96
Chromium	7440-47-3	200	200	--[d]
Chrysene	218-01-9	200	100	--[d]
Cobalt	7440-48-4	50	2,000	--[d]
Copper	7440-50-8	22	1,000	2.34E+07
Dibenz[a,h]anthracene	53-70-3	1,790	30	--[d]
Dibenzofuran	132-64-9	11	330	121,721
Dieldrin	60-57-1	26	3.3	--[d]
Diethylphthalate	84-66-2	0.082	330	1.07E+06
Di-n-butylphthalate	84-74-2	1.6	330	1.36E+06
Endosulfan I	959-98-8	2.0	1.7	115,960
Endosulfan II	33213-65-9	2.0	3.3	115,960
Endrin	72-20-8	11	3.3	14,032
Ethylbenzene	100-41-4	0.20	5.0	588
Fluoranthene	206-44-0	49	50	--[d]
Fluorene	86-73-7	7.7	30	2.85E+06
Fluoride	16984-48-8	150	5,000	--[d]
Gamma-BHC (Lindane)	58-89-9	1.4	1.7	59
Heptachlor	76-44-8	9.5	1.7	111
Heptachlor epoxide	1024-57-3	83	1.7	--[d]
Hexavalent Chromium	18540-29-9	0.80	---	6,000[f]
Indeno(1,2,3-cd)pyrene	193-39-5	3,470	30	--[d]
Iron	7439-89-6	25	5,000	--[d]
Lead	7439-92-1	30	500	--[d]
Manganese	7439-96-5	50	5,000	--[d]
Mercury	7439-97-6	30	---	--[d]

Table 4-2. Summary of Groundwater Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]
Methoxychlor	72-43-5	80	17	--[d]
Methylene chloride	75-09-2	0.010	5.0	226
Molybdenum	7439-98-7	20	2,000	2.47E+06
m-Xylene	108-38-3	0.20	---	236,404
Naphthalene	91-20-3	1.2	100	107,951
Nickel	7440-02-0	65	4,000	--[d]
Nitrate	14797-55-8	0	2,500	1.79E+06
Nitrogen in Nitrite and Nitrate	NO2+NO3-N	0	---	398,601
o-Xylene	95-47-6	0.24	---	266,606
Phenol	108-95-2	0.029	330	131,276
Pyrene	129-00-0	68	50	--[d]
Selenium	7782-49-2	5.0	1,000	140,663
Silver	7440-22-4	90	200	--[d]
Styrene	100-42-5	0.91	5.0	56,031
Tetrachloroethene	127-18-4	0.27	5.0	15
Toluene	108-88-3	0.14	5.0	70,164
Total petroleum hydrocarbons	TPH	--	--	1.00E+06[g]
Total petroleum hydrocarbons - diesel range	TPHDIESEL	--	--	2.00E+06[g]
Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	--	--	2.00E+06[g]
Total_U_Isotopes	Total_U_Isotopes	--	--	35,882[h]
Vanadium	7440-62-2	1,000	2,500	--[d]
Xylenes (total)	1330-20-7	0.23	10	258,355
Zinc	7440-66-6	30	1,000	--[d]

Notes:
-- = Not Applicable

a. Distribution coefficient (Kd) values are taken preferentially from DOE/RL-96-17 (Table E-2) as described in ECF-HANFORD-12-0023. The Kd value for carbon-14 is for carbon-14 in solid form, typically associated with graphite. The Kd value for arsenic is taken from the Ecology CLRAC database (Ecology 2012).

Table 4-2. Summary of Groundwater Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]

b. Estimated quantitation limits (EQLs) are obtained from DOE/RL-2009-43 (Appendix A). The STOMP 1D soil screening level for all analytes defaults to the EQL when the calculated value is less than the EQL.

c. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g. An exception to this convention is strontium-90, which is calculated based on a 100:0 source distribution because of data that indicated strontium-90 distributed throughout the vadose zone at some locations in this operable unit.

d. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

e. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.

f. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

g. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

h. The soil screening level for Total_U_Isotopes is the same as the value calculated for total uranium (CAS # 7440-61-1).

-- = Not applicable or no value.

DOE/RL-96-17, *Remedial Design Report/Remedial Action Work Plan for the 100 Area.*

DOE/RL-2009-43, *Sampling and Analysis Plan for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units Remedial Investigation/Feasibility Study.*

ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units.*

ECF-HANFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*
ECF-HANFORD-12-0023, *Groundwater and Surface Water Cleanup Levels and Distribution Coefficients for Nonradiological and Radiological Analytes in the 100 Areas and 300 Area .*

Table 4-2. Summary of Groundwater Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]

Ecology, 2012, "CLARC Cleanup Levels and Risk Calculations," Washington State Department of Ecology Web-based application available at https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx.

Table 4-3. Summary of Surface Water Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (pCi/g, µg/kg)[c]
Radionuclides				
Americium-241	14596-10-2	200	1.0	--[d]
Carbon-14	14762-75-5	200	--	--[d]
Cesium-137	10045-97-3	50	0.10	--[d]
Cobalt-60	10198-40-0	50	0.050	--[d]
Curium-244	13981-15-2	200	--	--[d]
Europium-152	14683-23-9	200	0.10	--[d]
Europium-154	15585-10-1	200	0.10	--[d]
Europium-155	14391-16-3	200	0.10	--[d]
Nickel-63	13981-37-8	30	--	--[d]
Plutonium-238	13981-16-3	200	1.0	--[d]
Plutonium-239/240	PU-239/240	200	1.0	--[d]
Plutonium-241	14119-32-5	200	1.0	--[d]
Strontium-90	10098-97-2	25	--	24,600
Technetium-99	14133-76-7	0	--	36
Total beta radiostrontium	SR-RAD	25	--	24,600
Tritium	10028-17-8	0	--	1,660
Uranium-233/234	U-233/234	2.0	1.0	--[e]
Uranium-235	15117-96-1	2.0	0.50	--[e]
Uranium-238	U-238	2.0	1.0	--[e]
Nonradionuclides				
1,1-Dichloroethene	75-35-4	0.065	10	10
1,4-Dichlorobenzene	106-46-7	0.62	5.0	8,441
2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	0.049	---	52,953
2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	0.10	---	614,005
2-Butanone	78-93-3	0.0045	10	2.07E+07
2-Hexanone	591-78-6	0.015	20	163,452
2-Methylnaphthalene	91-57-6	3.0	330	218,655
4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	46	3.3	--[d]

Table 4-3. Summary of Surface Water Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (pCi/g, µg/kg)[c]
4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	86	3.3	--[d]
4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	678	3.3	--[d]
4-Methyl-2-Pentanone	108-10-1	0.013	10	2.83E+06
4-Nitroaniline	100-01-6	0.052	330	5,429
Acenaphthene	83-32-9	6.1	100	2.29E+06
Acetone	67-64-1	6.00E-04	20	2.97E+07
Aldrin	309-00-2	49	1.7	--[d]
Alpha-BHC	319-84-6	1.8	1.7	2.5
Alpha-Chlordane	5103-71-9	51	17	--[d]
Aluminum	7429-90-5	1,500	5,000	--[d]
Anthracene	120-12-7	24	50	--[d]
Antimony	7440-36-0	3.8	600	11,795
Aroclor-1016	12674-11-2	107	17	--[d]
Aroclor-1248	12672-29-6	44	17	--[d]
Aroclor-1254	11097-69-1	76	17	--[d]
Aroclor-1260	11096-82-5	822	17	--[d]
Arsenic	7440-38-2	29	1,000	--[d]
Barium	7440-39-3	25	500	--[d]
Benzo(a)anthracene	56-55-3	360	15	--[d]
Benzo(a)pyrene	50-32-8	5,500	15	--[d]
Benzo(b)fluoranthene	205-99-2	803	15	--[d]
Benzo(k)fluoranthene	207-08-9	1,230	15	--[d]
Beryllium	7440-41-7	790	200	--[d]
beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	2.1	1.7	11
Bis(2-ethylhexyl) phthalate	117-81-7	110	330	--[d]
Boron	7440-42-8	3.0	2,000	--[f]
Butylbenzylphthalate	85-68-7	14	330	93,961
Cadmium	7440-43-9	30	200	--[d]

Table 4-3. Summary of Surface Water Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (pCi/g, µg/kg)[c]
Carbazole	86-74-8	3.4	330	--[f]
Chlordane	57-74-9	51	17	--[d]
Chlorobenzene	108-90-7	0.22	5.0	20,361
Chloroform	67-66-3	0.053	5.0	386
Chromium	7440-47-3	200	200	--[d]
Chrysene	218-01-9	200	100	--[d]
Cobalt	7440-48-4	50	2,000	--[d]
Copper	7440-50-8	22	1,000	329,092
Dibenz[a,h]anthracene	53-70-3	1,790	30	--[d]
Dibenzofuran	132-64-9	11	330	12,976
Dieldrin	60-57-1	26	3.3	--[d]
Diethylphthalate	84-66-2	0.082	330	1.42E+06
Di-n-butylphthalate	84-74-2	1.6	330	1.70E+06
Endosulfan I	959-98-8	2.0	1.7	68
Endosulfan II	33213-65-9	2.0	3.3	68
Endrin	72-20-8	11	3.3	16
Ethylbenzene	100-41-4	0.20	5.0	2,322
Fluoranthene	206-44-0	49	50	--[d]
Fluorene	86-73-7	7.7	30	4.89E+06
Fluoride	16984-48-8	150	5,000	--[d]
Gamma-BHC (Lindane)	58-89-9	1.4	1.7	14
Heptachlor	76-44-8	9.5	1.7	1.7
Heptachlor epoxide	1024-57-3	83	1.7	--[d]
Hexavalent Chromium	18540-29-9	0.80	---	4,981
Indeno(1,2,3-cd)pyrene	193-39-5	3,470	30	--[d]
Iron	7439-89-6	25	5,000	--[d]
Lead	7439-92-1	30	500	--[d]
Manganese	7439-96-5	50	5,000	--[d]
Mercury	7439-97-6	30	---	--[d]

Table 4-3. Summary of Surface Water Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (pCi/g, µg/kg)[c]
Methoxychlor	72-43-5	80	17	--[d]
Methylene chloride	75-09-2	0.010	5.0	208
Molybdenum	7439-98-7	20	2,000	3.99E+07
m-Xylene	108-38-3	0.20	---	--[f]
Naphthalene	91-20-3	1.2	100	3.33E+06
Nickel	7440-02-0	65	4,000	--[d]
Nitrate	14797-55-8	0	2,500	1.79E+06
Nitrogen in Nitrite and Nitrate	NO2+NO3-N	0	---	398,601
o-Xylene	95-47-6	0.24	---	--[f]
Phenol	108-95-2	0.029	330	546,982
Pyrene	129-00-0	68	50	--[d]
Selenium	7782-49-2	5.0	1,000	14,066
Silver	7440-22-4	90	200	--[d]
Styrene	100-42-5	0.91	5.0	2.15E+07
Tetrachloroethene	127-18-4	0.27	5.0	71
Toluene	108-88-3	0.14	5.0	142,520
Total petroleum hydrocarbons	TPH	--	--	--[f]
Total petroleum hydrocarbons - diesel range	TPHDIESEL	--	--	--[f]
Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	--	--	--[f]
Total_U_Isotopes	Total_U_Isotopes	--	--	930,263[g]
Vanadium	7440-62-2	1,000	2,500	--[f]
Xylenes (total)	1330-20-7	0.23	10	--[f]
Zinc	7440-66-6	30	1,000	--[d]

Notes:

a. Distribution coefficient (Kd) values are taken preferentially from DOE/RL-96-17 (Table E-2) as described in ECF-HANFORD-12-0023. The Kd value for carbon-14 is for carbon-14 in solid form, typically associated with graphite. The Kd value for arsenic is taken from the Ecology CLRAC database (Ecology 2012).

b. Estimated quantitation limits (EQLs) are obtained from DOE/RL-2009-43 (Appendix A). The STOMP 1D soil screening level for all analytes defaults to the EQL when the calculated value is less than the EQL.

Table 4-3. Summary of Surface Water Protective Soil Screening Levels for the 100-F Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (pCi/g, µg/kg)[c]

c. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g. An exception to this convention is strontium-90, which is calculated based on a 100:0 source distribution because of data that indicated strontium-90 distributed throughout the vadose zone at some locations in this operable unit.

d. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

e. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.

f. A soil screening level is not calculated because a surface water cleanup level or surface water standard is not available for the analyte.

g. The soil screening level for Total_U_Isotopes is the same as the value calculated for total uranium (CAS # 7440-61-1).

-- = Not applicable or no value.

DOE/RL-96-17, *Remedial Design Report/Remedial Action Work Plan for the 100 Area.*

DOE/RL-2009-43, *Sampling and Analysis Plan for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units Remedial Investigation/Feasibility Study.*

ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units.*

ECF-HANFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

ECF-HANFORD-12-0023, *Groundwater and Surface Water Cleanup Levels and Distribution Coefficients for Nonradiological and Radiological Analytes in the 100 Areas and 300 Area* .

Ecology, 2012, "CLARC Cleanup Levels and Risk Calculations," Washington State Department of Ecology Web-based application available at https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx.

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-11_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,600
100-F-12_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.67E+06
100-F-12_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	55
100-F-12_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800
100-F-12_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,700
100-F-12_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	436
100-F-12_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	995
100-F-12_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	110
100-F-12_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500
100-F-12_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900
100-F-12_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900
100-F-12_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.97E+07
100-F-12_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,500
100-F-12_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	318,000
100-F-12_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23
100-F-12_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	216
100-F-12_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,200
100-F-12_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	89
100-F-12_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,500
100-F-12_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,100
100-F-14_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.4
100-F-14_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.49E+06
100-F-14_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,900
100-F-14_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,500
100-F-14_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	463
100-F-14_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	25
100-F-14_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000
100-F-14_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.017
100-F-14_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,100
100-F-14_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500
100-F-14_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,400
100-F-14_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22
100-F-14_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.24E+07
100-F-14_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,600
100-F-14_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	311,000
100-F-14_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	84
100-F-14_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	19
100-F-14_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	458
100-F-14_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,400
100-F-14_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	59,700
100-F-14_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,400
100-F-15_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	13,800
100-F-15_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,300
100-F-15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	15,600
100-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	450
100-F-16_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,100
100-F-16_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	510
100-F-16_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.032
100-F-18_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.43E+06
100-F-18_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,700
100-F-18_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	38,000
100-F-18_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	269
100-F-18_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	20
100-F-18_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	619
100-F-18_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,500
100-F-18_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,700
100-F-18_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,700
100-F-18_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20
100-F-18_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.33E+07
100-F-18_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900
100-F-18_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	217,000
100-F-18_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	89
100-F-18_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.7
100-F-18_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	250
100-F-18_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,500
100-F-18_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,600
100-F-18_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500
100-F-19:1_Deep	Rad	Cesium-137	10045-97-3	pCi/g	21
100-F-19:1_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	13
100-F-19:1_Deep	Rad	Europium-152	14683-23-9	pCi/g	325
100-F-19:1_Deep	Rad	Europium-154	15585-10-1	pCi/g	25
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600
100-F-19:1_Deep	Rad	Nickel-63	13981-37-8	pCi/g	351
100-F-19:1_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.1
100-F-19:1_Overburden	Rad	Carbon-14	14762-75-5	pCi/g	5.0
100-F-19:1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.043
100-F-19:1_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	740
100-F-19:1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	4.1
100-F-19:1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.10
100-F-19:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	624
100-F-19:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.33
100-F-19:2_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.049
100-F-19:2_Deep	non-Rad	Barium	7440-39-3	µg/kg	66,100

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-19:2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	3.9
100-F-19:2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.67
100-F-19:2_Deep	Rad	Europium-152	14683-23-9	pCi/g	13
100-F-19:2_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.7
100-F-19:2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,140
100-F-19:2_Deep	non-Rad	Lead	7439-92-1	µg/kg	4,100
100-F-19:2_Deep	Rad	Nickel-63	13981-37-8	pCi/g	340
100-F-19:2_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	23
100-F-19:2_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5
100-F-19:2_Deep	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,762
100-F-19:2_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.50
100-F-19:2_Deep	Rad	Uranium-238	U-238	pCi/g	0.59
100-F-19:2_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.1
100-F-19:2_Deep_Focused	Rad	Cobalt-60	10198-40-0	pCi/g	0.36
100-F-19:2_Deep_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.5
100-F-19:2_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	690
100-F-19:2_Overburden	non-Rad	Barium	7440-39-3	µg/kg	51,200
100-F-19:2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.20
100-F-19:2_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.11
100-F-19:2_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.37
100-F-19:2_Overburden	Rad	Europium-154	15585-10-1	pCi/g	0.18
100-F-19:2_Overburden	non-Rad	Lead	7439-92-1	µg/kg	8,000
100-F-19:2_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	410
100-F-19:2_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	4.9
100-F-19:2_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.42
100-F-19:2_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,671
100-F-19:2_Overburden	Rad	Tritium	10028-17-8	pCi/g	0.81
100-F-19:2_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.52
100-F-19:2_Overburden	Rad	Uranium-238	U-238	pCi/g	0.57
100-F-19:2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	122,000
100-F-19:2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14
100-F-19:2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.35
100-F-19:2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,800
100-F-19:2_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	7.0
100-F-19:2_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,916
100-F-19:2_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.59
100-F-19:2_Shallow	Rad	Uranium-238	U-238	pCi/g	0.64
100-F-19:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100
100-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.35
100-F-20_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,200
100-F-20_Staging pile area	non-Rad	Aluminum	7429-90-5	µg/kg	5.35E+06
100-F-20_Staging pile area	non-Rad	Arsenic	7440-38-2	µg/kg	3,400
100-F-20_Staging pile area	non-Rad	Barium	7440-39-3	µg/kg	77,800
100-F-20_Staging pile area	non-Rad	Beryllium	7440-41-7	µg/kg	530
100-F-20_Staging pile area	non-Rad	Boron	7440-42-8	µg/kg	2,600
100-F-20_Staging pile area	non-Rad	Cadmium	7440-43-9	µg/kg	140
100-F-20_Staging pile area	Rad	Cesium-137	10045-97-3	pCi/g	0.044
100-F-20_Staging pile area	non-Rad	Chromium	7440-47-3	µg/kg	9,200
100-F-20_Staging pile area	non-Rad	Cobalt	7440-48-4	µg/kg	6,200
100-F-20_Staging pile area	non-Rad	Copper	7440-50-8	µg/kg	23,700
100-F-20_Staging pile area	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07
100-F-20_Staging pile area	non-Rad	Lead	7439-92-1	µg/kg	18,500
100-F-20_Staging pile area	non-Rad	Manganese	7439-96-5	µg/kg	328,000
100-F-20_Staging pile area	non-Rad	Mercury	7439-97-6	µg/kg	50
100-F-20_Staging pile area	non-Rad	Molybdenum	7439-98-7	µg/kg	850
100-F-20_Staging pile area	non-Rad	Nickel	7440-02-0	µg/kg	9,900
100-F-20_Staging pile area	non-Rad	Vanadium	7440-62-2	µg/kg	42,900
100-F-20_Staging pile area	non-Rad	Zinc	7440-66-6	µg/kg	87,600
100-F-24_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.053
100-F-25_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.071
100-F-25_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.13
100-F-25_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	140
100-F-25_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	4.6
100-F-26:1_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.18E+06
100-F-26:1_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	280
100-F-26:1_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14
100-F-26:1_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,100
100-F-26:1_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	53,500
100-F-26:1_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	520
100-F-26:1_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200
100-F-26:1_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,700
100-F-26:1_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,300
100-F-26:1_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900
100-F-26:1_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07
100-F-26:1_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	181,000
100-F-26:1_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	256,000
100-F-26:1_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,380
100-F-26:1_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	621
100-F-26:1_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900
100-F-26:1_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	35,100
100-F-26:1_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,300
100-F-26:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.50E+06
100-F-26:1_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	263

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:1_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14
100-F-26:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,600
100-F-26:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,700
100-F-26:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400
100-F-26:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,800
100-F-26:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	157
100-F-26:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,900
100-F-26:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300
100-F-26:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,200
100-F-26:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277
100-F-26:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.08E+07
100-F-26:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,900
100-F-26:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	352,000
100-F-26:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	93
100-F-26:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	373
100-F-26:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600
100-F-26:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,800
100-F-26:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,200
100-F-26:10_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06
100-F-26:10_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	880
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	7.9
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	10
100-F-26:10_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,700
100-F-26:10_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	117,000
100-F-26:10_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18
100-F-26:10_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19
100-F-26:10_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	25
100-F-26:10_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	280
100-F-26:10_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	250
100-F-26:10_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800
100-F-26:10_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,700
100-F-26:10_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	23
100-F-26:10_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800
100-F-26:10_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,800
100-F-26:10_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30
100-F-26:10_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26
100-F-26:10_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	270
100-F-26:10_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.65E+07
100-F-26:10_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,700
100-F-26:10_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	291,000
100-F-26:10_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,300
100-F-26:10_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	35
100-F-26:10_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,800
100-F-26:10_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,500
100-F-26:10_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	51,900
100-F-26:10_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.35E+06
100-F-26:10_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000
100-F-26:10_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	54
100-F-26:10_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	54
100-F-26:10_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,105
100-F-26:10_Shallow	non-Rad	Barium	7440-39-3	µg/kg	69,412
100-F-26:10_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	41
100-F-26:10_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	39
100-F-26:10_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19
100-F-26:10_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	48
100-F-26:10_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	310
100-F-26:10_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	93
100-F-26:10_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,790
100-F-26:10_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,640
100-F-26:10_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	60
100-F-26:10_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,034
100-F-26:10_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,269
100-F-26:10_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	4.9
100-F-26:10_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26
100-F-26:10_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	120
100-F-26:10_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	268
100-F-26:10_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24
100-F-26:10_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.51E+07
100-F-26:10_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,969
100-F-26:10_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	286,118
100-F-26:10_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	10
100-F-26:10_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.7
100-F-26:10_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	640
100-F-26:10_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,726
100-F-26:10_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	110
100-F-26:10_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,369
100-F-26:10_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,054
100-F-26:10_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,294
100-F-26:10_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5
100-F-26:10_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.80E+06
100-F-26:10_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,500
100-F-26:10_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	54,100
100-F-26:10_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	290

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:10_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	860
100-F-26:10_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,600
100-F-26:10_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150
100-F-26:10_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,800
100-F-26:10_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200
100-F-26:10_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000
100-F-26:10_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	39
100-F-26:10_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320
100-F-26:10_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.23E+07
100-F-26:10_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,900
100-F-26:10_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	257,000
100-F-26:10_Shallow_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	3.0
100-F-26:10_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	470
100-F-26:10_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500
100-F-26:10_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,700
100-F-26:10_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,500
100-F-26:11_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.19E+06
100-F-26:11_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,900
100-F-26:11_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	63,200
100-F-26:11_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	20
100-F-26:11_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30
100-F-26:11_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400
100-F-26:11_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160
100-F-26:11_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400
100-F-26:11_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,700
100-F-26:11_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,200
100-F-26:11_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	38
100-F-26:11_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390
100-F-26:11_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.85E+07
100-F-26:11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	23,600
100-F-26:11_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	294,000
100-F-26:11_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30
100-F-26:11_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	240
100-F-26:11_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100
100-F-26:11_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,900
100-F-26:11_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	56,700
100-F-26:12_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	5.61E+06
100-F-26:12_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,882
100-F-26:12_Overburden	non-Rad	Barium	7440-39-3	µg/kg	57,538
100-F-26:12_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	262
100-F-26:12_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,421
100-F-26:12_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	158
100-F-26:12_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.056
100-F-26:12_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,743
100-F-26:12_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	4,943
100-F-26:12_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,210
100-F-26:12_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.081
100-F-26:12_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	293
100-F-26:12_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.34E+07
100-F-26:12_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,695
100-F-26:12_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	240,610
100-F-26:12_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	60
100-F-26:12_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	620
100-F-26:12_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,811
100-F-26:12_Overburden	Rad	Tritium	10028-17-8	pCi/g	5.9
100-F-26:12_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	31,558
100-F-26:12_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	32,061
100-F-26:12_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.13E+06
100-F-26:12_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000
100-F-26:12_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,797
100-F-26:12_Shallow	non-Rad	Barium	7440-39-3	µg/kg	54,294
100-F-26:12_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	186
100-F-26:12_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,013
100-F-26:12_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	7,949
100-F-26:12_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,004
100-F-26:12_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,109
100-F-26:12_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320
100-F-26:12_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.20E+07
100-F-26:12_Shallow	non-Rad	Lead	7439-92-1	µg/kg	9,282
100-F-26:12_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	225,939
100-F-26:12_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	28
100-F-26:12_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	480
100-F-26:12_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,312
100-F-26:12_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	28,449
100-F-26:12_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	32,386
100-F-26:12_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.63E+06
100-F-26:12_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	3,626
100-F-26:12_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	73,949
100-F-26:12_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	160
100-F-26:12_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,972
100-F-26:12_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	190
100-F-26:12_Staging Pile Area	Rad	Carbon-14	14762-75-5	pCi/g	5.1
100-F-26:12_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.064

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:12_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	11,246
100-F-26:12_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,238
100-F-26:12_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	13,599
100-F-26:12_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	307
100-F-26:12_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.70E+07
100-F-26:12_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	7,611
100-F-26:12_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	264,980
100-F-26:12_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	56
100-F-26:12_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	534
100-F-26:12_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,946
100-F-26:12_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.56
100-F-26:12_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	38,910
100-F-26:12_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	44,863
100-F-26:13_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.76E+06
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	38
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14
100-F-26:13_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	9,600
100-F-26:13_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	92,800
100-F-26:13_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400
100-F-26:13_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	6,100
100-F-26:13_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.13
100-F-26:13_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,600
100-F-26:13_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400
100-F-26:13_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100
100-F-26:13_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07
100-F-26:13_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	29,600
100-F-26:13_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	295,000
100-F-26:13_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	520
100-F-26:13_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200
100-F-26:13_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,000
100-F-26:13_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,900
100-F-26:13_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.35E+06
100-F-26:13_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.1
100-F-26:13_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.6
100-F-26:13_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,402
100-F-26:13_Shallow	non-Rad	Barium	7440-39-3	µg/kg	52,589
100-F-26:13_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	337
100-F-26:13_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,500
100-F-26:13_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	13
100-F-26:13_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.055
100-F-26:13_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,231
100-F-26:13_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,264
100-F-26:13_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,289
100-F-26:13_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.44E+07
100-F-26:13_Shallow	non-Rad	Lead	7439-92-1	µg/kg	14,012
100-F-26:13_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	237,795
100-F-26:13_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	554
100-F-26:13_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,195
100-F-26:13_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	2.0
100-F-26:13_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,581
100-F-26:13_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.66
100-F-26:13_Shallow	Rad	Uranium-238	U-238	pCi/g	0.53
100-F-26:13_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,034
100-F-26:13_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,774
100-F-26:13_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	3.66E+06
100-F-26:13_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	44,500
100-F-26:13_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160
100-F-26:13_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400
100-F-26:13_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,900
100-F-26:13_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,300
100-F-26:13_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,300
100-F-26:13_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	9.76E+06
100-F-26:13_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,400
100-F-26:13_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	201,000
100-F-26:13_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480
100-F-26:13_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,300
100-F-26:13_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	22,300
100-F-26:13_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	26,700
100-F-26:14_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.75E+06
100-F-26:14_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,100
100-F-26:14_Overburden	non-Rad	Barium	7440-39-3	µg/kg	105,000
100-F-26:14_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	210
100-F-26:14_Overburden	non-Rad	Boron	7440-42-8	µg/kg	13,500
100-F-26:14_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	190
100-F-26:14_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	2.0
100-F-26:14_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,700
100-F-26:14_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,800
100-F-26:14_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.25
100-F-26:14_Overburden	non-Rad	Copper	7440-50-8	µg/kg	15,300
100-F-26:14_Overburden	Rad	Europium-152	14683-23-9	pCi/g	1.4
100-F-26:14_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07
100-F-26:14_Overburden	non-Rad	Lead	7439-92-1	µg/kg	20,400
100-F-26:14_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	298,000

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:14_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	70
100-F-26:14_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	560
100-F-26:14_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,400
100-F-26:14_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	9.6
100-F-26:14_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.37
100-F-26:14_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	42,400
100-F-26:14_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	38,900
100-F-26:14_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06
100-F-26:14_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	830
100-F-26:14_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,100
100-F-26:14_Shallow	non-Rad	Barium	7440-39-3	µg/kg	216,000
100-F-26:14_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	330
100-F-26:14_Shallow	non-Rad	Boron	7440-42-8	µg/kg	31,600
100-F-26:14_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.26
100-F-26:14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,500
100-F-26:14_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,600
100-F-26:14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.089
100-F-26:14_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,200
100-F-26:14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.53
100-F-26:14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500
100-F-26:14_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.67E+07
100-F-26:14_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,900
100-F-26:14_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	291,000
100-F-26:14_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20
100-F-26:14_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	510
100-F-26:14_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,000
100-F-26:14_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,200
100-F-26:14_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,900
100-F-26:15_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.77E+06
100-F-26:15_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500
100-F-26:15_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	66,900
100-F-26:15_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	290
100-F-26:15_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900
100-F-26:15_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.10
100-F-26:15_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,500
100-F-26:15_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,900
100-F-26:15_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,300
100-F-26:15_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.31
100-F-26:15_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.56E+07
100-F-26:15_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,000
100-F-26:15_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	277,000
100-F-26:15_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,700
100-F-26:15_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,700
100-F-26:15_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,800
100-F-26:15_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.49E+06
100-F-26:15_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	850
100-F-26:15_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,314
100-F-26:15_Shallow	non-Rad	Barium	7440-39-3	µg/kg	79,390
100-F-26:15_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	248
100-F-26:15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,162
100-F-26:15_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	170
100-F-26:15_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.099
100-F-26:15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,578
100-F-26:15_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,851
100-F-26:15_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,718
100-F-26:15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.22
100-F-26:15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	262
100-F-26:15_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.47E+07
100-F-26:15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,125
100-F-26:15_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	280,532
100-F-26:15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	130
100-F-26:15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	661
100-F-26:15_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,579
100-F-26:15_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,310
100-F-26:15_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	33,378
100-F-26:15_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.72E+06
100-F-26:15_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200
100-F-26:15_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	40,100
100-F-26:15_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	170
100-F-26:15_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400
100-F-26:15_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120
100-F-26:15_Shallow_Focused	Rad	Carbon-14	14762-75-5	pCi/g	2.5
100-F-26:15_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,200
100-F-26:15_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100
100-F-26:15_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,700
100-F-26:15_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.32E+07
100-F-26:15_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,200
100-F-26:15_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	235,000
100-F-26:15_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,400
100-F-26:15_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,300
100-F-26:15_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	28,300
100-F-26:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.96E+06
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14
100-F-26:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100
100-F-26:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	74,300
100-F-26:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	190
100-F-26:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700
100-F-26:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70
100-F-26:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,700
100-F-26:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,600
100-F-26:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,100
100-F-26:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390
100-F-26:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07
100-F-26:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,400
100-F-26:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	303,000
100-F-26:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	420
100-F-26:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,700
100-F-26:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,900
100-F-26:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,300
100-F-26:4_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.59E+06
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.3
100-F-26:4_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100
100-F-26:4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	260,000
100-F-26:4_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	420
100-F-26:4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	32,300
100-F-26:4_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	201
100-F-26:4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.062
100-F-26:4_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400
100-F-26:4_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000
100-F-26:4_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,300
100-F-26:4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240
100-F-26:4_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.68E+07
100-F-26:4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	20,000
100-F-26:4_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	297,000
100-F-26:4_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150
100-F-26:4_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850
100-F-26:4_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,900
100-F-26:4_Overburden_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	141,000
100-F-26:4_Overburden_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,453
100-F-26:4_Overburden_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.46
100-F-26:4_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.49
100-F-26:4_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,500
100-F-26:4_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	56,600
100-F-26:4_Overburden_Focused_3	non-Rad	Aluminum	7429-90-5	µg/kg	8.53E+06
100-F-26:4_Overburden_Focused_3	non-Rad	Arsenic	7440-38-2	µg/kg	6,500
100-F-26:4_Overburden_Focused_3	non-Rad	Barium	7440-39-3	µg/kg	109,000
100-F-26:4_Overburden_Focused_3	non-Rad	Beryllium	7440-41-7	µg/kg	230
100-F-26:4_Overburden_Focused_3	non-Rad	Boron	7440-42-8	µg/kg	5,100
100-F-26:4_Overburden_Focused_3	non-Rad	Cadmium	7440-43-9	µg/kg	99
100-F-26:4_Overburden_Focused_3	non-Rad	Chromium	7440-47-3	µg/kg	11,000
100-F-26:4_Overburden_Focused_3	non-Rad	Cobalt	7440-48-4	µg/kg	6,500
100-F-26:4_Overburden_Focused_3	non-Rad	Copper	7440-50-8	µg/kg	15,000
100-F-26:4_Overburden_Focused_3	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07
100-F-26:4_Overburden_Focused_3	non-Rad	Lead	7439-92-1	µg/kg	16,000
100-F-26:4_Overburden_Focused_3	non-Rad	Manganese	7439-96-5	µg/kg	299,000
100-F-26:4_Overburden_Focused_3	non-Rad	Mercury	7439-97-6	µg/kg	8.3
100-F-26:4_Overburden_Focused_3	non-Rad	Molybdenum	7439-98-7	µg/kg	300
100-F-26:4_Overburden_Focused_3	non-Rad	Nickel	7440-02-0	µg/kg	11,200
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,700
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	10,000
100-F-26:4_Overburden_Focused_3	non-Rad	Vanadium	7440-62-2	µg/kg	47,200
100-F-26:4_Overburden_Focused_3	non-Rad	Zinc	7440-66-6	µg/kg	41,900
100-F-26:4_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	4.66E+06
100-F-26:4_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	718
100-F-26:4_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	1,950
100-F-26:4_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	75,842
100-F-26:4_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	210
100-F-26:4_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	5,760
100-F-26:4_Shallow_1	Rad	Cesium-137	10045-97-3	pCi/g	0.26
100-F-26:4_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	8,347
100-F-26:4_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	4,973
100-F-26:4_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	11,577
100-F-26:4_Shallow_1	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	546
100-F-26:4_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.19E+07
100-F-26:4_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	5,817
100-F-26:4_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	232,660
100-F-26:4_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	60
100-F-26:4_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	890
100-F-26:4_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	9,380
100-F-26:4_Shallow_1	non-Rad	Selenium	7782-49-2	µg/kg	2,700
100-F-26:4_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	27,956
100-F-26:4_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	34,707
100-F-26:4_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06
100-F-26:4_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:4_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,827
100-F-26:4_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	92,173
100-F-26:4_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	209
100-F-26:4_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,903
100-F-26:4_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	89
100-F-26:4_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,066
100-F-26:4_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	6,033
100-F-26:4_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,975
100-F-26:4_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07
100-F-26:4_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	9,654
100-F-26:4_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	275,252
100-F-26:4_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	12
100-F-26:4_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	316
100-F-26:4_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,596
100-F-26:4_Shallow_2	non-Rad	Selenium	7782-49-2	µg/kg	930
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	6,371
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	25,575
100-F-26:4_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	43,748
100-F-26:4_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	37,849
100-F-26:4_Shallow_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	26
100-F-26:4_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.02E+06
100-F-26:4_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	381
100-F-26:4_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,600
100-F-26:4_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200
100-F-26:4_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19
100-F-26:4_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	611
100-F-26:4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	241
100-F-26:4_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700
100-F-26:4_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	669
100-F-26:4_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.58
100-F-26:4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700
100-F-26:4_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25
100-F-26:4_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,100
100-F-26:4_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,900
100-F-26:4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	226
100-F-26:4_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.23
100-F-26:4_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	35
100-F-26:4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	370
100-F-26:4_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07
100-F-26:4_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,600
100-F-26:4_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	310,000
100-F-26:4_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150
100-F-26:4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	314
100-F-26:4_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	39
100-F-26:4_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,100
100-F-26:4_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	33
100-F-26:4_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	591
100-F-26:4_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	219
100-F-26:4_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,100
100-F-26:4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,100
100-F-26:5_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.26E+06
100-F-26:5_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	662
100-F-26:5_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	35
100-F-26:5_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000
100-F-26:5_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	37,100
100-F-26:5_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	396
100-F-26:5_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000
100-F-26:5_Deep_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	292
100-F-26:5_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400
100-F-26:5_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,100
100-F-26:5_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,600
100-F-26:5_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	875
100-F-26:5_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.16E+07
100-F-26:5_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,600
100-F-26:5_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	206,000
100-F-26:5_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	98
100-F-26:5_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	436
100-F-26:5_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,900
100-F-26:5_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	28,300
100-F-26:5_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	64,200
100-F-26:5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.72E+06
100-F-26:5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300
100-F-26:5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	50,400
100-F-26:5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000
100-F-26:5_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	280
100-F-26:5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,300
100-F-26:5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,800
100-F-26:5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500
100-F-26:5_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280
100-F-26:5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.39E+07
100-F-26:5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,600
100-F-26:5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	231,000
100-F-26:5_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	320

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500
100-F-26:5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	33,500
100-F-26:5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,200
100-F-26:7_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.66E+06
100-F-26:7_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	680
100-F-26:7_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100
100-F-26:7_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	153,000
100-F-26:7_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	120
100-F-26:7_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	10,600
100-F-26:7_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130
100-F-26:7_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,700
100-F-26:7_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400
100-F-26:7_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,400
100-F-26:7_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07
100-F-26:7_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,900
100-F-26:7_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	319,000
100-F-26:7_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	66
100-F-26:7_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,500
100-F-26:7_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	47,600
100-F-26:7_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,400
100-F-26:7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.14E+06
100-F-26:7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	684
100-F-26:7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	1,957
100-F-26:7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	103,545
100-F-26:7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	65
100-F-26:7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	8,960
100-F-26:7_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	108
100-F-26:7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,159
100-F-26:7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,949
100-F-26:7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,070
100-F-26:7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	346
100-F-26:7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.78E+07
100-F-26:7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,875
100-F-26:7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	282,226
100-F-26:7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	18
100-F-26:7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	410
100-F-26:7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,497
100-F-26:7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	47,555
100-F-26:7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,672
100-F-26:7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07
100-F-26:7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,300
100-F-26:7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200
100-F-26:7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	64
100-F-26:7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700
100-F-26:7_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130
100-F-26:7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,000
100-F-26:7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300
100-F-26:7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,400
100-F-26:7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.84E+07
100-F-26:7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,700
100-F-26:7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	321,000
100-F-26:7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.8
100-F-26:7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,700
100-F-26:7_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210
100-F-26:7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,700
100-F-26:7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,500
100-F-26:7_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.46E+06
100-F-26:7_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	731
100-F-26:7_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	1,716
100-F-26:7_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	106,026
100-F-26:7_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	5,756
100-F-26:7_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	99
100-F-26:7_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	9,634
100-F-26:7_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,118
100-F-26:7_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	12,164
100-F-26:7_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07
100-F-26:7_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	3,804
100-F-26:7_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	276,272
100-F-26:7_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	6.7

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:7_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	366
100-F-26:7_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	9,792
100-F-26:7_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	960
100-F-26:7_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	52,232
100-F-26:7_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	37,192
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.9
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.4
100-F-26:8_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06
100-F-26:8_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,900
100-F-26:8_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	38
100-F-26:8_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	23
100-F-26:8_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	30
100-F-26:8_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	450
100-F-26:8_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	62
100-F-26:8_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,600
100-F-26:8_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500
100-F-26:8_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	37
100-F-26:8_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200
100-F-26:8_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900
100-F-26:8_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25
100-F-26:8_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33
100-F-26:8_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	220
100-F-26:8_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19
100-F-26:8_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07
100-F-26:8_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	11,500
100-F-26:8_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	332,000
100-F-26:8_Overburden_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	1.8
100-F-26:8_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600
100-F-26:8_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	57
100-F-26:8_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,900
100-F-26:8_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	54,000
100-F-26:8_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	1.2
100-F-26:8_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.1
100-F-26:8_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.0
100-F-26:8_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	4.2
100-F-26:8_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.25E+06
100-F-26:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,100
100-F-26:8_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,206
100-F-26:8_Shallow	non-Rad	Barium	7440-39-3	µg/kg	63,964
100-F-26:8_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	300
100-F-26:8_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	0.60
100-F-26:8_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	178
100-F-26:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,100
100-F-26:8_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.5
100-F-26:8_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	12,660
100-F-26:8_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,604
100-F-26:8_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,206
100-F-26:8_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	29
100-F-26:8_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.53
100-F-26:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22
100-F-26:8_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.60
100-F-26:8_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.44E+07
100-F-26:8_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,311
100-F-26:8_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	263,616
100-F-26:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	160
100-F-26:8_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.0
100-F-26:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520
100-F-26:8_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,851
100-F-26:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	29
100-F-26:8_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,335
100-F-26:8_Shallow	non-Rad	Silver	7440-22-4	µg/kg	510
100-F-26:8_Shallow	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	253,000
100-F-26:8_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,413
100-F-26:8_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,472
100-F-26:8_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.83E+06
100-F-26:8_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600
100-F-26:8_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	85,200
100-F-26:8_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	460
100-F-26:8_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	84
100-F-26:8_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,600
100-F-26:8_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300
100-F-26:8_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200
100-F-26:8_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22
100-F-26:8_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07
100-F-26:8_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,100
100-F-26:8_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:8_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,300
100-F-26:8_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,238
100-F-26:8_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.60
100-F-26:8_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.42
100-F-26:8_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,800
100-F-26:8_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	47,400
100-F-26:9_Overburden	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	27
100-F-26:9_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.48E+06
100-F-26:9_Overburden	non-Rad	Anthracene	120-12-7	µg/kg	22
100-F-26:9_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,000
100-F-26:9_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	180
100-F-26:9_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,859
100-F-26:9_Overburden	non-Rad	Barium	7440-39-3	µg/kg	266,416
100-F-26:9_Overburden	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	100
100-F-26:9_Overburden	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	110
100-F-26:9_Overburden	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	89
100-F-26:9_Overburden	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	97
100-F-26:9_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	317
100-F-26:9_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	243
100-F-26:9_Overburden	non-Rad	Boron	7440-42-8	µg/kg	15,662
100-F-26:9_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.044
100-F-26:9_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,384
100-F-26:9_Overburden	non-Rad	Chrysene	218-01-9	µg/kg	140
100-F-26:9_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,286
100-F-26:9_Overburden	non-Rad	Copper	7440-50-8	µg/kg	17,179
100-F-26:9_Overburden	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	22
100-F-26:9_Overburden	non-Rad	Fluoranthene	206-44-0	µg/kg	220
100-F-26:9_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	319
100-F-26:9_Overburden	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	71
100-F-26:9_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07
100-F-26:9_Overburden	non-Rad	Lead	7439-92-1	µg/kg	6,965
100-F-26:9_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	277,999
100-F-26:9_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	100
100-F-26:9_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300
100-F-26:9_Overburden	non-Rad	Naphthalene	91-20-3	µg/kg	18
100-F-26:9_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,648
100-F-26:9_Overburden	non-Rad	Pyrene	129-00-0	µg/kg	260
100-F-26:9_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	40,062
100-F-26:9_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	44,529
100-F-26:9_Overburden_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	23
100-F-26:9_Overburden_Focused	non-Rad	4-Nitroaniline	100-01-6	µg/kg	37
100-F-26:9_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.35E+06
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	72
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	77
100-F-26:9_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700
100-F-26:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	659,000
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	21
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23
100-F-26:9_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26
100-F-26:9_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21
100-F-26:9_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	860
100-F-26:9_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	450
100-F-26:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	61,700
100-F-26:9_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160
100-F-26:9_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,500
100-F-26:9_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	44
100-F-26:9_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,600
100-F-26:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	183,000
100-F-26:9_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	32
100-F-26:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240
100-F-26:9_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07
100-F-26:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	81,700
100-F-26:9_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	254,000
100-F-26:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30
100-F-26:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100
100-F-26:9_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	30
100-F-26:9_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,200
100-F-26:9_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	59
100-F-26:9_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,300
100-F-26:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,800
100-F-26:9_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.52E+06
100-F-26:9_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	26
100-F-26:9_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1
100-F-26:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17
100-F-26:9_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,650
100-F-26:9_Shallow	non-Rad	Barium	7440-39-3	µg/kg	117,460
100-F-26:9_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	108
100-F-26:9_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	120
100-F-26:9_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	85
100-F-26:9_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	100
100-F-26:9_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	271
100-F-26:9_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	152
100-F-26:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	14,334

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:9_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	174
100-F-26:9_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,462
100-F-26:9_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	134
100-F-26:9_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,363
100-F-26:9_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,904
100-F-26:9_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	39
100-F-26:9_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	235
100-F-26:9_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	284
100-F-26:9_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74
100-F-26:9_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.74E+07
100-F-26:9_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,799
100-F-26:9_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	285,355
100-F-26:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	278
100-F-26:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	910
100-F-26:9_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,157
100-F-26:9_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	227
100-F-26:9_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	42,960
100-F-26:9_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,180
100-F-26:9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.19E+07
100-F-26:9_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	20
100-F-26:9_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,600
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60
100-F-26:9_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800
100-F-26:9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	329,000
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	90
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	71
100-F-26:9_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	49
100-F-26:9_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	68
100-F-26:9_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	596
100-F-26:9_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	690
100-F-26:9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	28,600
100-F-26:9_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	49
100-F-26:9_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	340
100-F-26:9_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.29
100-F-26:9_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,000
100-F-26:9_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	120
100-F-26:9_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200
100-F-26:9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,500
100-F-26:9_Shallow_Focused	non-Rad	Diethylphthalate	84-66-2	µg/kg	34
100-F-26:9_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	136
100-F-26:9_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	130
100-F-26:9_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	360
100-F-26:9_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	47
100-F-26:9_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.52E+07
100-F-26:9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	16,900
100-F-26:9_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000
100-F-26:9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	810
100-F-26:9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100
100-F-26:9_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	23
100-F-26:9_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200
100-F-26:9_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	310
100-F-26:9_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,300
100-F-26:9_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,200
100-F-26:9_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,300
100-F-26:9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000
100-F-26:9_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.9
100-F-26:9_Staging Pile Area	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7
100-F-26:9_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.39E+06
100-F-26:9_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	26
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19
100-F-26:9_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,014
100-F-26:9_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	59,167
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	120
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	140
100-F-26:9_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	75
100-F-26:9_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	120
100-F-26:9_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	462
100-F-26:9_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.9
100-F-26:9_Staging Pile Area	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	333
100-F-26:9_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,604
100-F-26:9_Staging Pile Area	non-Rad	Chlordane	57-74-9	µg/kg	2.6
100-F-26:9_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	10,408
100-F-26:9_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	160
100-F-26:9_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,815
100-F-26:9_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	15,482
100-F-26:9_Staging Pile Area	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26
100-F-26:9_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	200
100-F-26:9_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	281
100-F-26:9_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83
100-F-26:9_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07
100-F-26:9_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	35,063

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-26:9_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	263,395
100-F-26:9_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	120
100-F-26:9_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	750
100-F-26:9_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	11,185
100-F-26:9_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	260
100-F-26:9_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	30,622
100-F-26:9_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	36,533
100-F-31_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.07E+06
100-F-31_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	490
100-F-31_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	17
100-F-31_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,822
100-F-31_Shallow	non-Rad	Barium	7440-39-3	µg/kg	75,963
100-F-31_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	45
100-F-31_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	41
100-F-31_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36
100-F-31_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	39
100-F-31_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	166
100-F-31_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	59
100-F-31_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,890
100-F-31_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	685
100-F-31_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,321
100-F-31_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	52
100-F-31_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,614
100-F-31_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,914
100-F-31_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34
100-F-31_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	69
100-F-31_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	363
100-F-31_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	25
100-F-31_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.51E+07
100-F-31_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,680
100-F-31_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	230,196
100-F-31_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200
100-F-31_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,916
100-F-31_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	89
100-F-31_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,376
100-F-31_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,652
100-F-33_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	31
100-F-33_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190
100-F-33_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,355
100-F-33_Shallow	non-Rad	Barium	7440-39-3	µg/kg	68,146
100-F-33_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	40
100-F-33_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	64
100-F-33_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,514
100-F-33_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100
100-F-33_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,437
100-F-33_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,528
100-F-33_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,662
100-F-33_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27
100-F-33_Shallow	non-Rad	Lead	7439-92-1	µg/kg	9,061
100-F-33_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	256,825
100-F-33_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	47
100-F-33_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	255
100-F-33_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	22
100-F-33_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,321
100-F-33_Shallow	non-Rad	Phenol	108-95-2	µg/kg	19
100-F-33_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,010
100-F-33_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	71,718
100-F-33_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.64E+06
100-F-33_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	347
100-F-33_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	94
100-F-33_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000
100-F-33_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,200
100-F-33_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	408
100-F-33_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700
100-F-33_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	171
100-F-33_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.19
100-F-33_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,400
100-F-33_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,500
100-F-33_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	44,200
100-F-33_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.095
100-F-33_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277
100-F-33_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17
100-F-33_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.05E+07
100-F-33_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,700
100-F-33_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	312,000
100-F-33_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	266
100-F-33_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,800
100-F-33_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,400
100-F-33_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	58,200
100-F-33_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48
100-F-33_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	77,400
100-F-33_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	52
100-F-33_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-33_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,400
100-F-33_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,400
100-F-33_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500
100-F-33_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30
100-F-33_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,300
100-F-33_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	250,000
100-F-33_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	381
100-F-33_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	280
100-F-33_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,900
100-F-33_Staging pile area_Focused	non-Rad	Silver	7440-22-4	µg/kg	174
100-F-33_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,100
100-F-33_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	49,000
100-F-35_Shallow	Rad	Americium-241	14596-10-2	pCi/g	1.8
100-F-35_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	2.6
100-F-35_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	520
100-F-35_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	1.7
100-F-35_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.64
100-F-35_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,399
100-F-35_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.91
100-F-35_Shallow	Rad	Uranium-238	U-238	pCi/g	0.81
100-F-36_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	3.66E+06
100-F-36_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	1,800
100-F-36_Shallow	non-Rad	Barium	7440-39-3	µg/kg	33,500
100-F-36_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	190
100-F-36_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	6,900
100-F-36_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	3,800
100-F-36_Shallow	non-Rad	Copper	7440-50-8	µg/kg	10,200
100-F-36_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	325
100-F-36_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.08E+07
100-F-36_Shallow	non-Rad	Lead	7439-92-1	µg/kg	2,100
100-F-36_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	195,000
100-F-36_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,100
100-F-36_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	3,007
100-F-36_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.69
100-F-36_Shallow	Rad	Uranium-238	U-238	pCi/g	1.0
100-F-36_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	27,700
100-F-36_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	25,300
100-F-36_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.05E+06
100-F-36_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000
100-F-36_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,100
100-F-36_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	350
100-F-36_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200
100-F-36_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,800
100-F-36_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900
100-F-36_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100
100-F-36_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	866
100-F-36_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07
100-F-36_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,500
100-F-36_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	356,000
100-F-36_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,000
100-F-36_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,131
100-F-36_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.57
100-F-36_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.72
100-F-36_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,800
100-F-36_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,000
100-F-37_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	17,300
100-F-37_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	508,000
100-F-37_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	340
100-F-37_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	710
100-F-37_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,100
100-F-37_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	214,000
100-F-37_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	70
100-F-38_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.77E+06
100-F-38_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32
100-F-38_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400
100-F-38_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	388,000
100-F-38_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	434
100-F-38_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	513
100-F-38_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	23,500
100-F-38_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	117
100-F-38_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,500
100-F-38_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,300
100-F-38_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,000
100-F-38_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	47
100-F-38_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,900
100-F-38_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07
100-F-38_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	38,400
100-F-38_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	291,000
100-F-38_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	510
100-F-38_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800
100-F-38_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,100
100-F-38_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,400
100-F-4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,100

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	3,200
100-F-4_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.052
100-F-44:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.19E+06
100-F-44:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200
100-F-44:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	51,800
100-F-44:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	140
100-F-44:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,800
100-F-44:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70
100-F-44:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,200
100-F-44:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,800
100-F-44:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,800
100-F-44:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280
100-F-44:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07
100-F-44:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,200
100-F-44:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	235,000
100-F-44:2_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20
100-F-44:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600
100-F-44:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,600
100-F-44:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	90,700
100-F-44:5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.86E+06
100-F-44:5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300
100-F-44:5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	46,400
100-F-44:5_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	340
100-F-44:5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100
100-F-44:5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,900
100-F-44:5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200
100-F-44:5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500
100-F-44:5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.29E+07
100-F-44:5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100
100-F-44:5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	250,000
100-F-44:5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,200
100-F-44:5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	30,600
100-F-44:5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	29,100
100-F-44:8_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.97E+06
100-F-44:8_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	9.1
100-F-44:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	360
100-F-44:8_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	84
100-F-44:8_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	59
100-F-44:8_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,416
100-F-44:8_Shallow	non-Rad	Barium	7440-39-3	µg/kg	125,676
100-F-44:8_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23
100-F-44:8_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	36
100-F-44:8_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	18
100-F-44:8_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.8
100-F-44:8_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	143
100-F-44:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,762
100-F-44:8_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	95
100-F-44:8_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,810
100-F-44:8_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	23
100-F-44:8_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,982
100-F-44:8_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,533
100-F-44:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	35
100-F-44:8_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19
100-F-44:8_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07
100-F-44:8_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,741
100-F-44:8_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	289,822
100-F-44:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	106
100-F-44:8_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1
100-F-44:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	386
100-F-44:8_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,934
100-F-44:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	39
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	47,322
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	105,648
100-F-44:8_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	49,287
100-F-44:8_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	47,891
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.46E+06
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	26
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	29
100-F-44:8_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,392
100-F-44:8_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	69,258
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	31
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	31
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.7

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-44:8_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	99
100-F-44:8_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,433
100-F-44:8_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	96
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	8,432
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	24
100-F-44:8_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,348
100-F-44:8_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	13,669
100-F-44:8_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	50
100-F-44:8_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07
100-F-44:8_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	5,664
100-F-44:8_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	271,082
100-F-44:8_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	53
100-F-44:8_Staging Pile Area Footprint	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1
100-F-44:8_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	10,454
100-F-44:8_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	56
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	13,238
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	110,000
100-F-44:8_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	50,796
100-F-44:8_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	43,092
100-F-44:9_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.52E+06
100-F-44:9_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520
100-F-44:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	31
100-F-44:9_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,000
100-F-44:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,300
100-F-44:9_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	88
100-F-44:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000
100-F-44:9_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	210
100-F-44:9_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.081
100-F-44:9_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,700
100-F-44:9_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,100
100-F-44:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,800
100-F-44:9_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.12
100-F-44:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	311
100-F-44:9_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.63E+07
100-F-44:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,600
100-F-44:9_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	281,000
100-F-44:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23
100-F-44:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850
100-F-44:9_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	18,600
100-F-44:9_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100
100-F-44:9_Overburden_Focused	Rad	Tritium	10028-17-8	pCi/g	0.018
100-F-44:9_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,200
100-F-44:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	55,300
100-F-44:9_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.93E+06
100-F-44:9_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	510
100-F-44:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	34
100-F-44:9_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,733
100-F-44:9_Shallow	non-Rad	Barium	7440-39-3	µg/kg	59,638
100-F-44:9_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	173
100-F-44:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,450
100-F-44:9_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	92
100-F-44:9_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,182
100-F-44:9_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,559
100-F-44:9_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,504
100-F-44:9_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.84E+07
100-F-44:9_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,400
100-F-44:9_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	290,704
100-F-44:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33
100-F-44:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	374
100-F-44:9_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,979
100-F-44:9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.21
100-F-44:9_Shallow	Rad	Tritium	10028-17-8	pCi/g	0.015
100-F-44:9_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	42,977
100-F-44:9_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,535

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	7.90E+06
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27
100-F-44:9_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,142
100-F-44:9_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	65,552
100-F-44:9_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	134
100-F-44:9_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,980
100-F-44:9_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	86
100-F-44:9_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.18
100-F-44:9_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	12,509
100-F-44:9_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,335
100-F-44:9_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	15,113
100-F-44:9_Staging Pile Area Footprint	Rad	Europium-152	14683-23-9	pCi/g	1.1
100-F-44:9_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	178
100-F-44:9_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.95E+07
100-F-44:9_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	4,786
100-F-44:9_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	304,989
100-F-44:9_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	34
100-F-44:9_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	450
100-F-44:9_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	11,033
100-F-44:9_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	930
100-F-44:9_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	430
100-F-44:9_Staging Pile Area Footprint	Rad	Tritium	10028-17-8	pCi/g	0.090
100-F-44:9_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	46,865
100-F-44:9_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	40,985
100-F-45_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.63E+06
100-F-45_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400
100-F-45_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,700
100-F-45_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160
100-F-45_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,300
100-F-45_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	98
100-F-45_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.067
100-F-45_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	20,700
100-F-45_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,300
100-F-45_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,500
100-F-45_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	231
100-F-45_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.41E+07
100-F-45_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700
100-F-45_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	237,000
100-F-45_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	59
100-F-45_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600
100-F-45_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	34,500
100-F-45_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500
100-F-45_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.92E+06
100-F-45_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,484
100-F-45_Shallow	non-Rad	Barium	7440-39-3	µg/kg	72,078
100-F-45_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	108
100-F-45_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,700
100-F-45_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	290
100-F-45_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.7
100-F-45_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	34,335
100-F-45_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,959
100-F-45_Shallow	non-Rad	Copper	7440-50-8	µg/kg	17,272
100-F-45_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.32
100-F-45_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	960
100-F-45_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.58E+07
100-F-45_Shallow	non-Rad	Lead	7439-92-1	µg/kg	7,617
100-F-45_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	274,740
100-F-45_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,034
100-F-45_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	487

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-45_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,261
100-F-45_Shallow	non-Rad	Silver	7440-22-4	µg/kg	180
100-F-45_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,311
100-F-45_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	54,296
100-F-45_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.96E+06
100-F-45_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,349
100-F-45_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	79,938
100-F-45_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	156
100-F-45_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	2,766
100-F-45_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	91
100-F-45_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.11
100-F-45_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	11,780
100-F-45_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,154
100-F-45_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	12,140
100-F-45_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	274
100-F-45_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.63E+07
100-F-45_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	5,644
100-F-45_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	254,059
100-F-45_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	15
100-F-45_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	310
100-F-45_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	10,032
100-F-45_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	40,197
100-F-45_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	36,668
100-F-46_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.82E+06
100-F-46_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,200
100-F-46_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8
100-F-46_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,900
100-F-46_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	57,700
100-F-46_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.9
100-F-46_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.9
100-F-46_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.0
100-F-46_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6
100-F-46_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	510
100-F-46_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,900
100-F-46_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,500
100-F-46_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200
100-F-46_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000
100-F-46_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280
100-F-46_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	10
100-F-46_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.52E+07
100-F-46_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,500
100-F-46_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	245,000
100-F-46_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	860
100-F-46_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,000
100-F-46_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	380
100-F-46_Shallow_Focused	Rad	Tritium	10028-17-8	pCi/g	34
100-F-46_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	34,200
100-F-46_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	30,600
100-F-47_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.28E+06
100-F-47_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	390
100-F-47_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.2
100-F-47_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	21
100-F-47_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,711
100-F-47_Shallow	non-Rad	Barium	7440-39-3	µg/kg	51,357
100-F-47_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	62
100-F-47_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57
100-F-47_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	100
100-F-47_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	81
100-F-47_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660
100-F-47_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,833
100-F-47_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	93
100-F-47_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,781
100-F-47_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	72
100-F-47_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,086

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-47_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,960
100-F-47_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	97
100-F-47_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	46
100-F-47_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.58E+07
100-F-47_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,383
100-F-47_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	259,094
100-F-47_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	907
100-F-47_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	450
100-F-47_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,083
100-F-47_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	84
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	19,258
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	37,638
100-F-47_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	37,121
100-F-47_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,988
100-F-48_Overburden	non-Rad	2-Butanone	78-93-3	µg/kg	2.5
100-F-48_Overburden	non-Rad	Acetone	67-64-1	µg/kg	16
100-F-48_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.88E+06
100-F-48_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	79
100-F-48_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,350
100-F-48_Overburden	non-Rad	Barium	7440-39-3	µg/kg	63,354
100-F-48_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	221
100-F-48_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87
100-F-48_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,283
100-F-48_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	83
100-F-48_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	10,921
100-F-48_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	5,677
100-F-48_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,682
100-F-48_Overburden	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5
100-F-48_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.48E+07
100-F-48_Overburden	non-Rad	Lead	7439-92-1	µg/kg	7,551
100-F-48_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	257,998
100-F-48_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	7.1
100-F-48_Overburden	non-Rad	Methoxychlor	72-43-5	µg/kg	1.2
100-F-48_Overburden	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2
100-F-48_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	440
100-F-48_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,836
100-F-48_Overburden	non-Rad	Phenol	108-95-2	µg/kg	22
100-F-48_Overburden	non-Rad	Toluene	108-88-3	µg/kg	1.0
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,551
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,008
100-F-48_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	38,122
100-F-48_Overburden	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.1
100-F-48_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	31,504
100-F-48_Overburden_Focused	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	4.5
100-F-48_Overburden_Focused	non-Rad	2-Butanone	78-93-3	µg/kg	6.8
100-F-48_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.89
100-F-48_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	39
100-F-48_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.76E+06
100-F-48_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23
100-F-48_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800
100-F-48_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,300
100-F-48_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210
100-F-48_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,500
100-F-48_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	91
100-F-48_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,900
100-F-48_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800
100-F-48_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,500
100-F-48_Overburden_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7
100-F-48_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.77E+07
100-F-48_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,500
100-F-48_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	289,000
100-F-48_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	8.9
100-F-48_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	3.7
100-F-48_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,400
100-F-48_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	38
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	4,000
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,100
100-F-48_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,600
100-F-48_Overburden_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.0
100-F-48_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,600
100-F-48_Shallow_1	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	1.3
100-F-48_Shallow_1	non-Rad	2-Butanone	78-93-3	µg/kg	8.5
100-F-48_Shallow_1	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	21
100-F-48_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.4
100-F-48_Shallow_1	non-Rad	Acetone	67-64-1	µg/kg	64
100-F-48_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	7.52E+06
100-F-48_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	520
100-F-48_Shallow_1	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.1
100-F-48_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	93
100-F-48_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	2,517
100-F-48_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	74,696
100-F-48_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	145
100-F-48_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	4,367

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-48_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	100
100-F-48_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	12,289
100-F-48_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	52
100-F-48_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,291
100-F-48_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	13,785
100-F-48_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	2.3
100-F-48_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	32
100-F-48_Shallow_1	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5
100-F-48_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.54E+07
100-F-48_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	8,470
100-F-48_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	267,107
100-F-48_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	151
100-F-48_Shallow_1	non-Rad	Methoxychlor	72-43-5	µg/kg	13
100-F-48_Shallow_1	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2
100-F-48_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	250
100-F-48_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	11,481
100-F-48_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	660
100-F-48_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	37
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	20,868
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	86,681
100-F-48_Shallow_1	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	664
100-F-48_Shallow_1	Rad	Uranium-234	13966-29-5	pCi/g	0.26
100-F-48_Shallow_1	Rad	Uranium-238	U-238	pCi/g	0.17
100-F-48_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	37,729
100-F-48_Shallow_1	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2
100-F-48_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	43,368
100-F-48_Shallow_2	non-Rad	2-Butanone	78-93-3	µg/kg	5.0
100-F-48_Shallow_2	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	24
100-F-48_Shallow_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	12
100-F-48_Shallow_2	non-Rad	Acetone	67-64-1	µg/kg	49
100-F-48_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	6.66E+06
100-F-48_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15
100-F-48_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,306
100-F-48_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	62,416
100-F-48_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25
100-F-48_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	139
100-F-48_Shallow_2	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	78
100-F-48_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	2,442
100-F-48_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	94
100-F-48_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	10,945
100-F-48_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,853
100-F-48_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,261
100-F-48_Shallow_2	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.56
100-F-48_Shallow_2	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7
100-F-48_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	36
100-F-48_Shallow_2	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	4.0
100-F-48_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.49E+07
100-F-48_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	4,949
100-F-48_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	244,867
100-F-48_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	17
100-F-48_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,086
100-F-48_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	36
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	12,909
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,139
100-F-48_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	36,873
100-F-48_Shallow_2	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2
100-F-48_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	40,871
100-F-49_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.81
100-F-49_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.60
100-F-49_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.9
100-F-49_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.95E+06
100-F-49_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	8.6
100-F-49_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	634
100-F-49_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	20
100-F-49_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.2
100-F-49_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,301
100-F-49_Shallow	non-Rad	Barium	7440-39-3	µg/kg	74,059
100-F-49_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	16
100-F-49_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	37
100-F-49_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	43
100-F-49_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20
100-F-49_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	76
100-F-49_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660
100-F-49_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,083
100-F-49_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	111
100-F-49_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.1
100-F-49_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,187
100-F-49_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	36
100-F-49_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,309
100-F-49_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,295
100-F-49_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	3.1
100-F-49_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	77
100-F-49_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	26

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-49_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.62E+07
100-F-49_Shallow	non-Rad	Lead	7439-92-1	µg/kg	7,067
100-F-49_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	252,487
100-F-49_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	11
100-F-49_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	400
100-F-49_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,656
100-F-49_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	67
100-F-49_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,200
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,845
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,241
100-F-49_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	41,195
100-F-49_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	39,904
100-F-49_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.43
100-F-49_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.00E+06
100-F-49_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520
100-F-49_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800
100-F-49_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	42,800
100-F-49_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	530
100-F-49_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660
100-F-49_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	68
100-F-49_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.65
100-F-49_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900
100-F-49_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700
100-F-49_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600
100-F-49_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07
100-F-49_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100
100-F-49_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	236,000
100-F-49_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,000
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	11,000
100-F-49_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,400
100-F-49_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	33,200
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.80
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.98E+06
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	840
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	105,000
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.7
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.9
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	34
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	4,100
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	1.0
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,100
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	10
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,900
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.87E+07
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,900
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	326,000
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	16
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	16,500
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	19
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	23,000

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	53,000
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,700
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,000
100-F-50_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.4
100-F-50_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.62E+06
100-F-50_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200
100-F-50_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	61,800
100-F-50_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	810
100-F-50_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100
100-F-50_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,500
100-F-50_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.19
100-F-50_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,600
100-F-50_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400
100-F-50_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,800
100-F-50_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21
100-F-50_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.13E+07
100-F-50_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,900
100-F-50_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	310,000
100-F-50_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,700
100-F-50_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	53,100
100-F-50_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,400
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	16
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	40
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	73,200
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.8
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	150
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120
100-F-51 and 100-F-63_Overburden_Focused	Rad	Carbon-14	14762-75-5	pCi/g	0.46
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	20,900
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,600
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	270,000
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	75
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,600
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	7,900
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	476
100-F-51 and 100-F-63_Overburden_Focused	Rad	Uranium-234	13966-29-5	pCi/g	0.16
100-F-51 and 100-F-63_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.16
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,600
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	52,500
100-F-51 and 100-F-63_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.5
100-F-51 and 100-F-63_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,797
100-F-51 and 100-F-63_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,933
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.9
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	11
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2
100-F-51 and 100-F-63_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	130
100-F-51 and 100-F-63_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660
100-F-51 and 100-F-63_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,283
100-F-51 and 100-F-63_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	81
100-F-51 and 100-F-63_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	0.67
100-F-51 and 100-F-63_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,966
100-F-51 and 100-F-63_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	9.6
100-F-51 and 100-F-63_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,629
100-F-51 and 100-F-63_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,379
100-F-51 and 100-F-63_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	15
100-F-51 and 100-F-63_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.59E+07
100-F-51 and 100-F-63_Shallow	non-Rad	Lead	7439-92-1	µg/kg	19,021
100-F-51 and 100-F-63_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	248,671
100-F-51 and 100-F-63_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33
100-F-51 and 100-F-63_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,470
100-F-51 and 100-F-63_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	13
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,120
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	5,627
100-F-51 and 100-F-63_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	587
100-F-51 and 100-F-63_Shallow	Rad	Uranium-234	13966-29-5	pCi/g	0.21
100-F-51 and 100-F-63_Shallow	Rad	Uranium-238	U-238	pCi/g	0.22
100-F-51 and 100-F-63_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	39,841
100-F-51 and 100-F-63_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,147
100-F-52_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.02E+06
100-F-52_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,100
100-F-52_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,600
100-F-52_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19
100-F-52_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	490
100-F-52_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	240
100-F-52_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500
100-F-52_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,000
100-F-52_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,400
100-F-52_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,800
100-F-52_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	31
100-F-52_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100
100-F-52_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.48E+07
100-F-52_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,200
100-F-52_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	270,000
100-F-52_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	10
100-F-52_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900
100-F-52_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,605
100-F-52_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.55
100-F-52_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.88
100-F-52_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	35,100
100-F-52_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,100
100-F-53_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.00E+06
100-F-53_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,010
100-F-53_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,610
100-F-53_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	75,200
100-F-53_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	370
100-F-53_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	200
100-F-53_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000
100-F-53_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130
100-F-53_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,200
100-F-53_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,790
100-F-53_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,400
100-F-53_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.94E+07
100-F-53_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	21,200
100-F-53_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	413,000
100-F-53_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	380
100-F-53_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100
100-F-53_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,673
100-F-53_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.80
100-F-53_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.56
100-F-53_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,600
100-F-53_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,900
100-F-54_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.45
100-F-54_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.60
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	12
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	11
100-F-55 and 100-F-62_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	16
100-F-55 and 100-F-62_Shallow_1	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	9.0
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	9.14E+06
100-F-55 and 100-F-62_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	8.5
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17
100-F-55 and 100-F-62_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	3,302

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-55 and 100-F-62_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	103,747
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	44
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	42
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21
100-F-55 and 100-F-62_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	286
100-F-55 and 100-F-62_Shallow_1	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	353
100-F-55 and 100-F-62_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	2,179
100-F-55 and 100-F-62_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	133
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chlordane	57-74-9	µg/kg	8.6
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	12,368
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	46
100-F-55 and 100-F-62_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,919
100-F-55 and 100-F-62_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	16,925
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	12
100-F-55 and 100-F-62_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	67
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	150
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	17
100-F-55 and 100-F-62_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	36
100-F-55 and 100-F-62_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07
100-F-55 and 100-F-62_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	65,065
100-F-55 and 100-F-62_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	325,163
100-F-55 and 100-F-62_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	25
100-F-55 and 100-F-62_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	260
100-F-55 and 100-F-62_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	12,018
100-F-55 and 100-F-62_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	25
100-F-55 and 100-F-62_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	177
100-F-55 and 100-F-62_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	42,866
100-F-55 and 100-F-62_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	53,696
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.03E+06
100-F-55 and 100-F-62_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	17
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1248	12672-29-6	µg/kg	240
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	15
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5
100-F-55 and 100-F-62_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	3,053
100-F-55 and 100-F-62_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	85,283
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	45
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29
100-F-55 and 100-F-62_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	146
100-F-55 and 100-F-62_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,158
100-F-55 and 100-F-62_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	100
100-F-55 and 100-F-62_Shallow_2	Rad	Cesium-137	10045-97-3	pCi/g	0.051
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,540
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	71
100-F-55 and 100-F-62_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	6,397
100-F-55 and 100-F-62_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,411
100-F-55 and 100-F-62_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	23
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	127
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	9.6
100-F-55 and 100-F-62_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	39
100-F-55 and 100-F-62_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.59E+07
100-F-55 and 100-F-62_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	5,536
100-F-55 and 100-F-62_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	256,619
100-F-55 and 100-F-62_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	6,786
100-F-55 and 100-F-62_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	250
100-F-55 and 100-F-62_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	12,732
100-F-55 and 100-F-62_Shallow_2	non-Rad	Phenol	108-95-2	µg/kg	35
100-F-55 and 100-F-62_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	142
100-F-55 and 100-F-62_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	39,226
100-F-55 and 100-F-62_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	49,926
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.36E+06
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	660
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	4.9
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	48,600
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.4
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.7
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.3
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	38
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	76
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,800
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.7
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,900
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,000
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.74E+07
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	286,000
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,400
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,000
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.81
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Anthracene	120-12-7	µg/kg	26
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1248	12672-29-6	µg/kg	25
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	19
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	22
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,900
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	157,000
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	110
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	86
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	62
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	330
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	8,300
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.14
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.91
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,900
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	100
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,200
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	3.0
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	200
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluorene	86-73-7	µg/kg	16
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	749
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	49
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,500
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	340,000

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	690
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	390
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	15,000
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Phenol	108-95-2	µg/kg	80
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	160
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Silver	7440-22-4	µg/kg	970
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,600
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	74,800
100-F-56:1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.95E+06
100-F-56:1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.2
100-F-56:1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,037
100-F-56:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,818
100-F-56:1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	174
100-F-56:1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,317
100-F-56:1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	78
100-F-56:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,361
100-F-56:1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,840
100-F-56:1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,275
100-F-56:1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07
100-F-56:1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,270
100-F-56:1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	276,638
100-F-56:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,771
100-F-56:1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	251
100-F-56:1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,713
100-F-56:1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	48,417
100-F-56:1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,948
100-F-56:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.02E+06
100-F-56:1_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	18
100-F-56:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600
100-F-56:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	91,000
100-F-56:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	420
100-F-56:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,600
100-F-56:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140
100-F-56:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	58,600
100-F-56:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500
100-F-56:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,800
100-F-56:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,560
100-F-56:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07
100-F-56:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,500
100-F-56:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	296,000
100-F-56:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	21
100-F-56:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	450
100-F-56:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200
100-F-56:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,300
100-F-56:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,300
100-F-60_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.22E+06
100-F-60_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100
100-F-60_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,000
100-F-60_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	200
100-F-60_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,300
100-F-60_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	45
100-F-60_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,900
100-F-60_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100
100-F-60_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200
100-F-60_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.52E+07
100-F-60_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	26,000
100-F-60_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	248,000
100-F-60_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.9
100-F-60_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100
100-F-60_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,600
100-F-60_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	37,000
100-F-61_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.62E+06
100-F-61_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	61
100-F-61_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130
100-F-61_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,668
100-F-61_Shallow	non-Rad	Barium	7440-39-3	µg/kg	66,908
100-F-61_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	362
100-F-61_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	197
100-F-61_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	135
100-F-61_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	79
100-F-61_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	397
100-F-61_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42
100-F-61_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,403
100-F-61_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	106
100-F-61_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,835

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
100-F-61_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	224
100-F-61_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,254
100-F-61_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,346
100-F-61_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	35
100-F-61_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	511
100-F-61_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	100
100-F-61_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	99
100-F-61_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07
100-F-61_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,243
100-F-61_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	298,817
100-F-61_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	640
100-F-61_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520
100-F-61_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,237
100-F-61_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	554
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	22,371
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,222
100-F-61_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,351
100-F-61_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	39,326
100-F-7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.10E+06
100-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700
100-F-7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,500
100-F-7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	344
100-F-7_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30
100-F-7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000
100-F-7_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	123
100-F-7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,900
100-F-7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000
100-F-7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,800
100-F-7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.72E+07
100-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,300
100-F-7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	262,000
100-F-7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	131
100-F-7_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	299
100-F-7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200
100-F-7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,400
100-F-7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,800
100-F-9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.81E+06
100-F-9_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600
100-F-9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	42,300
100-F-9_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	220
100-F-9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,300
100-F-9_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	60
100-F-9_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,900
100-F-9_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700
100-F-9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600
100-F-9_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07
100-F-9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700
100-F-9_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	273,000
100-F-9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	410
100-F-9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	170
100-F-9_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600
100-F-9_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,200
100-F-9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,300
116-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	11,119
116-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,955
116-F-1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	2.5
116-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.17
116-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57
116-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	828
116-F-10_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.5
116-F-10_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,600
116-F-10_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.14
116-F-10_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57
116-F-10_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,051
116-F-10_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.54
116-F-10_Shallow	Rad	Uranium-238	U-238	pCi/g	0.69
116-F-11_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.27
116-F-11_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.4
116-F-11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,600
116-F-14_Deep	Rad	Carbon-14	14762-75-5	pCi/g	9.8
116-F-14_Deep	Rad	Cesium-137	10045-97-3	pCi/g	7.9
116-F-14_Deep	non-Rad	Chromium	7440-47-3	µg/kg	106,551
116-F-14_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	5,896
116-F-14_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	12
116-F-14_Deep	Rad	Europium-152	14683-23-9	pCi/g	185
116-F-14_Deep	Rad	Europium-154	15585-10-1	pCi/g	23
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787
116-F-14_Deep	Rad	Nickel-63	13981-37-8	pCi/g	686
116-F-14_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.2
116-F-14_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,661
116-F-14_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.75
116-F-14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	24,156
116-F-14_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,011

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
116-F-14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.090
116-F-14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.1
116-F-14_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.24
116-F-14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,485
116-F-14_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	20
116-F-14_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.32
116-F-15_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.45E+06
116-F-15_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	16
116-F-15_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27
116-F-15_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,810
116-F-15_Shallow	non-Rad	Barium	7440-39-3	µg/kg	90,808
116-F-15_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	145
116-F-15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,562
116-F-15_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100
116-F-15_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.15
116-F-15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,311
116-F-15_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,556
116-F-15_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,130
116-F-15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.070
116-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	680
116-F-15_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.55E+07
116-F-15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	15,865
116-F-15_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	244,514
116-F-15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	179
116-F-15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	715
116-F-15_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,522
116-F-15_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,691
116-F-15_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.60
116-F-15_Shallow	Rad	Uranium-238	U-238	pCi/g	0.57
116-F-15_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,303
116-F-15_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	38,914
116-F-16_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	230
116-F-16_Overburden	non-Rad	Lead	7439-92-1	µg/kg	3,200
116-F-16_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420
116-F-16_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,300
116-F-2_Deep	Rad	Carbon-14	14762-75-5	pCi/g	6.6
116-F-2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	44
116-F-2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	1.6
116-F-2_Deep	Rad	Europium-152	14683-23-9	pCi/g	54
116-F-2_Deep	Rad	Europium-154	15585-10-1	pCi/g	5.6
116-F-2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,400
116-F-2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.12
116-F-2_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420
116-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.31
116-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	1.0
116-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,123
116-F-3_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.36
116-F-3_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	736
116-F-4_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.8
116-F-4_Deep_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	71,000
116-F-4_Deep_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.074
116-F-4_Deep_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,698
116-F-4_Deep_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.65
116-F-4_Deep_Focused	Rad	Uranium-235	15117-96-1	pCi/g	0.066
116-F-4_Deep_Focused	Rad	Uranium-238	U-238	pCi/g	0.56
116-F-4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	3.5
116-F-4_Overburden_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	54,600
116-F-4_Overburden_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	11,700
116-F-4_Overburden_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.080
116-F-4_Overburden_Focused	Rad	Strontium-90	10098-97-2	pCi/g	1.6
116-F-4_Overburden_Focused	Rad	Technetium-99	14133-76-7	pCi/g	1.5
116-F-4_Overburden_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,637
116-F-4_Overburden_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.72
116-F-4_Overburden_Focused	Rad	Uranium-235	15117-96-1	pCi/g	0.075
116-F-4_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.55
116-F-4_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	6,500
116-F-4_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,607
116-F-4_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.45
116-F-4_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.54
116-F-5_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.84E+06
116-F-5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	17,300
116-F-5_Shallow	non-Rad	Barium	7440-39-3	µg/kg	85,000
116-F-5_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	550
116-F-5_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.22
116-F-5_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,200
116-F-5_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,600
116-F-5_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,400
116-F-5_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.01E+07
116-F-5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,600
116-F-5_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	325,000
116-F-5_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,400
116-F-5_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,488
116-F-5_Shallow	Rad	Uranium-238	U-238	pCi/g	0.50

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
116-F-5_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	45,600
116-F-5_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	43,200
116-F-6_Deep	Rad	Cesium-137	10045-97-3	pCi/g	12
116-F-6_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.51
116-F-6_Deep	Rad	Europium-152	14683-23-9	pCi/g	13
116-F-6_Deep	Rad	Europium-154	15585-10-1	pCi/g	0.86
116-F-6_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,700
116-F-6_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	32
116-F-6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.53
116-F-6_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.083
116-F-6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.28
116-F-6_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	498
116-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.4
116-F-7_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.25E+06
116-F-7_Deep_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17
116-F-7_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400
116-F-7_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	54,600
116-F-7_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316
116-F-7_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	147
116-F-7_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,300
116-F-7_Deep_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	115
116-F-7_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.046
116-F-7_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	36,700
116-F-7_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200
116-F-7_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,800
116-F-7_Deep_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20
116-F-7_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	742
116-F-7_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.95E+07
116-F-7_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900
116-F-7_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	242,000
116-F-7_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	145
116-F-7_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	449
116-F-7_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	40,900
116-F-7_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,300
116-F-7_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,000
116-F-8_Deep	Rad	Cesium-137	10045-97-3	pCi/g	0.27
116-F-8_Deep	Rad	Europium-152	14683-23-9	pCi/g	2.1
116-F-8_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	250
116-F-8_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	350
116-F-9_Deep	Rad	Carbon-14	14762-75-5	pCi/g	8.5
116-F-9_Deep	Rad	Cesium-137	10045-97-3	pCi/g	2.1
116-F-9_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	2.3
116-F-9_Deep	Rad	Europium-152	14683-23-9	pCi/g	6.4
116-F-9_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.3
116-F-9_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,200
116-F-9_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	9.5
116-F-9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5
118-F-1_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	7.03E+06
118-F-1_Overburden	Rad	Americium-241	14596-10-2	pCi/g	0.60
118-F-1_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,400
118-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,529
118-F-1_Overburden	non-Rad	Barium	7440-39-3	µg/kg	79,630
118-F-1_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	419
118-F-1_Overburden	non-Rad	Boron	7440-42-8	µg/kg	3,490
118-F-1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.049
118-F-1_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,573
118-F-1_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	8,356
118-F-1_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,817
118-F-1_Overburden	Rad	Curium-244	13981-15-2	pCi/g	0.041
118-F-1_Overburden	non-Rad	Iron	7439-89-6	µg/kg	2.15E+07
118-F-1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	11,569
118-F-1_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	339,100
118-F-1_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	673
118-F-1_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,966
118-F-1_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,412
118-F-1_Overburden	non-Rad	Silver	7440-22-4	µg/kg	4,300
118-F-1_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,433
118-F-1_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.51
118-F-1_Overburden	Rad	Uranium-234	13966-29-5	pCi/g	0.13
118-F-1_Overburden	Rad	Uranium-238	U-238	pCi/g	0.48
118-F-1_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	57,388
118-F-1_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	45,106
118-F-1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.04E+06
118-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920
118-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,459
118-F-1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	51,867
118-F-1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	220
118-F-1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,429
118-F-1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100
118-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.24
118-F-1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,367
118-F-1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,339
118-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.13

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
118-F-1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,107
118-F-1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07
118-F-1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,380
118-F-1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	275,054
118-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	463
118-F-1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,394
118-F-1_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	6.8
118-F-1_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.24
118-F-1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.66
118-F-1_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,780
118-F-1_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.54
118-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.057
118-F-1_Shallow	Rad	Uranium-238	U-238	pCi/g	0.60
118-F-1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	45,765
118-F-1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,708
118-F-1_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.09E+06
118-F-1_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,600
118-F-1_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	76,779
118-F-1_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	286
118-F-1_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,200
118-F-1_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	100
118-F-1_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.74
118-F-1_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	10,607
118-F-1_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,167
118-F-1_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.11
118-F-1_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	13,189
118-F-1_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.21
118-F-1_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07
118-F-1_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	33,300
118-F-1_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	320,989
118-F-1_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	20
118-F-1_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	690
118-F-1_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,900
118-F-1_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	14
118-F-1_Staging Pile Area	non-Rad	Silver	7440-22-4	µg/kg	880
118-F-1_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.34
118-F-1_Staging Pile Area	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,931
118-F-1_Staging Pile Area	Rad	Uranium-233/234	U-233/234	pCi/g	0.62
118-F-1_Staging Pile Area	Rad	Uranium-238	U-238	pCi/g	0.65
118-F-1_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	43,457
118-F-1_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	40,550
118-F-2_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.80E+06
118-F-2_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,600
118-F-2_Overburden	non-Rad	Barium	7440-39-3	µg/kg	86,800
118-F-2_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	520
118-F-2_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,400
118-F-2_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	230
118-F-2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.11
118-F-2_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,400
118-F-2_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	8,900
118-F-2_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,800
118-F-2_Overburden	non-Rad	Iron	7439-89-6	µg/kg	2.51E+07
118-F-2_Overburden	non-Rad	Lead	7439-92-1	µg/kg	4,800
118-F-2_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	395,000
118-F-2_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	450
118-F-2_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	13,300
118-F-2_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,400
118-F-2_Overburden	non-Rad	Silver	7440-22-4	µg/kg	290
118-F-2_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,363
118-F-2_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.59
118-F-2_Overburden	Rad	Uranium-238	U-238	pCi/g	0.46
118-F-2_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	63,000
118-F-2_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	52,100
118-F-2_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06
118-F-2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,900
118-F-2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	93,000
118-F-2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	370
118-F-2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	160
118-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.093
118-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,000
118-F-2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,100
118-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	17,000
118-F-2_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.98E+07
118-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,800
118-F-2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	347,000
118-F-2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	15,100
118-F-2_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.31
118-F-2_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,498
118-F-2_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.68
118-F-2_Shallow	Rad	Uranium-238	U-238	pCi/g	0.84
118-F-2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	41,300
118-F-2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	47,400
118-F-2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.07E+06

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
118-F-2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	780
118-F-2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,500
118-F-2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,800
118-F-2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39
118-F-2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29
118-F-2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37
118-F-2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	49
118-F-2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	370
118-F-2_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110
118-F-2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200
118-F-2_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	23
118-F-2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	220
118-F-2_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.062
118-F-2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,600
118-F-2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	61
118-F-2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800
118-F-2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,400
118-F-2_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	50
118-F-2_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.14
118-F-2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	79
118-F-2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22
118-F-2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07
118-F-2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,800
118-F-2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000
118-F-2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480
118-F-2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700
118-F-2_Shallow_Focused	Rad	Nickel-63	13981-37-8	pCi/g	5.1
118-F-2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	73
118-F-2_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,289
118-F-2_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.52
118-F-2_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.43
118-F-2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	56,800
118-F-2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,900
118-F-2_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	5.83E+06
118-F-2_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,700
118-F-2_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	79,300
118-F-2_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	400
118-F-2_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,400
118-F-2_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.62
118-F-2_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	8,400
118-F-2_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,000
118-F-2_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	12,600
118-F-2_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07
118-F-2_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	4,700
118-F-2_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	337,000
118-F-2_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	900
118-F-2_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,600
118-F-2_Staging Pile Area	Rad	Plutonium-238	13981-16-3	pCi/g	1.0
118-F-2_Staging Pile Area	non-Rad	Selenium	7782-49-2	µg/kg	1,400
118-F-2_Staging Pile Area	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,557
118-F-2_Staging Pile Area	Rad	Uranium-233/234	U-233/234	pCi/g	0.74
118-F-2_Staging Pile Area	Rad	Uranium-238	U-238	pCi/g	0.52
118-F-2_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	42,000
118-F-2_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	40,300
118-F-3_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	5.70E+06
118-F-3_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,900
118-F-3_Overburden	non-Rad	Barium	7440-39-3	µg/kg	73,200
118-F-3_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	280
118-F-3_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,600
118-F-3_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,900
118-F-3_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,500
118-F-3_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,800
118-F-3_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07
118-F-3_Overburden	non-Rad	Lead	7439-92-1	µg/kg	4,900
118-F-3_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	302,000
118-F-3_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	12,300
118-F-3_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	39,300
118-F-3_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	36,400
118-F-3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.05E+06
118-F-3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,200
118-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	116,000
118-F-3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	240
118-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	12,700
118-F-3_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.16
118-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,300
118-F-3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,600
118-F-3_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.38
118-F-3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,000
118-F-3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.47E+07
118-F-3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,500
118-F-3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	264,000
118-F-3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,800
118-F-3_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	24

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
118-F-3_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.28
118-F-3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,000
118-F-3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,300
118-F-3_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	4.85E+06
118-F-3_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	1,900
118-F-3_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	98,300
118-F-3_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	250
118-F-3_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	6,600
118-F-3_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.22
118-F-3_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	7,400
118-F-3_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,500
118-F-3_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.38
118-F-3_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	12,800
118-F-3_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.11
118-F-3_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.39E+07
118-F-3_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	5,600
118-F-3_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	261,000
118-F-3_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	8,900
118-F-3_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	15
118-F-3_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	32,200
118-F-3_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	36,700
118-F-5_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.026
118-F-5_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.65
118-F-5_Shallow_1	Rad	Tritium	10028-17-8	pCi/g	4.8
118-F-6_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.048
118-F-6_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.3
118-F-6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.32
118-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	4.1
118-F-6_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42,000
118-F-6_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.6
118-F-6_Shallow_Focused	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.46
118-F-6_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,164
118-F-6_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.40
118-F-6_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.39
118-F-7_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	4.56E+06
118-F-7_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,600
118-F-7_Overburden	non-Rad	Barium	7440-39-3	µg/kg	49,400
118-F-7_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	550
118-F-7_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,400
118-F-7_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,600
118-F-7_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	4,900
118-F-7_Overburden	non-Rad	Copper	7440-50-8	µg/kg	11,500
118-F-7_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07
118-F-7_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,300
118-F-7_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	256,000
118-F-7_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,600
118-F-7_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	31,400
118-F-7_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	32,000
118-F-7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.15E+06
118-F-7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,900
118-F-7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	65,000
118-F-7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	390
118-F-7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,800
118-F-7_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.40
118-F-7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,300
118-F-7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,400
118-F-7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,500
118-F-7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.50E+07
118-F-7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,800
118-F-7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	259,000
118-F-7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	2,400
118-F-7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,500
118-F-7_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.25
118-F-7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,800
118-F-7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,300
118-F-7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.25E+06
118-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200
118-F-7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,000
118-F-7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	350
118-F-7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900
118-F-7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,300
118-F-7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,000
118-F-7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,300
118-F-7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.20E+07
118-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	63,800
118-F-7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	254,000
118-F-7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,500
118-F-7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,100
118-F-7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,400
118-F-7_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	4.71E+06
118-F-7_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	8,600
118-F-7_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	83,200
118-F-7_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	810

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
118-F-7_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	3,900
118-F-7_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.23
118-F-7_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	13,700
118-F-7_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,200
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000
118-F-7_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.39
118-F-7_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.72E+07
118-F-7_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	31,100
118-F-7_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	279,000
118-F-7_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	10
118-F-7_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100
118-F-7_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	13,200
118-F-7_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.82
118-F-7_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	45,100
118-F-7_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	43,500
118-F-8:1_Deep	non-Rad	Aroclor-1248	12672-29-6	µg/kg	35
118-F-8:1_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	62,000
118-F-8:1_Deep	non-Rad	Chromium	7440-47-3	µg/kg	12,247
118-F-8:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	923
118-F-8:1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15
118-F-8:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	137,000
118-F-8:1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.62
118-F-8:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	38,777
118-F-8:1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.59
118-F-8:1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.094
118-F-8:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	752
118-F-8:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	40
118-F-8:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.20
118-F-8:1_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,753
118-F-8:1_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.65
118-F-8:1_Shallow	Rad	Uranium-238	U-238	pCi/g	0.59
118-F-8:3_Deep	Rad	Americium-241	14596-10-2	pCi/g	2.2
118-F-8:3_Deep	non-Rad	Aroclor-1254	11097-69-1	µg/kg	97
118-F-8:3_Deep	non-Rad	Barium	7440-39-3	µg/kg	41,588
118-F-8:3_Deep	Rad	Carbon-14	14762-75-5	pCi/g	22
118-F-8:3_Deep	Rad	Cesium-137	10045-97-3	pCi/g	319
118-F-8:3_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	18
118-F-8:3_Deep	Rad	Europium-152	14683-23-9	pCi/g	183
118-F-8:3_Deep	Rad	Europium-154	15585-10-1	pCi/g	7.7
118-F-8:3_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	932
118-F-8:3_Deep	non-Rad	Lead	7439-92-1	µg/kg	4,469
118-F-8:3_Deep	non-Rad	Mercury	7439-97-6	µg/kg	125
118-F-8:3_Deep	Rad	Nickel-63	13981-37-8	pCi/g	617
118-F-8:3_Deep	Rad	Plutonium-238	13981-16-3	pCi/g	0.62
118-F-8:3_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	4.2
118-F-8:3_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	13
118-F-8:3_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	103
118-F-8:3_Deep	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,233
118-F-8:3_Deep	Rad	Tritium	10028-17-8	pCi/g	0.69
118-F-8:3_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.40
118-F-8:3_Deep	Rad	Uranium-238	U-238	pCi/g	0.42
118-F-8:4_Deep	non-Rad	Aluminum	7429-90-5	µg/kg	4.73E+06
118-F-8:4_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.11
118-F-8:4_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	49
118-F-8:4_Deep	non-Rad	Arsenic	7440-38-2	µg/kg	2,400
118-F-8:4_Deep	non-Rad	Barium	7440-39-3	µg/kg	57,100
118-F-8:4_Deep	non-Rad	Beryllium	7440-41-7	µg/kg	140
118-F-8:4_Deep	non-Rad	Boron	7440-42-8	µg/kg	1,500
118-F-8:4_Deep	Rad	Cesium-137	10045-97-3	pCi/g	6.6
118-F-8:4_Deep	non-Rad	Chromium	7440-47-3	µg/kg	12,800
118-F-8:4_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	5,400
118-F-8:4_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.27
118-F-8:4_Deep	non-Rad	Copper	7440-50-8	µg/kg	12,500
118-F-8:4_Deep	Rad	Europium-152	14683-23-9	pCi/g	4.4
118-F-8:4_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320
118-F-8:4_Deep	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07
118-F-8:4_Deep	non-Rad	Lead	7439-92-1	µg/kg	5,800
118-F-8:4_Deep	non-Rad	Manganese	7439-96-5	µg/kg	252,000
118-F-8:4_Deep	non-Rad	Mercury	7439-97-6	µg/kg	50
118-F-8:4_Deep	non-Rad	Molybdenum	7439-98-7	µg/kg	510
118-F-8:4_Deep	non-Rad	Nickel	7440-02-0	µg/kg	10,600
118-F-8:4_Deep	Rad	Nickel-63	13981-37-8	pCi/g	26
118-F-8:4_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.75
118-F-8:4_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.2
118-F-8:4_Deep	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,015
118-F-8:4_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.56
118-F-8:4_Deep	Rad	Uranium-238	U-238	pCi/g	0.68
118-F-8:4_Deep	non-Rad	Vanadium	7440-62-2	µg/kg	30,300
118-F-8:4_Deep	non-Rad	Zinc	7440-66-6	µg/kg	34,000
118-F-8:4_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.01E+06
118-F-8:4_Overburden	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5
118-F-8:4_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,820
118-F-8:4_Overburden	non-Rad	Barium	7440-39-3	µg/kg	67,998

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
118-F-8:4_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	690
118-F-8:4_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,006
118-F-8:4_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	275
118-F-8:4_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.29
118-F-8:4_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,304
118-F-8:4_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,232
118-F-8:4_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.020
118-F-8:4_Overburden	non-Rad	Copper	7440-50-8	µg/kg	13,996
118-F-8:4_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.44
118-F-8:4_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	288
118-F-8:4_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.73E+07
118-F-8:4_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,499
118-F-8:4_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	318,045
118-F-8:4_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	127
118-F-8:4_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	623
118-F-8:4_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,490
118-F-8:4_Overburden	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.97
118-F-8:4_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,617
118-F-8:4_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.50
118-F-8:4_Overburden	Rad	Uranium-235	15117-96-1	pCi/g	0.029
118-F-8:4_Overburden	Rad	Uranium-238	U-238	pCi/g	0.54
118-F-8:4_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	41,120
118-F-8:4_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	38,251
118-F-8:4_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.13E+06
118-F-8:4_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,600
118-F-8:4_Shallow	non-Rad	Barium	7440-39-3	µg/kg	74,300
118-F-8:4_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	460
118-F-8:4_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,500
118-F-8:4_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	280
118-F-8:4_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.32
118-F-8:4_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,100
118-F-8:4_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,700
118-F-8:4_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,800
118-F-8:4_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.19
118-F-8:4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260
118-F-8:4_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.60E+07
118-F-8:4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,300
118-F-8:4_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	285,000
118-F-8:4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	530
118-F-8:4_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,700
118-F-8:4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,500
118-F-8:4_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,551
118-F-8:4_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.58
118-F-8:4_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.034
118-F-8:4_Shallow	Rad	Uranium-238	U-238	pCi/g	0.52
118-F-8:4_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	37,500
118-F-8:4_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,100
120-F-1_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8
120-F-1_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1
120-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	8.8
120-F-1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.95E+06
120-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	910
120-F-1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23
120-F-1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.8
120-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,615
120-F-1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	56,732
120-F-1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	505
120-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	94
120-F-1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,457
120-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	8.7
120-F-1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,781
120-F-1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,270
120-F-1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,167
120-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27
120-F-1_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.8
120-F-1_Shallow	non-Rad	Fluoride	16984-48-8	µg/kg	3,900
120-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	300
120-F-1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.82E+07
120-F-1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,896
120-F-1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	286,696
120-F-1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	102
120-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	850
120-F-1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,814
120-F-1_Shallow	non-Rad	Nitrate	14797-55-8	µg/kg	8,849
120-F-1_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,800
120-F-1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,878
120-F-1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,425
126-F-1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.10
126-F-1_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.081
126-F-1_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.38
126-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.51
126-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.20
126-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.3

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
126-F-1_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.46
126-F-1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.032
126-F-1_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	109
126-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.24
126-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	173
126-F-2_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.29E+06
126-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	412
126-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	478
126-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	74
126-F-2_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000
126-F-2_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,400
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	758
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	696
126-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	555
126-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	758
126-F-2_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	299
126-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	407
126-F-2_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,600
126-F-2_Staging pile area_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.071
126-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900
126-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	842
126-F-2_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200
126-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,400
126-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	203
126-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	1,804
126-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	211
126-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	256
126-F-2_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07
126-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	17,200
126-F-2_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000
126-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	389
126-F-2_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,300
126-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1,754
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06
126-F-2_Staging pile area_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,265
126-F-2_Staging pile area_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.53
126-F-2_Staging pile area_Focused	Rad	Uranium-238	U-238	pCi/g	0.76
126-F-2_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,600
126-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	76,900
128-F-1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100
128-F-1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,400
128-F-1_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.8
128-F-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	21
128-F-1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,100
128-F-1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100
128-F-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	4,400
128-F-2_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	3.0
128-F-2_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.6
128-F-2_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	34
128-F-2_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	63
128-F-2_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	1.7
128-F-2_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	3.7
128-F-2_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.93E+06
128-F-2_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	120
128-F-2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920
128-F-2_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	44
128-F-2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,866
128-F-2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	77,043
128-F-2_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	264
128-F-2_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	263
128-F-2_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	198
128-F-2_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	263
128-F-2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	322
128-F-2_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	8.8
128-F-2_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	105
128-F-2_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,955
128-F-2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	148
128-F-2_Shallow	non-Rad	Carbazole	86-74-8	µg/kg	62
128-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.22
128-F-2_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.6
128-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	21,554
128-F-2_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	290
128-F-2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,012
128-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	40,037
128-F-2_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	99
128-F-2_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	21
128-F-2_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	35
128-F-2_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	4.0
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22
128-F-2_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	224
128-F-2_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	46
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3
128-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
128-F-2_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	157
128-F-2_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07
128-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,776
128-F-2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	281,593
128-F-2_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	35
128-F-2_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	440
128-F-2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	14,310
128-F-2_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	239
128-F-2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	35,140
128-F-2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,403
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.2
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	6.6
128-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	27
128-F-2_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.98E+06
128-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	60
128-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,500
128-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48
128-F-2_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,200
128-F-2_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,200
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	320
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	280
128-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	210
128-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	230
128-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110
128-F-2_Staging pile area_Focused	non-Rad	Carbazole	86-74-8	µg/kg	30
128-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,200
128-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	370
128-F-2_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,300
128-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	23,900
128-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	77
128-F-2_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	71
128-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	670
128-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	19
128-F-2_Staging pile area_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	730
128-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	150
128-F-2_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07
128-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,800
128-F-2_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	277,000
128-F-2_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	50
128-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300
128-F-2_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,700
128-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	790
128-F-2_Staging pile area_Focused	non-Rad	Selenium	7782-49-2	µg/kg	950
128-F-2_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,700
128-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	124,000
128-F-3_Shallow	non-Rad	2-Butanone	78-93-3	µg/kg	5.0
128-F-3_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	8.0
128-F-3_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.3
128-F-3_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.3
128-F-3_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.6
128-F-3_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	8.0
128-F-3_Shallow	non-Rad	Acetone	67-64-1	µg/kg	9.0
128-F-3_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.56
128-F-3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.8
128-F-3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.94E+06
128-F-3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,588
128-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	209,520
128-F-3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	485
128-F-3_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	5.4
128-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	17,002
128-F-3_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	260
128-F-3_Shallow	non-Rad	Chlorobenzene	108-90-7	µg/kg	4.2
128-F-3_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.8
128-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	42,093
128-F-3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,229
128-F-3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	20,447
128-F-3_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.3
128-F-3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0
128-F-3_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	1.3
128-F-3_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.55
128-F-3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.54E+07
128-F-3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,453
128-F-3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	295,905
128-F-3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	23
128-F-3_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	9.8
128-F-3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	21
128-F-3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,844
128-F-3_Shallow	non-Rad	Silver	7440-22-4	µg/kg	280
128-F-3_Shallow	non-Rad	Styrene	100-42-5	µg/kg	4.0
128-F-3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	1.0
128-F-3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,225
128-F-3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	7.0
128-F-3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,793

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.1
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.76
128-F-3_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.93E+06
128-F-3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	141,000
128-F-3_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	580
128-F-3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,500
128-F-3_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270
128-F-3_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	3.0
128-F-3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	3.0
128-F-3_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,800
128-F-3_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,600
128-F-3_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,600
128-F-3_Staging pile area_Focused	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.88
128-F-3_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07
128-F-3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,300
128-F-3_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	331,000
128-F-3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	22
128-F-3_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,200
128-F-3_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,400
128-F-3_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,800
132-F-1_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	171
132-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7
132-F-1_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	75
132-F-1_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	88
132-F-1_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	74
132-F-1_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	98
132-F-1_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.8
132-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	90
132-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.4
132-F-1_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	104
132-F-1_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	44
132-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	43
132-F-1_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	102
132-F-1_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	43
132-F-1_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	245
132-F-1_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	124
132-F-1_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.7
132-F-1_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	269
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	535
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1,114
132-F-1_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	841
132-F-1_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	780
132-F-1_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	57
132-F-1_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2,137
132-F-1_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	256
132-F-1_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	169
132-F-1_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	620
132-F-1_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	273
141-C_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.39E+06
141-C_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	65
141-C_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,743
141-C_Shallow	non-Rad	Barium	7440-39-3	µg/kg	93,191
141-C_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	125
141-C_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	65
141-C_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	41
141-C_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	76
141-C_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	346
141-C_Shallow	non-Rad	Boron	7440-42-8	µg/kg	5,336
141-C_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.059
141-C_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,938
141-C_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	63
141-C_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,059
141-C_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,899
141-C_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	15
141-C_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	176
141-C_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	30
141-C_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	671
141-C_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	45
141-C_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.70E+07
141-C_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,208
141-C_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	315,353
141-C_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27
141-C_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,995
141-C_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	163
141-C_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.7
141-C_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,368
141-C_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	46,969
141-C_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102
141-C_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.17E+06
141-C_Staging Pile Area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	7.6
141-C_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500
141-C_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	81,700
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	46
141-C_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48
141-C_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17
141-C_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	302
141-C_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700
141-C_Staging Pile Area_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.041
141-C_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,000
141-C_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	197
141-C_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700
141-C_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900
141-C_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	88
141-C_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58
141-C_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.42E+07
141-C_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,300
141-C_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	285,000
141-C_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,600
141-C_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	82
141-C_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	33,400
141-C_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	37,500
1607-F2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.19
1607-F2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.51
1607-F3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.0
1607-F3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.51E+06
1607-F3_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.5
1607-F3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,552
1607-F3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	73,139
1607-F3_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	33
1607-F3_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29
1607-F3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	253
1607-F3_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54
1607-F3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	451
1607-F3_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	460
1607-F3_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14
1607-F3_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.6
1607-F3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,725
1607-F3_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	22
1607-F3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,991
1607-F3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,229
1607-F3_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25
1607-F3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0
1607-F3_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22
1607-F3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07
1607-F3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	24,146
1607-F3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	273,899
1607-F3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27
1607-F3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	26
1607-F3_Shallow	non-Rad	m-Xylene	108-38-3	µg/kg	4.0
1607-F3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,246
1607-F3_Shallow	non-Rad	o-Xylene	95-47-6	µg/kg	2.0
1607-F3_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	4,200
1607-F3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	2.0
1607-F3_Shallow	non-Rad	Toluene	108-88-3	µg/kg	1.0
1607-F3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,149
1607-F3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	4.7
1607-F3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,536
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.49
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.35
1607-F3_Staging pile area_Focused	non-Rad	Acetone	67-64-1	µg/kg	5.0
1607-F3_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.46E+06
1607-F3_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.4
1607-F3_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	12,100
1607-F3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	60,200
1607-F3_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	20
1607-F3_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	82
1607-F3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700
1607-F3_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270
1607-F3_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.83
1607-F3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0
1607-F3_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,400
1607-F3_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200
1607-F3_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,500
1607-F3_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120
1607-F3_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07
1607-F3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	54,900
1607-F3_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	255,000
1607-F3_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30
1607-F3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.0
1607-F3_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,600
1607-F3_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	28,200
1607-F3_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,400
1607-F4_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.70E+06
1607-F4_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300
1607-F4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	125,000

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
1607-F4_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	430
1607-F4_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	140
1607-F4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800
1607-F4_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500
1607-F4_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200
1607-F4_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600
1607-F4_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	24
1607-F4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280
1607-F4_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.04E+07
1607-F4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,700
1607-F4_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	334,000
1607-F4_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900
1607-F4_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	47,900
1607-F4_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,300
1607-F4_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.1
1607-F4_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.8
1607-F4_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.6
1607-F4_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.26E+06
1607-F4_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,010
1607-F4_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	46
1607-F4_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	6.7
1607-F4_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,198
1607-F4_Shallow	non-Rad	Barium	7440-39-3	µg/kg	70,070
1607-F4_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22
1607-F4_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	18
1607-F4_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	333
1607-F4_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	91
1607-F4_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,876
1607-F4_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	380
1607-F4_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.5
1607-F4_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	14,407
1607-F4_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26
1607-F4_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,530
1607-F4_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,304
1607-F4_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	33
1607-F4_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	44
1607-F4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	210
1607-F4_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07
1607-F4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,758
1607-F4_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	297,305
1607-F4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200
1607-F4_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	580
1607-F4_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,942
1607-F4_Shallow	non-Rad	Phenol	108-95-2	µg/kg	28
1607-F4_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	38
1607-F4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,602
1607-F4_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,330
1607-F4_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	50,618
1607-F4_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.49E+06
1607-F4_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000
1607-F4_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	36,100
1607-F4_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	270
1607-F4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	190
1607-F4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,000
1607-F4_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,500
1607-F4_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600
1607-F4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	41
1607-F4_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.18E+07
1607-F4_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,400
1607-F4_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	218,000
1607-F4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	490
1607-F4_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,500
1607-F4_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,363
1607-F4_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.49
1607-F4_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.46
1607-F4_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,300
1607-F4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	30,800
1607-F5_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.26E+06
1607-F5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,763
1607-F5_Shallow	non-Rad	Barium	7440-39-3	µg/kg	45,328
1607-F5_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	199
1607-F5_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	172
1607-F5_Shallow	non-Rad	Boron	7440-42-8	µg/kg	474
1607-F5_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,606
1607-F5_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,642
1607-F5_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,290
1607-F5_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	93
1607-F5_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.23E+07
1607-F5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,655
1607-F5_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	216,602
1607-F5_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	530
1607-F5_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,084
1607-F5_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	27,297

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
1607-F5_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	29,602
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5
1607-F5_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.45E+06
1607-F5_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5
1607-F5_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800
1607-F5_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	69,700
1607-F5_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	90
1607-F5_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.6
1607-F5_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	75
1607-F5_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,000
1607-F5_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	330
1607-F5_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,600
1607-F5_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100
1607-F5_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600
1607-F5_Staging pile area_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	0.60
1607-F5_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.27E+07
1607-F5_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,900
1607-F5_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	239,000
1607-F5_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	310
1607-F5_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,300
1607-F5_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	29,000
1607-F5_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,300
1607-F6_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87
1607-F6_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,796
1607-F6_Overburden	non-Rad	Diethylphthalate	84-66-2	µg/kg	130
1607-F6_Overburden	non-Rad	Lead	7439-92-1	µg/kg	2,736
1607-F6_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,587
1607-F6_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.47
1607-F6_Overburden	Rad	Uranium-234	13966-29-5	pCi/g	0.63
1607-F6_Overburden	Rad	Uranium-238	U-238	pCi/g	0.53
1607-F6_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	342
1607-F6_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	60
1607-F6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.089
1607-F6_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,300
1607-F6_Shallow	non-Rad	Diethylphthalate	84-66-2	µg/kg	24
1607-F6_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120
1607-F6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.065
1607-F6_Shallow	non-Rad	Lead	7439-92-1	µg/kg	13,247
1607-F6_Shallow	non-Rad	Phenol	108-95-2	µg/kg	84
1607-F6_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	22
1607-F6_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,284
1607-F6_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.50
1607-F6_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.19
1607-F6_Shallow	Rad	Uranium-238	U-238	pCi/g	0.75
1607-F7_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	2.7
1607-F7_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	134
1607-F7_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6
1607-F7_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	5.3
1607-F7_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	3.0
1607-F7_Shallow	non-Rad	Acetone	67-64-1	µg/kg	15
1607-F7_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.42
1607-F7_Shallow	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.1
1607-F7_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.2
1607-F7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.46E+06
1607-F7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	530
1607-F7_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.4
1607-F7_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.0
1607-F7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,720
1607-F7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	99,249
1607-F7_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26
1607-F7_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23
1607-F7_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48
1607-F7_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	46
1607-F7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	396
1607-F7_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.7
1607-F7_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47
1607-F7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	3,219
1607-F7_Shallow	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	37
1607-F7_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	216
1607-F7_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	1.1
1607-F7_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.4
1607-F7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,376
1607-F7_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	76
1607-F7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,635
1607-F7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,715
1607-F7_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	30
1607-F7_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	40
1607-F7_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.54
1607-F7_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	72
1607-F7_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	0.92
1607-F7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500
1607-F7_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
1607-F7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.40E+07
1607-F7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,177
1607-F7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	279,444
1607-F7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20
1607-F7_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.4
1607-F7_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	14
1607-F7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	477
1607-F7_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	96
1607-F7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,902
1607-F7_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	71
1607-F7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	31,959
1607-F7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	50,531
1607-F7_Staging pile area_Focused	non-Rad	1,4-Dichlorobenzene	106-46-7	µg/kg	46
1607-F7_Staging pile area_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	110
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.2
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	58
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	46
1607-F7_Staging pile area_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.5
1607-F7_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.10E+06
1607-F7_Staging pile area_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60
1607-F7_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,400
1607-F7_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	147,000
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	32
1607-F7_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36
1607-F7_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32
1607-F7_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300
1607-F7_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.4
1607-F7_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	35
1607-F7_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	7,700
1607-F7_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	220
1607-F7_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	3.7
1607-F7_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	1.0
1607-F7_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0
1607-F7_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,200
1607-F7_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	850
1607-F7_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400
1607-F7_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,400
1607-F7_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18
1607-F7_Staging pile area_Focused	non-Rad	Dibenzofuran	132-64-9	µg/kg	27
1607-F7_Staging pile area_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	23
1607-F7_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34
1607-F7_Staging pile area_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0
1607-F7_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	37
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.89
1607-F7_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	27
1607-F7_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07
1607-F7_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300
1607-F7_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	300,000
1607-F7_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40
1607-F7_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	13
1607-F7_Staging pile area_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	72
1607-F7_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,300
1607-F7_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	51
1607-F7_Staging pile area_Focused	non-Rad	Styrene	100-42-5	µg/kg	3.0
1607-F7_Staging pile area_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0
1607-F7_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	40,200
1607-F7_Staging pile area_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	6.0
1607-F7_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	72,000
182-F_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.90E+06
182-F_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	500
182-F_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	36
182-F_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15
182-F_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	6,400
182-F_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	79,000
182-F_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	490
182-F_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,200
182-F_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	780
182-F_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.11
182-F_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,600
182-F_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900
182-F_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,700
182-F_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280
182-F_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.05E+07
182-F_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	58,700
182-F_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	312,000
182-F_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40
182-F_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	560
182-F_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	16,800
182-F_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,100
182-F_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	139,000
182-F_Shallow_Focused	non-Rad	Aroclor-1016	12674-11-2	µg/kg	20

Table 4-4. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-F Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
182-F_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	110
182-F_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300
600-351_Shallow_Focused	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	27
600-351_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07
600-351_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	900
600-351_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	250,000
600-351_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	97,100
600-351_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300
600-351_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700
600-351_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	340
600-351_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,400
600-351_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,400
600-351_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,300
600-351_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.22E+07
600-351_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	805,000
600-351_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000
600-351_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	8.0
600-351_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	500
600-351_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,500
600-351_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	920
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,000
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,000
600-351_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,800
600-351_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	51,200
UPR-100-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14
UPR-100-F-2_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.086
UPR-100-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57
UPR-100-F-2_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.20

Notes:

a. ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1 and 100-FR-2 Source Operable Units* .

Table 4-5 Hanford Site Soil Background Values

Analyte Name	Analyte Class	Units	Lognormal 90th Percentile Background Value	Source of Background Values
Cesium-137	RAD	pCi/g	1.1	DOE/RL-96-12, Rev.0
Cobalt-60	RAD	pCi/g	0.0084	DOE/RL-96-12, Rev.0
Europium-154	RAD	pCi/g	0.033	DOE/RL-96-12, Rev.0
Europium-155	RAD	pCi/g	0.054	DOE/RL-96-12, Rev.0
Gross beta	RAD	pCi/g	23	DOE/RL-96-12, Rev.0
Plutonium-238	RAD	pCi/g	0.0038	DOE/RL-96-12, Rev.0
Plutonium-239/240	RAD	pCi/g	0.025	DOE/RL-96-12, Rev.0
Potassium-40	RAD	pCi/g	17	DOE/RL-96-12, Rev.0
Radium-226	RAD	pCi/g	0.82	DOE/RL-96-12, Rev.0
Radium-228	RAD	pCi/g	1.82	DOE/RL-96-12, Rev.0
Strontium-90	RAD	pCi/g	0.18	DOE/RL-96-12, Rev.0
Thorium-228	RAD	pCi/g	1.40	DOE/RL-96-12, Rev.0
Thorium-232	RAD	pCi/g	1.3	DOE/RL-96-12, Rev.0
Total beta radiostrontium	RAD	pCi/g	0.18	DOE/RL-96-12, Rev.0
Uranium-233/234	RAD	pCi/g	1.1	DOE/RL-96-12, Rev.0
Uranium-234	RAD	pCi/g	1.1	DOE/RL-96-12, Rev.0
Uranium-235	RAD	pCi/g	0.11	DOE/RL-96-12, Rev.0
Uranium-238	RAD	pCi/g	1.1	DOE/RL-96-12, Rev.0
Aluminum	METAL	µg/kg	1.18E+07	DOE/RL-92-24, V.1, Rev.4
Antimony	METAL	µg/kg	130	ECF-HANFORD-11-0038
Arsenic	METAL	µg/kg	6,470	DOE/RL-92-24, V.1, Rev.4
Barium	METAL	µg/kg	132,000	DOE/RL-92-24, V.1, Rev.4
Beryllium	METAL	µg/kg	1,510	DOE/RL-92-24, V.1, Rev.4
Cadmium	METAL	µg/kg	563	ECF-HANFORD-11-0038
Calcium	METAL	µg/kg	1.72E+07	DOE/RL-92-24, V.1, Rev.4
Chromium	METAL	µg/kg	18,500	DOE/RL-92-24, V.1, Rev.4
Cobalt	METAL	µg/kg	15,700	DOE/RL-92-24, V.1, Rev.4
Copper	METAL	µg/kg	22,000	DOE/RL-92-24, V.1, Rev.4
Iron	METAL	µg/kg	3.26E+07	DOE/RL-92-24, V.1, Rev.4
Lead	METAL	µg/kg	10,200	DOE/RL-92-24, V.1, Rev.4
Lithium	METAL	µg/kg	13300	ECF-HANFORD-11-0038
Magnesium	METAL	µg/kg	7.06E+06	DOE/RL-92-24, V.1, Rev.4
Manganese	METAL	µg/kg	512,000	DOE/RL-92-24, V.1, Rev.4
Mercury	METAL	µg/kg	13	ECF-HANFORD-11-0038
Molybdenum	METAL	µg/kg	470	ECF-HANFORD-11-0038
Nickel	METAL	µg/kg	19,100	DOE/RL-92-24, V.1, Rev.4
Potassium	METAL	µg/kg	2.15E+06	DOE/RL-92-24, V.1, Rev.4
Silver	METAL	µg/kg	167	ECF-HANFORD-11-0038
Sodium	METAL	µg/kg	690,000	DOE/RL-92-24, V.1, Rev.4
Total_U_Isotopes	METAL	µg/kg	3,210	Isotopic Activity Conversion based on DOE/RL-96-12 values
Uranium	METAL	µg/kg	3,210	Isotopic Activity Conversion based on DOE/RL-96-12 values
Vanadium	METAL	µg/kg	85,100	DOE/RL-92-24, V.1, Rev.4
Zinc	METAL	µg/kg	67,800	DOE/RL-92-24, V.1, Rev.4
Ammonia	ANIONS	µg/kg	9,230	DOE/RL-92-24, V.1, Rev.4

Chloride	ANIONS	µg/kg	100,000	DOE/RL-92-24, V.1, Rev.4
Fluoride	ANIONS	µg/kg	2,810	DOE/RL-92-24, V.1, Rev.4
Nitrate	ANIONS	µg/kg	52,000	DOE/RL-92-24, V.1, Rev.4
Phosphate	ANIONS	µg/kg	785	DOE/RL-92-24, V.1, Rev.4
Sulfate	ANIONS	µg/kg	237,000	DOE/RL-92-24, V.1, Rev.4
Boron	METAL	µg/kg	3,890	ECF-HANFORD-11-0038
Selenium	METAL	µg/kg	780	Ecology 94-115
Thallium	METAL	µg/kg	185	ECF-HANFORD-11-0038

Notes:

DOE/RL-92-24, *Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes.*

DOE/RL-96-12, *Hanford Site Background: Part 2, Soil Background for Radionuclides.*

ECF-HANFORD-11-0038, *Soil Background Data for Interim Use at the Hanford Site.*

Ecology 94-115, *Natural Background Soil Metals Concentrations in Washington State*

Table 7-1. Summary of Analytes that Exceed STOMP 1D Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	6,000[b]	Yes
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06	1.00E+06[c]	Yes
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300	1,033	Yes

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

c. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

Table 7-2. Summary of Analytes that Exceed STOMP 1D Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600	4,981	Yes
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	4,981	Yes
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000	329,092	Yes
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22	16	Yes
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3	1.7	Yes
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15	1.7	Yes

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

Table 7-3. Summary of Analytes that Exceed STOMP 1D Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	6,000[b]	Yes
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06	1.00E+06[c]	Yes
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300	1,033	Yes

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

c. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

Table 7-4. Summary of Analytes that Exceed STOMP 1D Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600	4,981	Yes
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	4,981	Yes
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000	329,092	Yes
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22	16	Yes
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3	1.7	Yes
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15	1.7	Yes

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-11_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,600	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.67E+06	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	55	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,700	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	436	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	995	5.07E+06	No
100-F-12_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	110	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	2.34E+07	No
100-F-12_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.97E+07	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,500	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	318,000	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	216	2.47E+06	No
100-F-12_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,200	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	89	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,500	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,100	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.4	14	No
100-F-14_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.49E+06	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,900	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,500	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	463	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	25	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	5.07E+06	No
100-F-14_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.017	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,100	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,400	2.34E+07	No
100-F-14_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	1.36E+06	No
100-F-14_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.24E+07	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,600	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	311,000	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	84	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	19	226	No
100-F-14_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	458	2.47E+06	No
100-F-14_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,400	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	59,700	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,400	--[b]	--
100-F-15_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	13,800	--[b]	--
100-F-15_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,300	6,000[c]	No
100-F-15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	15,600	--[b]	--
100-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	450	6,000[c]	No
100-F-16_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,100	--[b]	--
100-F-16_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	510	6,000[c]	No
100-F-16_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.032	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.43E+06	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,700	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	38,000	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	269	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	20	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	619	5.07E+06	No
100-F-18_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,500	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,700	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,700	2.34E+07	No
100-F-18_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	1.36E+06	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-18_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.33E+07	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	217,000	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	89	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.7	226	No
100-F-18_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	250	2.47E+06	No
100-F-18_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,500	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,600	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500	--[b]	--
100-F-19:1_Deep	Rad	Cesium-137	10045-97-3	pCi/g	21	--[b]	--
100-F-19:1_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	13	--[b]	--
100-F-19:1_Deep	Rad	Europium-152	14683-23-9	pCi/g	325	--[b]	--
100-F-19:1_Deep	Rad	Europium-154	15585-10-1	pCi/g	25	--[b]	--
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600	6,000[c]	No
100-F-19:1_Deep	Rad	Nickel-63	13981-37-8	pCi/g	351	--[b]	--
100-F-19:1_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.1	24,600	No
100-F-19:1_Overburden	Rad	Carbon-14	14762-75-5	pCi/g	5.0	--[b]	--
100-F-19:1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.043	--[b]	--
100-F-19:1_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	740	6,000[c]	No
100-F-19:1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	4.1	--[b]	--
100-F-19:1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.10	--[b]	--
100-F-19:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	624	6,000[c]	No
100-F-19:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.33	24,600	No
100-F-19:2_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.049	--[b]	--
100-F-19:2_Deep	non-Rad	Barium	7440-39-3	µg/kg	66,100	--[b]	--
100-F-19:2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	3.9	--[b]	--
100-F-19:2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.67	--[b]	--
100-F-19:2_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--[b]	--
100-F-19:2_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.7	--[b]	--
100-F-19:2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,140	6,000[c]	No
100-F-19:2_Deep	non-Rad	Lead	7439-92-1	µg/kg	4,100	--[b]	--
100-F-19:2_Deep	Rad	Nickel-63	13981-37-8	pCi/g	340	--[b]	--
100-F-19:2_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	23	--[b]	--
100-F-19:2_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	24,600	No
100-F-19:2_Deep	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,762	35,882[e]	No
100-F-19:2_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.50	--[d]	--
100-F-19:2_Deep	Rad	Uranium-238	U-238	pCi/g	0.59	--[d]	--
100-F-19:2_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.1	--[b]	--
100-F-19:2_Deep_Focused	Rad	Cobalt-60	10198-40-0	pCi/g	0.36	--[b]	--
100-F-19:2_Deep_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.5	--[b]	--
100-F-19:2_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	690	6,000[c]	No
100-F-19:2_Overburden	non-Rad	Barium	7440-39-3	µg/kg	51,200	--[b]	--
100-F-19:2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.20	--[b]	--
100-F-19:2_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	--[b]	--
100-F-19:2_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.37	--[b]	--
100-F-19:2_Overburden	Rad	Europium-154	15585-10-1	pCi/g	0.18	--[b]	--
100-F-19:2_Overburden	non-Rad	Lead	7439-92-1	µg/kg	8,000	--[b]	--
100-F-19:2_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	410	--[b]	--
100-F-19:2_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	4.9	--[b]	--
100-F-19:2_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.42	24,600	No
100-F-19:2_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,671	35,882[e]	No
100-F-19:2_Overburden	Rad	Tritium	10028-17-8	pCi/g	0.81	1,660	No
100-F-19:2_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.52	--[d]	--
100-F-19:2_Overburden	Rad	Uranium-238	U-238	pCi/g	0.57	--[d]	--
100-F-19:2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	122,000	--[b]	--
100-F-19:2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14	--[b]	--
100-F-19:2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.35	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-19:2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,800	--[b]	--
100-F-19:2_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	7.0	--[b]	--
100-F-19:2_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,916	35,882[e]	No
100-F-19:2_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.59	--[d]	--
100-F-19:2_Shallow	Rad	Uranium-238	U-238	pCi/g	0.64	--[d]	--
100-F-19:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	6,000[c]	No
100-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.35	--[b]	--
100-F-20_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,200	--[b]	--
100-F-20_Staging pile area	non-Rad	Aluminum	7429-90-5	µg/kg	5.35E+06	--[b]	--
100-F-20_Staging pile area	non-Rad	Arsenic	7440-38-2	µg/kg	3,400	--[b]	--
100-F-20_Staging pile area	non-Rad	Barium	7440-39-3	µg/kg	77,800	--[b]	--
100-F-20_Staging pile area	non-Rad	Beryllium	7440-41-7	µg/kg	530	--[b]	--
100-F-20_Staging pile area	non-Rad	Boron	7440-42-8	µg/kg	2,600	5.07E+06	No
100-F-20_Staging pile area	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[b]	--
100-F-20_Staging pile area	Rad	Cesium-137	10045-97-3	pCi/g	0.044	--[b]	--
100-F-20_Staging pile area	non-Rad	Chromium	7440-47-3	µg/kg	9,200	--[b]	--
100-F-20_Staging pile area	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[b]	--
100-F-20_Staging pile area	non-Rad	Copper	7440-50-8	µg/kg	23,700	2.34E+07	No
100-F-20_Staging pile area	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07	--[b]	--
100-F-20_Staging pile area	non-Rad	Lead	7439-92-1	µg/kg	18,500	--[b]	--
100-F-20_Staging pile area	non-Rad	Manganese	7439-96-5	µg/kg	328,000	--[b]	--
100-F-20_Staging pile area	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
100-F-20_Staging pile area	non-Rad	Molybdenum	7439-98-7	µg/kg	850	2.47E+06	No
100-F-20_Staging pile area	non-Rad	Nickel	7440-02-0	µg/kg	9,900	--[b]	--
100-F-20_Staging pile area	non-Rad	Vanadium	7440-62-2	µg/kg	42,900	--[b]	--
100-F-20_Staging pile area	non-Rad	Zinc	7440-66-6	µg/kg	87,600	--[b]	--
100-F-24_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.053	--[b]	--
100-F-25_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.071	--[b]	--
100-F-25_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.13	--[b]	--
100-F-25_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	140	--[b]	--
100-F-25_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	4.6	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.18E+06	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	280	12,637	No
100-F-26:1_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	53,500	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	520	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	5.07E+06	No
100-F-26:1_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,700	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,300	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	2.34E+07	No
100-F-26:1_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	181,000	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	256,000	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,380	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	621	2.47E+06	No
100-F-26:1_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	35,100	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,300	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.50E+06	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	263	12,637	No
100-F-26:1_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,600	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,700	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,800	5.07E+06	No
100-F-26:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	157	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,900	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,200	2.34E+07	No
100-F-26:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	6,000[c]	No
100-F-26:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.08E+07	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,900	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	352,000	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	93	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	373	2.47E+06	No
100-F-26:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,800	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,200	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	880	12,637	No
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	7.9	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	10	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,700	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	117,000	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	25	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	280	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	250	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	5.07E+06	No
100-F-26:10_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,700	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	23	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,800	2.34E+07	No
100-F-26:10_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	1.36E+06	No
100-F-26:10_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	270	6,000[c]	No
100-F-26:10_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.65E+07	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,700	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	291,000	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,300	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	35	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,800	140,663	No
100-F-26:10_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,500	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	51,900	--[b]	--
100-F-26:10_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.35E+06	--[b]	--
100-F-26:10_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	12,637	No
100-F-26:10_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	54	--[b]	--
100-F-26:10_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	54	--[b]	--
100-F-26:10_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,105	--[b]	--
100-F-26:10_Shallow	non-Rad	Barium	7440-39-3	µg/kg	69,412	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	41	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	39	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	48	--[b]	--
100-F-26:10_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	310	--[b]	--
100-F-26:10_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	93	--[b]	--
100-F-26:10_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,790	5.07E+06	No
100-F-26:10_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,640	--[b]	--
100-F-26:10_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	60	--[b]	--
100-F-26:10_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,034	--[b]	--
100-F-26:10_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,269	2.34E+07	No
100-F-26:10_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	4.9	--[b]	--
100-F-26:10_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	1.36E+06	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:10_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	120	--[b]	--
100-F-26:10_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	268	6,000[c]	No
100-F-26:10_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--[b]	--
100-F-26:10_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.51E+07	--[b]	--
100-F-26:10_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,969	--[b]	--
100-F-26:10_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	286,118	--[b]	--
100-F-26:10_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	10	--[b]	--
100-F-26:10_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.7	--[b]	--
100-F-26:10_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	640	2.47E+06	No
100-F-26:10_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,726	--[b]	--
100-F-26:10_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	110	--[b]	--
100-F-26:10_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,369	140,663	No
100-F-26:10_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,054	--[b]	--
100-F-26:10_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,294	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.80E+06	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,500	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	54,100	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	290	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	860	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,600	5.07E+06	No
100-F-26:10_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,800	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	2.34E+07	No
100-F-26:10_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	39	1.36E+06	No
100-F-26:10_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[c]	No
100-F-26:10_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.23E+07	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,900	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	257,000	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	3.0	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	470	2.47E+06	No
100-F-26:10_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,700	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,500	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.19E+06	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	63,200	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	20	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400	5.07E+06	No
100-F-26:11_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,700	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,200	2.34E+07	No
100-F-26:11_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	38	1.36E+06	No
100-F-26:11_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	6,000[c]	No
100-F-26:11_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.85E+07	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	23,600	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	294,000	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	240	2.47E+06	No
100-F-26:11_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,900	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	56,700	--[b]	--
100-F-26:12_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	5.61E+06	--[b]	--
100-F-26:12_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,882	--[b]	--
100-F-26:12_Overburden	non-Rad	Barium	7440-39-3	µg/kg	57,538	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:12_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	262	--[b]	--
100-F-26:12_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,421	5.07E+06	No
100-F-26:12_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	158	--[b]	--
100-F-26:12_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.056	--[b]	--
100-F-26:12_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,743	--[b]	--
100-F-26:12_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	4,943	--[b]	--
100-F-26:12_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,210	2.34E+07	No
100-F-26:12_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.081	--[b]	--
100-F-26:12_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	293	6,000[c]	No
100-F-26:12_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.34E+07	--[b]	--
100-F-26:12_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,695	--[b]	--
100-F-26:12_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	240,610	--[b]	--
100-F-26:12_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	60	--[b]	--
100-F-26:12_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	620	2.47E+06	No
100-F-26:12_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,811	--[b]	--
100-F-26:12_Overburden	Rad	Tritium	10028-17-8	pCi/g	5.9	1,660	No
100-F-26:12_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	31,558	--[b]	--
100-F-26:12_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	32,061	--[b]	--
100-F-26:12_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.13E+06	--[b]	--
100-F-26:12_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	12,637	No
100-F-26:12_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,797	--[b]	--
100-F-26:12_Shallow	non-Rad	Barium	7440-39-3	µg/kg	54,294	--[b]	--
100-F-26:12_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	186	--[b]	--
100-F-26:12_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,013	5.07E+06	No
100-F-26:12_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	7,949	--[b]	--
100-F-26:12_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,004	--[b]	--
100-F-26:12_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,109	2.34E+07	No
100-F-26:12_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[c]	No
100-F-26:12_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.20E+07	--[b]	--
100-F-26:12_Shallow	non-Rad	Lead	7439-92-1	µg/kg	9,282	--[b]	--
100-F-26:12_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	225,939	--[b]	--
100-F-26:12_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	28	--[b]	--
100-F-26:12_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	480	2.47E+06	No
100-F-26:12_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,312	--[b]	--
100-F-26:12_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	28,449	--[b]	--
100-F-26:12_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	32,386	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.63E+06	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	3,626	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	73,949	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	160	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,972	5.07E+06	No
100-F-26:12_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	190	--[b]	--
100-F-26:12_Staging Pile Area	Rad	Carbon-14	14762-75-5	pCi/g	5.1	--[b]	--
100-F-26:12_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.064	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	11,246	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,238	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	13,599	2.34E+07	No
100-F-26:12_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	307	6,000[c]	No
100-F-26:12_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.70E+07	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	7,611	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	264,980	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	56	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	534	2.47E+06	No
100-F-26:12_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,946	--[b]	--
100-F-26:12_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.56	24,600	No
100-F-26:12_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	38,910	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	44,863	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.76E+06	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	38	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	9,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	92,800	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	6,100	5.07E+06	No
100-F-26:13_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.13	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100	2.34E+07	No
100-F-26:13_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	29,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	295,000	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	520	2.47E+06	No
100-F-26:13_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,000	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,900	--[b]	--
100-F-26:13_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.35E+06	--[b]	--
100-F-26:13_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.1	--[b]	--
100-F-26:13_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.6	--[b]	--
100-F-26:13_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,402	--[b]	--
100-F-26:13_Shallow	non-Rad	Barium	7440-39-3	µg/kg	52,589	--[b]	--
100-F-26:13_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	337	--[b]	--
100-F-26:13_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,500	5.07E+06	No
100-F-26:13_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	13	--[b]	--
100-F-26:13_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.055	--[b]	--
100-F-26:13_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,231	--[b]	--
100-F-26:13_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,264	--[b]	--
100-F-26:13_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,289	2.34E+07	No
100-F-26:13_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.44E+07	--[b]	--
100-F-26:13_Shallow	non-Rad	Lead	7439-92-1	µg/kg	14,012	--[b]	--
100-F-26:13_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	237,795	--[b]	--
100-F-26:13_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	554	2.47E+06	No
100-F-26:13_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,195	--[b]	--
100-F-26:13_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	2.0	24,600	No
100-F-26:13_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,581	35,882[e]	No
100-F-26:13_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.66	--[d]	--
100-F-26:13_Shallow	Rad	Uranium-238	U-238	pCi/g	0.53	--[d]	--
100-F-26:13_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,034	--[b]	--
100-F-26:13_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,774	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	3.66E+06	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	44,500	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400	5.07E+06	No
100-F-26:13_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,900	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,300	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,300	2.34E+07	No
100-F-26:13_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	9.76E+06	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,400	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	201,000	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	2.47E+06	No
100-F-26:13_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,300	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	22,300	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	26,700	--[b]	--
100-F-26:14_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.75E+06	--[b]	--
100-F-26:14_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	--[b]	--
100-F-26:14_Overburden	non-Rad	Barium	7440-39-3	µg/kg	105,000	--[b]	--
100-F-26:14_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:14_Overburden	non-Rad	Boron	7440-42-8	µg/kg	13,500	5.07E+06	No
100-F-26:14_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	190	--[b]	--
100-F-26:14_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	2.0	--[b]	--
100-F-26:14_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,700	--[b]	--
100-F-26:14_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	--[b]	--
100-F-26:14_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.25	--[b]	--
100-F-26:14_Overburden	non-Rad	Copper	7440-50-8	µg/kg	15,300	2.34E+07	No
100-F-26:14_Overburden	Rad	Europium-152	14683-23-9	pCi/g	1.4	--[b]	--
100-F-26:14_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	--[b]	--
100-F-26:14_Overburden	non-Rad	Lead	7439-92-1	µg/kg	20,400	--[b]	--
100-F-26:14_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	298,000	--[b]	--
100-F-26:14_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	70	--[b]	--
100-F-26:14_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	560	2.47E+06	No
100-F-26:14_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,400	--[b]	--
100-F-26:14_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	9.6	--[b]	--
100-F-26:14_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.37	24,600	No
100-F-26:14_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	42,400	--[b]	--
100-F-26:14_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	38,900	--[b]	--
100-F-26:14_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	--[b]	--
100-F-26:14_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	830	12,637	No
100-F-26:14_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	--[b]	--
100-F-26:14_Shallow	non-Rad	Barium	7440-39-3	µg/kg	216,000	--[b]	--
100-F-26:14_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	330	--[b]	--
100-F-26:14_Shallow	non-Rad	Boron	7440-42-8	µg/kg	31,600	5.07E+06	No
100-F-26:14_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.26	--[b]	--
100-F-26:14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,500	--[b]	--
100-F-26:14_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,600	--[b]	--
100-F-26:14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.089	--[b]	--
100-F-26:14_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,200	2.34E+07	No
100-F-26:14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.53	--[b]	--
100-F-26:14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	6,000[c]	No
100-F-26:14_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.67E+07	--[b]	--
100-F-26:14_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,900	--[b]	--
100-F-26:14_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	291,000	--[b]	--
100-F-26:14_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
100-F-26:14_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	510	2.47E+06	No
100-F-26:14_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,000	--[b]	--
100-F-26:14_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,200	--[b]	--
100-F-26:14_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,900	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.77E+06	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	66,900	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	290	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900	5.07E+06	No
100-F-26:15_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.10	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,500	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,900	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,300	2.34E+07	No
100-F-26:15_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.31	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.56E+07	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,000	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	277,000	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,700	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,700	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,800	--[b]	--
100-F-26:15_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.49E+06	--[b]	--
100-F-26:15_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	850	12,637	No
100-F-26:15_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,314	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:15_Shallow	non-Rad	Barium	7440-39-3	µg/kg	79,390	--[b]	--
100-F-26:15_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	248	--[b]	--
100-F-26:15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,162	5.07E+06	No
100-F-26:15_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	170	--[b]	--
100-F-26:15_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.099	--[b]	--
100-F-26:15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,578	--[b]	--
100-F-26:15_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,851	--[b]	--
100-F-26:15_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,718	2.34E+07	No
100-F-26:15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.22	--[b]	--
100-F-26:15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	262	6,000[c]	No
100-F-26:15_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.47E+07	--[b]	--
100-F-26:15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,125	--[b]	--
100-F-26:15_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	280,532	--[b]	--
100-F-26:15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	130	--[b]	--
100-F-26:15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	661	2.47E+06	No
100-F-26:15_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,579	--[b]	--
100-F-26:15_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,310	--[b]	--
100-F-26:15_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	33,378	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.72E+06	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	40,100	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	170	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400	5.07E+06	No
100-F-26:15_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[b]	--
100-F-26:15_Shallow_Focused	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,200	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,700	2.34E+07	No
100-F-26:15_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.32E+07	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,200	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	235,000	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,400	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,300	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	28,300	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.96E+06	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	74,300	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	190	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	5.07E+06	No
100-F-26:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,700	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,600	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,100	2.34E+07	No
100-F-26:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	6,000[c]	No
100-F-26:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,400	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	303,000	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	420	2.47E+06	No
100-F-26:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,700	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,900	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,300	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.59E+06	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.3	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	260,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	420	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	32,300	5.07E+06	No
100-F-26:4_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	201	--[b]	--
100-F-26:4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.062	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,300	2.34E+07	No
100-F-26:4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	6,000[c]	No
100-F-26:4_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.68E+07	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	20,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	297,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	2.47E+06	No
100-F-26:4_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,900	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	141,000	1.00E+06[f]	No
100-F-26:4_Overburden_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,453	35,882[e]	No
100-F-26:4_Overburden_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.46	--[d]	--
100-F-26:4_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.49	--[d]	--
100-F-26:4_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,500	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	56,600	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Aluminum	7429-90-5	µg/kg	8.53E+06	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Arsenic	7440-38-2	µg/kg	6,500	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Barium	7440-39-3	µg/kg	109,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Beryllium	7440-41-7	µg/kg	230	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Boron	7440-42-8	µg/kg	5,100	5.07E+06	No
100-F-26:4_Overburden_Focused_3	non-Rad	Cadmium	7440-43-9	µg/kg	99	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Chromium	7440-47-3	µg/kg	11,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Cobalt	7440-48-4	µg/kg	6,500	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Copper	7440-50-8	µg/kg	15,000	2.34E+07	No
100-F-26:4_Overburden_Focused_3	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Lead	7439-92-1	µg/kg	16,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Manganese	7439-96-5	µg/kg	299,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Mercury	7439-97-6	µg/kg	8.3	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Molybdenum	7439-98-7	µg/kg	300	2.47E+06	No
100-F-26:4_Overburden_Focused_3	non-Rad	Nickel	7440-02-0	µg/kg	11,200	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,700	2.00E+06[f]	No
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	10,000	2.00E+06[f]	No
100-F-26:4_Overburden_Focused_3	non-Rad	Vanadium	7440-62-2	µg/kg	47,200	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Zinc	7440-66-6	µg/kg	41,900	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	4.66E+06	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	718	12,637	No
100-F-26:4_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	1,950	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	75,842	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	5,760	5.07E+06	No
100-F-26:4_Shallow_1	Rad	Cesium-137	10045-97-3	pCi/g	0.26	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	8,347	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	4,973	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	11,577	2.34E+07	No
100-F-26:4_Shallow_1	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	546	6,000[c]	No
100-F-26:4_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.19E+07	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	5,817	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	232,660	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	60	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	890	2.47E+06	No
100-F-26:4_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	9,380	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Selenium	7782-49-2	µg/kg	2,700	140,663	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:4_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	27,956	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	34,707	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,827	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	92,173	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	209	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,903	5.07E+06	No
100-F-26:4_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	89	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,066	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	6,033	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,975	2.34E+07	No
100-F-26:4_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	9,654	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	275,252	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	12	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	316	2.47E+06	No
100-F-26:4_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,596	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Selenium	7782-49-2	µg/kg	930	140,663	No
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	6,371	2.00E+06[f]	No
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	25,575	2.00E+06[f]	No
100-F-26:4_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	43,748	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	37,849	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	26	50,401	No
100-F-26:4_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.02E+06	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	381	12,637	No
100-F-26:4_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,600	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	611	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	241	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700	5.07E+06	No
100-F-26:4_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	669	--[b]	--
100-F-26:4_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.58	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,100	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,900	2.34E+07	No
100-F-26:4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	226	1.36E+06	No
100-F-26:4_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.23	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	370	6,000[c]	No
100-F-26:4_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,600	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	310,000	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	314	2.47E+06	No
100-F-26:4_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	39	107,951	No
100-F-26:4_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,100	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	33	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	591	140,663	No
100-F-26:4_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	219	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,100	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,100	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.26E+06	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	662	12,637	No
100-F-26:5_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	35	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:5_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	37,100	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	396	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	5.07E+06	No
100-F-26:5_Deep_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	292	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,100	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,600	2.34E+07	No
100-F-26:5_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	875	6,000[c]	No
100-F-26:5_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.16E+07	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,600	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	206,000	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	98	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	436	2.47E+06	No
100-F-26:5_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,900	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	28,300	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	64,200	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.72E+06	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	50,400	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	5.07E+06	No
100-F-26:5_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	280	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,300	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,800	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500	2.34E+07	No
100-F-26:5_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
100-F-26:5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.39E+07	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,600	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	231,000	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	320	2.47E+06	No
100-F-26:5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	33,500	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,200	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.66E+06	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	680	12,637	No
100-F-26:7_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	153,000	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	120	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	10,600	5.07E+06	No
100-F-26:7_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,700	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,400	2.34E+07	No
100-F-26:7_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,900	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	319,000	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	66	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,500	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	47,600	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,400	--[b]	--
100-F-26:7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.14E+06	--[b]	--
100-F-26:7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	684	12,637	No
100-F-26:7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	1,957	--[b]	--
100-F-26:7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	103,545	--[b]	--
100-F-26:7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	65	--[b]	--
100-F-26:7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	8,960	5.07E+06	No
100-F-26:7_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	108	--[b]	--
100-F-26:7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,159	--[b]	--
100-F-26:7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,949	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,070	2.34E+07	No
100-F-26:7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	346	6,000[c]	No
100-F-26:7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.78E+07	--[b]	--
100-F-26:7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,875	--[b]	--
100-F-26:7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	282,226	--[b]	--
100-F-26:7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	18	--[b]	--
100-F-26:7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	410	2.47E+06	No
100-F-26:7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,497	--[b]	--
100-F-26:7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	47,555	--[b]	--
100-F-26:7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,672	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,300	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	64	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	5.07E+06	No
100-F-26:7_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,000	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,400	2.34E+07	No
100-F-26:7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.84E+07	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,700	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	321,000	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.8	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,700	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,700	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,500	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.46E+06	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	731	12,637	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	1,716	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	106,026	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	5,756	5.07E+06	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	99	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	9,634	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,118	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	12,164	2.34E+07	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	3,804	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	276,272	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	6.7	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	366	2.47E+06	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	9,792	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	960	140,663	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	52,232	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:7_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	37,192	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.9	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.4	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,900	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	38	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	23	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	30	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	450	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	62	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,600	5.07E+06	No
100-F-26:8_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	37	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	2.34E+07	No
100-F-26:8_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	1.36E+06	No
100-F-26:8_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	220	6,000[c]	No
100-F-26:8_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	11,500	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	332,000	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	1.8	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	57	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,900	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	54,000	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	1.2	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.1	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.0	--[b]	--
100-F-26:8_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	4.2	--[b]	--
100-F-26:8_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.25E+06	--[b]	--
100-F-26:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,100	12,637	No
100-F-26:8_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,206	--[b]	--
100-F-26:8_Shallow	non-Rad	Barium	7440-39-3	µg/kg	63,964	--[b]	--
100-F-26:8_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	300	--[b]	--
100-F-26:8_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	0.60	60	No
100-F-26:8_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	178	--[b]	--
100-F-26:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,100	5.07E+06	No
100-F-26:8_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.5	--[b]	--
100-F-26:8_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	12,660	--[b]	--
100-F-26:8_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,604	--[b]	--
100-F-26:8_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,206	2.34E+07	No
100-F-26:8_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	29	1.36E+06	No
100-F-26:8_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.53	115,960	No
100-F-26:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--[b]	--
100-F-26:8_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.60	--[b]	--
100-F-26:8_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.44E+07	--[b]	--
100-F-26:8_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,311	--[b]	--
100-F-26:8_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	263,616	--[b]	--
100-F-26:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	160	--[b]	--
100-F-26:8_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.0	--[b]	--
100-F-26:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	2.47E+06	No
100-F-26:8_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,851	--[b]	--
100-F-26:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	29	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:8_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,335	140,663	No
100-F-26:8_Shallow	non-Rad	Silver	7440-22-4	µg/kg	510	--[b]	--
100-F-26:8_Shallow	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	253,000	1.00E+06[f]	No
100-F-26:8_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,413	--[b]	--
100-F-26:8_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,472	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.83E+06	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	85,200	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	460	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	84	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,600	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	2.34E+07	No
100-F-26:8_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	1.36E+06	No
100-F-26:8_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,100	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,300	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,238	35,882[e]	No
100-F-26:8_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.60	--[d]	--
100-F-26:8_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.42	--[d]	--
100-F-26:8_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,800	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	47,400	--[b]	--
100-F-26:9_Overburden	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	27	50,401	No
100-F-26:9_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.48E+06	--[b]	--
100-F-26:9_Overburden	non-Rad	Anthracene	120-12-7	µg/kg	22	--[b]	--
100-F-26:9_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,000	12,637	No
100-F-26:9_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	180	--[b]	--
100-F-26:9_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,859	--[b]	--
100-F-26:9_Overburden	non-Rad	Barium	7440-39-3	µg/kg	266,416	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	100	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	110	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	89	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	97	--[b]	--
100-F-26:9_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	317	--[b]	--
100-F-26:9_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	243	--[b]	--
100-F-26:9_Overburden	non-Rad	Boron	7440-42-8	µg/kg	15,662	5.07E+06	No
100-F-26:9_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.044	--[b]	--
100-F-26:9_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,384	--[b]	--
100-F-26:9_Overburden	non-Rad	Chrysene	218-01-9	µg/kg	140	--[b]	--
100-F-26:9_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,286	--[b]	--
100-F-26:9_Overburden	non-Rad	Copper	7440-50-8	µg/kg	17,179	2.34E+07	No
100-F-26:9_Overburden	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	22	--[b]	--
100-F-26:9_Overburden	non-Rad	Fluoranthene	206-44-0	µg/kg	220	--[b]	--
100-F-26:9_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	319	6,000[c]	No
100-F-26:9_Overburden	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	71	--[b]	--
100-F-26:9_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	--[b]	--
100-F-26:9_Overburden	non-Rad	Lead	7439-92-1	µg/kg	6,965	--[b]	--
100-F-26:9_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	277,999	--[b]	--
100-F-26:9_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	100	--[b]	--
100-F-26:9_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	2.47E+06	No
100-F-26:9_Overburden	non-Rad	Naphthalene	91-20-3	µg/kg	18	107,951	No
100-F-26:9_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,648	--[b]	--
100-F-26:9_Overburden	non-Rad	Pyrene	129-00-0	µg/kg	260	--[b]	--
100-F-26:9_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	40,062	--[b]	--
100-F-26:9_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	44,529	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	23	50,401	No
100-F-26:9_Overburden_Focused	non-Rad	4-Nitroaniline	100-01-6	µg/kg	37	330	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:9_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.35E+06	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	72	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	77	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	659,000	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	21	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	860	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	450	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	61,700	5.07E+06	No
100-F-26:9_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,500	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	44	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,600	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	183,000	2.34E+07	No
100-F-26:9_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	32	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	6,000[c]	No
100-F-26:9_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	81,700	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	254,000	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	2.47E+06	No
100-F-26:9_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	30	107,951	No
100-F-26:9_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,200	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	59	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,300	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,800	--[b]	--
100-F-26:9_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.52E+06	--[b]	--
100-F-26:9_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-26:9_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--[b]	--
100-F-26:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
100-F-26:9_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,650	--[b]	--
100-F-26:9_Shallow	non-Rad	Barium	7440-39-3	µg/kg	117,460	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	108	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	120	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	85	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	100	--[b]	--
100-F-26:9_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	271	--[b]	--
100-F-26:9_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	152	--[b]	--
100-F-26:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	14,334	5.07E+06	No
100-F-26:9_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	174	--[b]	--
100-F-26:9_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,462	--[b]	--
100-F-26:9_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	134	--[b]	--
100-F-26:9_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,363	--[b]	--
100-F-26:9_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,904	2.34E+07	No
100-F-26:9_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	39	--[b]	--
100-F-26:9_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	235	--[b]	--
100-F-26:9_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	284	6,000[c]	No
100-F-26:9_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--[b]	--
100-F-26:9_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.74E+07	--[b]	--
100-F-26:9_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,799	--[b]	--
100-F-26:9_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	285,355	--[b]	--
100-F-26:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	278	--[b]	--
100-F-26:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	910	2.47E+06	No
100-F-26:9_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,157	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:9_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	227	--[b]	--
100-F-26:9_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	42,960	--[b]	--
100-F-26:9_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,180	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.19E+07	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	20	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,600	12,637	No
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	329,000	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	90	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	71	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	49	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	68	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	596	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	690	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	28,600	5.07E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	49	525,145	No
100-F-26:9_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	340	--[b]	--
100-F-26:9_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.29	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,000	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	120	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,500	2.34E+07	No
100-F-26:9_Shallow_Focused	non-Rad	Diethylphthalate	84-66-2	µg/kg	34	1.07E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	136	1.36E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	130	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	360	6,000[c]	No
100-F-26:9_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	47	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.52E+07	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	16,900	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	810	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	2.47E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	23	107,951	No
100-F-26:9_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	310	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,300	140,663	No
100-F-26:9_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,200	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,300	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.9	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.39E+06	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,014	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	59,167	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	140	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	75	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	462	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.9	60	No
100-F-26:9_Staging Pile Area	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	333	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,604	5.07E+06	No
100-F-26:9_Staging Pile Area	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:9_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	10,408	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	160	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,815	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	15,482	2.34E+07	No
100-F-26:9_Staging Pile Area	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	1.36E+06	No
100-F-26:9_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	281	6,000[c]	No
100-F-26:9_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	35,063	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	263,395	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	750	2.47E+06	No
100-F-26:9_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	11,185	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	260	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	30,622	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	36,533	--[b]	--
100-F-31_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.07E+06	--[b]	--
100-F-31_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	490	12,637	No
100-F-31_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	17	--[b]	--
100-F-31_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,822	--[b]	--
100-F-31_Shallow	non-Rad	Barium	7440-39-3	µg/kg	75,963	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	45	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	41	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	39	--[b]	--
100-F-31_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	166	--[b]	--
100-F-31_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	59	--[b]	--
100-F-31_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,890	5.07E+06	No
100-F-31_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	685	--[b]	--
100-F-31_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,321	--[b]	--
100-F-31_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	52	--[b]	--
100-F-31_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,614	--[b]	--
100-F-31_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,914	2.34E+07	No
100-F-31_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	1.36E+06	No
100-F-31_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	69	--[b]	--
100-F-31_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	363	6,000[c]	No
100-F-31_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	25	--[b]	--
100-F-31_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.51E+07	--[b]	--
100-F-31_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,680	--[b]	--
100-F-31_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	230,196	--[b]	--
100-F-31_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	--[b]	--
100-F-31_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,916	--[b]	--
100-F-31_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	89	--[b]	--
100-F-31_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,376	--[b]	--
100-F-31_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,652	--[b]	--
100-F-33_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	31	50,401	No
100-F-33_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
100-F-33_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,355	--[b]	--
100-F-33_Shallow	non-Rad	Barium	7440-39-3	µg/kg	68,146	--[b]	--
100-F-33_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	40	--[b]	--
100-F-33_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	64	--[b]	--
100-F-33_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,514	5.07E+06	No
100-F-33_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
100-F-33_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,437	--[b]	--
100-F-33_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,528	--[b]	--
100-F-33_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,662	2.34E+07	No
100-F-33_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	1.36E+06	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-33_Shallow	non-Rad	Lead	7439-92-1	µg/kg	9,061	--[b]	--
100-F-33_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	256,825	--[b]	--
100-F-33_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	47	--[b]	--
100-F-33_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	255	2.47E+06	No
100-F-33_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	22	107,951	No
100-F-33_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,321	--[b]	--
100-F-33_Shallow	non-Rad	Phenol	108-95-2	µg/kg	19	131,276	No
100-F-33_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,010	--[b]	--
100-F-33_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	71,718	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.64E+06	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	347	12,637	No
100-F-33_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	94	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,200	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	408	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700	5.07E+06	No
100-F-33_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	171	--[b]	--
100-F-33_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.19	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,400	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,500	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	44,200	2.34E+07	No
100-F-33_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.095	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	6,000[c]	No
100-F-33_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.05E+07	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,700	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	312,000	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	266	2.47E+06	No
100-F-33_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,800	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,400	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	58,200	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	77,400	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	52	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000	5.07E+06	No
100-F-33_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,400	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500	2.34E+07	No
100-F-33_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	1.36E+06	No
100-F-33_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,300	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	250,000	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	381	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	280	2.47E+06	No
100-F-33_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,900	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Silver	7440-22-4	µg/kg	174	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,100	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	49,000	--[b]	--
100-F-35_Shallow	Rad	Americium-241	14596-10-2	pCi/g	1.8	--[b]	--
100-F-35_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	2.6	--[b]	--
100-F-35_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	520	6,000[c]	No
100-F-35_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	1.7	--[b]	--
100-F-35_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.64	24,600	No
100-F-35_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,399	35,882[e]	No
100-F-35_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.91	--[d]	--
100-F-35_Shallow	Rad	Uranium-238	U-238	pCi/g	0.81	--[d]	--
100-F-36_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	3.66E+06	--[b]	--
100-F-36_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	1,800	--[b]	--
100-F-36_Shallow	non-Rad	Barium	7440-39-3	µg/kg	33,500	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-36_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	190	--[b]	--
100-F-36_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	6,900	--[b]	--
100-F-36_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	3,800	--[b]	--
100-F-36_Shallow	non-Rad	Copper	7440-50-8	µg/kg	10,200	2.34E+07	No
100-F-36_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	325	6,000[c]	No
100-F-36_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.08E+07	--[b]	--
100-F-36_Shallow	non-Rad	Lead	7439-92-1	µg/kg	2,100	--[b]	--
100-F-36_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	195,000	--[b]	--
100-F-36_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,100	--[b]	--
100-F-36_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	3,007	35,882[e]	No
100-F-36_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.69	--[d]	--
100-F-36_Shallow	Rad	Uranium-238	U-238	pCi/g	1.0	--[d]	--
100-F-36_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	27,700	--[b]	--
100-F-36_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	25,300	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.05E+06	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,100	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	350	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	5.07E+06	No
100-F-36_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,800	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100	2.34E+07	No
100-F-36_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	866	6,000[c]	No
100-F-36_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,500	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	356,000	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,000	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,131	35,882[e]	No
100-F-36_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.57	--[d]	--
100-F-36_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.72	--[d]	--
100-F-36_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,800	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,000	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	508,000	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	340	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	710	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,100	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	214,000	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	70	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.77E+06	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	388,000	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	434	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	513	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	23,500	5.07E+06	No
100-F-38_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	117	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,500	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,300	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,000	2.34E+07	No
100-F-38_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	47	1.36E+06	No
100-F-38_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,900	6,000[c]	No
100-F-38_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	38,400	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	291,000	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	510	2.47E+06	No
100-F-38_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-38_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,100	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,400	--[b]	--
100-F-4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,100	--[b]	--
100-F-4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	3,200	6,000[c]	No
100-F-4_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.052	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.19E+06	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	51,800	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	140	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,800	5.07E+06	No
100-F-44:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,200	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,800	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,800	2.34E+07	No
100-F-44:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
100-F-44:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,200	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	235,000	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,600	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	90,700	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.86E+06	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	46,400	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	340	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100	5.07E+06	No
100-F-44:5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,900	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500	2.34E+07	No
100-F-44:5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.29E+07	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	250,000	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,200	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	30,600	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	29,100	--[b]	--
100-F-44:8_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.97E+06	--[b]	--
100-F-44:8_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	9.1	--[b]	--
100-F-44:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	360	12,637	No
100-F-44:8_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	84	--[b]	--
100-F-44:8_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	59	--[b]	--
100-F-44:8_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,416	--[b]	--
100-F-44:8_Shallow	non-Rad	Barium	7440-39-3	µg/kg	125,676	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	36	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	18	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.8	--[b]	--
100-F-44:8_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	143	--[b]	--
100-F-44:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,762	5.07E+06	No
100-F-44:8_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	95	--[b]	--
100-F-44:8_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,810	--[b]	--
100-F-44:8_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	23	--[b]	--
100-F-44:8_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,982	--[b]	--
100-F-44:8_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,533	2.34E+07	No
100-F-44:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--[b]	--
100-F-44:8_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--[b]	--
100-F-44:8_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-44:8_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,741	--[b]	--
100-F-44:8_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	289,822	--[b]	--
100-F-44:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	106	--[b]	--
100-F-44:8_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	226	No
100-F-44:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	386	2.47E+06	No
100-F-44:8_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,934	--[b]	--
100-F-44:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	39	--[b]	--
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	47,322	2.00E+06[f]	No
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	105,648	2.00E+06[f]	No
100-F-44:8_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	49,287	--[b]	--
100-F-44:8_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	47,891	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.46E+06	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	26	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	29	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,392	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	69,258	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	31	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	31	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.7	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	99	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,433	5.07E+06	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	96	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	8,432	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	24	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,348	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	13,669	2.34E+07	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	50	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	5,664	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	271,082	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	53	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	226	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	10,454	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	56	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	13,238	2.00E+06[f]	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	110,000	2.00E+06[f]	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-44:8_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	50,796	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	43,092	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.52E+06	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	12,637	No
100-F-44:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	31	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,000	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,300	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	88	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000	5.07E+06	No
100-F-44:9_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	210	--[b]	--
100-F-44:9_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.081	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,700	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,100	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,800	2.34E+07	No
100-F-44:9_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.12	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	311	6,000[c]	No
100-F-44:9_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.63E+07	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,600	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	281,000	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	2.47E+06	No
100-F-44:9_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	18,600	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	140,663	No
100-F-44:9_Overburden_Focused	Rad	Tritium	10028-17-8	pCi/g	0.018	1,660	No
100-F-44:9_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,200	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	55,300	--[b]	--
100-F-44:9_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.93E+06	--[b]	--
100-F-44:9_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	510	12,637	No
100-F-44:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	34	--[b]	--
100-F-44:9_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,733	--[b]	--
100-F-44:9_Shallow	non-Rad	Barium	7440-39-3	µg/kg	59,638	--[b]	--
100-F-44:9_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	173	--[b]	--
100-F-44:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,450	5.07E+06	No
100-F-44:9_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	92	--[b]	--
100-F-44:9_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,182	--[b]	--
100-F-44:9_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,559	--[b]	--
100-F-44:9_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,504	2.34E+07	No
100-F-44:9_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.84E+07	--[b]	--
100-F-44:9_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,400	--[b]	--
100-F-44:9_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	290,704	--[b]	--
100-F-44:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	--[b]	--
100-F-44:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	374	2.47E+06	No
100-F-44:9_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,979	--[b]	--
100-F-44:9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.21	24,600	No
100-F-44:9_Shallow	Rad	Tritium	10028-17-8	pCi/g	0.015	1,660	No
100-F-44:9_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	42,977	--[b]	--
100-F-44:9_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,535	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	7.90E+06	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,142	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	65,552	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	134	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-44:9_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,980	5.07E+06	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	86	--[b]	--
100-F-44:9_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.18	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	12,509	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,335	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	15,113	2.34E+07	No
100-F-44:9_Staging Pile Area Footprint	Rad	Europium-152	14683-23-9	pCi/g	1.1	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	178	6,000[c]	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.95E+07	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	4,786	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	304,989	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	34	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	450	2.47E+06	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	11,033	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	930	140,663	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	430	--[b]	--
100-F-44:9_Staging Pile Area Footprint	Rad	Tritium	10028-17-8	pCi/g	0.090	1,660	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	46,865	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	40,985	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.63E+06	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,700	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,300	5.07E+06	No
100-F-45_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	98	--[b]	--
100-F-45_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.067	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	20,700	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,300	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,500	2.34E+07	No
100-F-45_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	231	6,000[c]	No
100-F-45_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.41E+07	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	237,000	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	59	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	34,500	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500	--[b]	--
100-F-45_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.92E+06	--[b]	--
100-F-45_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,484	--[b]	--
100-F-45_Shallow	non-Rad	Barium	7440-39-3	µg/kg	72,078	--[b]	--
100-F-45_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	108	--[b]	--
100-F-45_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,700	5.07E+06	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-45_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	290	--[b]	--
100-F-45_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.7	--[b]	--
100-F-45_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	34,335	--[b]	--
100-F-45_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,959	--[b]	--
100-F-45_Shallow	non-Rad	Copper	7440-50-8	µg/kg	17,272	2.34E+07	No
100-F-45_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.32	--[b]	--
100-F-45_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	960	6,000[c]	No
100-F-45_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.58E+07	--[b]	--
100-F-45_Shallow	non-Rad	Lead	7439-92-1	µg/kg	7,617	--[b]	--
100-F-45_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	274,740	--[b]	--
100-F-45_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,034	--[b]	--
100-F-45_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	487	2.47E+06	No
100-F-45_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,261	--[b]	--
100-F-45_Shallow	non-Rad	Silver	7440-22-4	µg/kg	180	--[b]	--
100-F-45_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,311	--[b]	--
100-F-45_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	54,296	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.96E+06	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,349	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	79,938	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	156	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	2,766	5.07E+06	No
100-F-45_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	91	--[b]	--
100-F-45_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.11	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	11,780	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,154	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	12,140	2.34E+07	No
100-F-45_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	274	6,000[c]	No
100-F-45_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.63E+07	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	5,644	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	254,059	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	15	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	310	2.47E+06	No
100-F-45_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	10,032	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	40,197	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	36,668	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.82E+06	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,200	12,637	No
100-F-46_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,900	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	57,700	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.9	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.9	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.0	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	510	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,900	5.07E+06	No
100-F-46_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,500	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	2.34E+07	No
100-F-46_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
100-F-46_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	10	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.52E+07	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,500	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	245,000	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	860	2.47E+06	No
100-F-46_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,000	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	380	--[b]	--
100-F-46_Shallow_Focused	Rad	Tritium	10028-17-8	pCi/g	34	1,660	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-46_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	34,200	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	30,600	--[b]	--
100-F-47_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.28E+06	--[b]	--
100-F-47_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	390	12,637	No
100-F-47_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.2	--[b]	--
100-F-47_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	21	--[b]	--
100-F-47_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,711	--[b]	--
100-F-47_Shallow	non-Rad	Barium	7440-39-3	µg/kg	51,357	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	62	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	100	--[b]	--
100-F-47_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	81	--[b]	--
100-F-47_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-47_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,833	5.07E+06	No
100-F-47_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	93	--[b]	--
100-F-47_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,781	--[b]	--
100-F-47_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	72	--[b]	--
100-F-47_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,086	--[b]	--
100-F-47_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,960	2.34E+07	No
100-F-47_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	97	--[b]	--
100-F-47_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	46	--[b]	--
100-F-47_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.58E+07	--[b]	--
100-F-47_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,383	--[b]	--
100-F-47_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	259,094	--[b]	--
100-F-47_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	907	--[b]	--
100-F-47_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	450	2.47E+06	No
100-F-47_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,083	--[b]	--
100-F-47_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	84	--[b]	--
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	19,258	2.00E+06[f]	No
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	37,638	2.00E+06[f]	No
100-F-47_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	37,121	--[b]	--
100-F-47_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,988	--[b]	--
100-F-48_Overburden	non-Rad	2-Butanone	78-93-3	µg/kg	2.5	202,192	No
100-F-48_Overburden	non-Rad	Acetone	67-64-1	µg/kg	16	289,264	No
100-F-48_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.88E+06	--[b]	--
100-F-48_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	79	--[b]	--
100-F-48_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,350	--[b]	--
100-F-48_Overburden	non-Rad	Barium	7440-39-3	µg/kg	63,354	--[b]	--
100-F-48_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	221	--[b]	--
100-F-48_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
100-F-48_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,283	5.07E+06	No
100-F-48_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	83	--[b]	--
100-F-48_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	10,921	--[b]	--
100-F-48_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	5,677	--[b]	--
100-F-48_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,682	2.34E+07	No
100-F-48_Overburden	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	588	No
100-F-48_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.48E+07	--[b]	--
100-F-48_Overburden	non-Rad	Lead	7439-92-1	µg/kg	7,551	--[b]	--
100-F-48_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	257,998	--[b]	--
100-F-48_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	7.1	--[b]	--
100-F-48_Overburden	non-Rad	Methoxychlor	72-43-5	µg/kg	1.2	--[b]	--
100-F-48_Overburden	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	226	No
100-F-48_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	440	2.47E+06	No
100-F-48_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,836	--[b]	--
100-F-48_Overburden	non-Rad	Phenol	108-95-2	µg/kg	22	131,276	No
100-F-48_Overburden	non-Rad	Toluene	108-88-3	µg/kg	1.0	70,164	No
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,551	2.00E+06[f]	No
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,008	2.00E+06[f]	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-48_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	38,122	--[b]	--
100-F-48_Overburden	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.1	258,355	No
100-F-48_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	31,504	--[b]	--
100-F-48_Overburden_Focused	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	4.5	521	No
100-F-48_Overburden_Focused	non-Rad	2-Butanone	78-93-3	µg/kg	6.8	202,192	No
100-F-48_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.89	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	39	289,264	No
100-F-48_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.76E+06	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,300	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,500	5.07E+06	No
100-F-48_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	91	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,900	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,500	2.34E+07	No
100-F-48_Overburden_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	588	No
100-F-48_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.77E+07	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,500	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	289,000	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	8.9	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	3.7	226	No
100-F-48_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,400	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	38	131,276	No
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	4,000	2.00E+06[f]	No
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,100	2.00E+06[f]	No
100-F-48_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,600	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.0	258,355	No
100-F-48_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,600	--[b]	--
100-F-48_Shallow_1	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	1.3	521	No
100-F-48_Shallow_1	non-Rad	2-Butanone	78-93-3	µg/kg	8.5	202,192	No
100-F-48_Shallow_1	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	21	50,401	No
100-F-48_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.4	--[b]	--
100-F-48_Shallow_1	non-Rad	Acetone	67-64-1	µg/kg	64	289,264	No
100-F-48_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	7.52E+06	--[b]	--
100-F-48_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	520	12,637	No
100-F-48_Shallow_1	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.1	--[b]	--
100-F-48_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	93	--[b]	--
100-F-48_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	2,517	--[b]	--
100-F-48_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	74,696	--[b]	--
100-F-48_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	145	--[b]	--
100-F-48_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	4,367	5.07E+06	No
100-F-48_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
100-F-48_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	12,289	--[b]	--
100-F-48_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	52	--[b]	--
100-F-48_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,291	--[b]	--
100-F-48_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	13,785	2.34E+07	No
100-F-48_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	2.3	--[b]	--
100-F-48_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	32	1.36E+06	No
100-F-48_Shallow_1	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	588	No
100-F-48_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.54E+07	--[b]	--
100-F-48_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	8,470	--[b]	--
100-F-48_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	267,107	--[b]	--
100-F-48_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	151	--[b]	--
100-F-48_Shallow_1	non-Rad	Methoxychlor	72-43-5	µg/kg	13	--[b]	--
100-F-48_Shallow_1	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	226	No
100-F-48_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	250	2.47E+06	No
100-F-48_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	11,481	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-48_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	660	131,276	No
100-F-48_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	37	--[b]	--
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	20,868	2.00E+06[f]	No
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	86,681	2.00E+06[f]	No
100-F-48_Shallow_1	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	664	35,882[e]	No
100-F-48_Shallow_1	Rad	Uranium-234	13966-29-5	pCi/g	0.26	--[d]	--
100-F-48_Shallow_1	Rad	Uranium-238	U-238	pCi/g	0.17	--[d]	--
100-F-48_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	37,729	--[b]	--
100-F-48_Shallow_1	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	258,355	No
100-F-48_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	43,368	--[b]	--
100-F-48_Shallow_2	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	202,192	No
100-F-48_Shallow_2	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	24	50,401	No
100-F-48_Shallow_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	12	--[b]	--
100-F-48_Shallow_2	non-Rad	Acetone	67-64-1	µg/kg	49	289,264	No
100-F-48_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	6.66E+06	--[b]	--
100-F-48_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
100-F-48_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,306	--[b]	--
100-F-48_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	62,416	--[b]	--
100-F-48_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
100-F-48_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	139	--[b]	--
100-F-48_Shallow_2	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	78	--[b]	--
100-F-48_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	2,442	5.07E+06	No
100-F-48_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	94	--[b]	--
100-F-48_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	10,945	--[b]	--
100-F-48_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,853	--[b]	--
100-F-48_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,261	2.34E+07	No
100-F-48_Shallow_2	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.56	115,960	No
100-F-48_Shallow_2	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	588	No
100-F-48_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	36	--[b]	--
100-F-48_Shallow_2	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	4.0	--[b]	--
100-F-48_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.49E+07	--[b]	--
100-F-48_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	4,949	--[b]	--
100-F-48_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	244,867	--[b]	--
100-F-48_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	17	--[b]	--
100-F-48_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,086	--[b]	--
100-F-48_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	36	--[b]	--
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	12,909	2.00E+06[f]	No
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,139	2.00E+06[f]	No
100-F-48_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	36,873	--[b]	--
100-F-48_Shallow_2	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	258,355	No
100-F-48_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	40,871	--[b]	--
100-F-49_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.81	--[b]	--
100-F-49_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.60	--[b]	--
100-F-49_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.9	--[b]	--
100-F-49_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.95E+06	--[b]	--
100-F-49_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	8.6	--[b]	--
100-F-49_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	634	12,637	No
100-F-49_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	20	--[b]	--
100-F-49_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.2	--[b]	--
100-F-49_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,301	--[b]	--
100-F-49_Shallow	non-Rad	Barium	7440-39-3	µg/kg	74,059	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	16	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	37	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	43	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--[b]	--
100-F-49_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	76	--[b]	--
100-F-49_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,083	5.07E+06	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-49_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	111	--[b]	--
100-F-49_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.1	--[b]	--
100-F-49_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,187	--[b]	--
100-F-49_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	36	--[b]	--
100-F-49_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,309	--[b]	--
100-F-49_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,295	2.34E+07	No
100-F-49_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	3.1	--[b]	--
100-F-49_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	77	--[b]	--
100-F-49_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	26	--[b]	--
100-F-49_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.62E+07	--[b]	--
100-F-49_Shallow	non-Rad	Lead	7439-92-1	µg/kg	7,067	--[b]	--
100-F-49_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	252,487	--[b]	--
100-F-49_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	11	--[b]	--
100-F-49_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	400	2.47E+06	No
100-F-49_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,656	--[b]	--
100-F-49_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	67	--[b]	--
100-F-49_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,200	140,663	No
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,845	2.00E+06[f]	No
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,241	2.00E+06[f]	No
100-F-49_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	41,195	--[b]	--
100-F-49_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	39,904	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.43	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.00E+06	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	12,637	No
100-F-49_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	42,800	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	530	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	68	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.65	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600	2.34E+07	No
100-F-49_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	236,000	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,000	2.00E+06[f]	No
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	11,000	2.00E+06[f]	No
100-F-49_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,400	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	33,200	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.80	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.98E+06	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	840	12,637	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	105,000	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.7	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.9	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	34	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	4,100	5.07E+06	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	1.0	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,100	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	10	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,900	2.34E+07	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.87E+07	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,900	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	326,000	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	16	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	16,500	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	19	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	23,000	2.00E+06[f]	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	53,000	2.00E+06[f]	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,700	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,000	--[b]	--
100-F-50_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.4	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.62E+06	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	61,800	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	810	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,500	5.07E+06	No
100-F-50_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.19	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,600	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,800	2.34E+07	No
100-F-50_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.13E+07	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,900	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	310,000	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,700	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	53,100	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,400	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	16	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	40	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	73,200	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.8	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	150	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	5.07E+06	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	Rad	Carbon-14	14762-75-5	pCi/g	0.46	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	20,900	2.34E+07	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,600	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	270,000	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	75	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,600	2.00E+06[f]	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	7,900	2.00E+06[f]	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	476	35,882[e]	No
100-F-51 and 100-F-63_Overburden_Focused	Rad	Uranium-234	13966-29-5	pCi/g	0.16	--[d]	--
100-F-51 and 100-F-63_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.16	--[d]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,600	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	52,500	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.5	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,797	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,933	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.9	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	11	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	130	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,283	5.07E+06	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-51 and 100-F-63_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	81	--[b]	--
100-F-51 and 100-F-63_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	0.67	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,966	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	9.6	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,629	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,379	2.34E+07	No
100-F-51 and 100-F-63_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	15	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.59E+07	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Lead	7439-92-1	µg/kg	19,021	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	248,671	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,470	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	13	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,120	2.00E+06[f]	No
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	5,627	2.00E+06[f]	No
100-F-51 and 100-F-63_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	587	35,882[e]	No
100-F-51 and 100-F-63_Shallow	Rad	Uranium-234	13966-29-5	pCi/g	0.21	--[d]	--
100-F-51 and 100-F-63_Shallow	Rad	Uranium-238	U-238	pCi/g	0.22	--[d]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	39,841	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,147	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.02E+06	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,600	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	490	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	240	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	5.07E+06	No
100-F-52_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,000	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,800	2.34E+07	No
100-F-52_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	31	1.36E+06	No
100-F-52_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	6,000[c]	No
100-F-52_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.48E+07	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,200	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	270,000	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	10	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,605	35,882[e]	No
100-F-52_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.55	--[d]	--
100-F-52_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.88	--[d]	--
100-F-52_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	35,100	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,100	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.00E+06	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,010	12,637	No
100-F-53_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,610	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	75,200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	370	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000	5.07E+06	No
100-F-53_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,790	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,400	2.34E+07	No
100-F-53_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.94E+07	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	21,200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	413,000	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	380	2.47E+06	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-53_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,673	35,882[e]	No
100-F-53_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.80	--[d]	--
100-F-53_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.56	--[d]	--
100-F-53_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,600	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,900	--[b]	--
100-F-54_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.45	--[b]	--
100-F-54_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.60	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	12	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	11	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	16	3.41E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	9.0	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	9.14E+06	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	8.5	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	3,302	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	103,747	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	44	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	42	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	286	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	353	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	2,179	5.07E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	133	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chlordane	57-74-9	µg/kg	8.6	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	12,368	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	46	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,919	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	16,925	2.34E+07	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	12	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	67	1.36E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	150	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	17	2.85E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	36	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	65,065	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	325,163	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	25	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	260	2.47E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	12,018	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	25	131,276	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	177	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	42,866	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	53,696	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.03E+06	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	17	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1248	12672-29-6	µg/kg	240	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	15	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	3,053	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	85,283	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	45	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-55 and 100-F-62_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	146	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,158	5.07E+06	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
100-F-55 and 100-F-62_Shallow_2	Rad	Cesium-137	10045-97-3	pCi/g	0.051	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,540	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	71	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	6,397	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,411	2.34E+07	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	23	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	9.6	2.85E+06	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	39	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.59E+07	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	5,536	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	256,619	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	6,786	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	250	2.47E+06	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	12,732	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Phenol	108-95-2	µg/kg	35	131,276	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	142	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	39,226	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	49,926	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.36E+06	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	660	12,637	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	4.9	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	48,600	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.4	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.7	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.3	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	38	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	5.07E+06	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	76	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,800	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.7	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,900	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,000	2.34E+07	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.74E+07	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	286,000	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,400	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,000	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.81	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1248	12672-29-6	µg/kg	25	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	19	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	22	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,900	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	157,000	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	110	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	86	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	62	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	330	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	8,300	5.07E+06	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.14	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.91	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,900	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	100	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,200	2.34E+07	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	3.0	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluorene	86-73-7	µg/kg	16	2.85E+06	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	749	6,000[c]	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	49	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,500	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	340,000	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	690	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	390	2.47E+06	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	15,000	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Phenol	108-95-2	µg/kg	80	131,276	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	160	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Silver	7440-22-4	µg/kg	970	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,600	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	74,800	--[b]	--
100-F-56:1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.95E+06	--[b]	--
100-F-56:1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.2	--[b]	--
100-F-56:1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,037	--[b]	--
100-F-56:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,818	--[b]	--
100-F-56:1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	174	--[b]	--
100-F-56:1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,317	5.07E+06	No
100-F-56:1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	78	--[b]	--
100-F-56:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,361	--[b]	--
100-F-56:1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,840	--[b]	--
100-F-56:1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,275	2.34E+07	No
100-F-56:1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	--[b]	--
100-F-56:1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,270	--[b]	--
100-F-56:1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	276,638	--[b]	--
100-F-56:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,771	--[b]	--
100-F-56:1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	251	2.47E+06	No
100-F-56:1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,713	--[b]	--
100-F-56:1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	48,417	--[b]	--
100-F-56:1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,948	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.02E+06	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	18	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	91,000	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	420	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,600	5.07E+06	No
100-F-56:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	58,600	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,800	2.34E+07	No
100-F-56:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,560	6,000[c]	No
100-F-56:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,500	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	296,000	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	21	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	450	2.47E+06	No
100-F-56:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,300	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,300	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.22E+06	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,000	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	200	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,300	5.07E+06	No
100-F-60_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	45	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,900	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-60_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	2.34E+07	No
100-F-60_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.52E+07	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	26,000	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	248,000	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.9	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,600	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	37,000	--[b]	--
100-F-61_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.62E+06	--[b]	--
100-F-61_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	61	--[b]	--
100-F-61_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--[b]	--
100-F-61_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,668	--[b]	--
100-F-61_Shallow	non-Rad	Barium	7440-39-3	µg/kg	66,908	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	362	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	197	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	135	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	79	--[b]	--
100-F-61_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	397	--[b]	--
100-F-61_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42	--[b]	--
100-F-61_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,403	5.07E+06	No
100-F-61_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	106	--[b]	--
100-F-61_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,835	--[b]	--
100-F-61_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	224	--[b]	--
100-F-61_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,254	--[b]	--
100-F-61_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,346	2.34E+07	No
100-F-61_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	35	--[b]	--
100-F-61_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	511	--[b]	--
100-F-61_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	100	2.85E+06	No
100-F-61_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	99	--[b]	--
100-F-61_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	--[b]	--
100-F-61_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,243	--[b]	--
100-F-61_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	298,817	--[b]	--
100-F-61_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	640	--[b]	--
100-F-61_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	2.47E+06	No
100-F-61_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,237	--[b]	--
100-F-61_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	554	--[b]	--
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	22,371	2.00E+06[f]	No
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,222	2.00E+06[f]	No
100-F-61_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,351	--[b]	--
100-F-61_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	39,326	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.10E+06	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,500	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	344	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	5.07E+06	No
100-F-7_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	123	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,900	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,800	2.34E+07	No
100-F-7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.72E+07	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,300	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	262,000	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	131	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	299	2.47E+06	No
100-F-7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,400	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,800	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.81E+06	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	42,300	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	220	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,300	5.07E+06	No
100-F-9_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	60	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,900	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600	2.34E+07	No
100-F-9_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	273,000	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	410	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	170	2.47E+06	No
100-F-9_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,200	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,300	--[b]	--
116-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	11,119	--[b]	--
116-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,955	--[b]	--
116-F-1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--[b]	--
116-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.17	--[b]	--
116-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
116-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	828	6,000[c]	No
116-F-10_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.5	--[b]	--
116-F-10_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,600	--[b]	--
116-F-10_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.14	--[b]	--
116-F-10_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
116-F-10_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,051	35,882[e]	No
116-F-10_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.54	--[d]	--
116-F-10_Shallow	Rad	Uranium-238	U-238	pCi/g	0.69	--[d]	--
116-F-11_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.27	--[b]	--
116-F-11_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.4	--[b]	--
116-F-11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,600	--[b]	--
116-F-14_Deep	Rad	Carbon-14	14762-75-5	pCi/g	9.8	--[b]	--
116-F-14_Deep	Rad	Cesium-137	10045-97-3	pCi/g	7.9	--[b]	--
116-F-14_Deep	non-Rad	Chromium	7440-47-3	µg/kg	106,551	--[b]	--
116-F-14_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	5,896	--[b]	--
116-F-14_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	12	--[b]	--
116-F-14_Deep	Rad	Europium-152	14683-23-9	pCi/g	185	--[b]	--
116-F-14_Deep	Rad	Europium-154	15585-10-1	pCi/g	23	--[b]	--
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	6,000[c]	Yes
116-F-14_Deep	Rad	Nickel-63	13981-37-8	pCi/g	686	--[b]	--
116-F-14_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.2	24,600	No
116-F-14_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,661	--[b]	--
116-F-14_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.75	--[b]	--
116-F-14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	24,156	--[b]	--
116-F-14_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,011	--[b]	--
116-F-14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.090	--[b]	--
116-F-14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.1	--[b]	--
116-F-14_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.24	--[b]	--
116-F-14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,485	6,000[c]	No
116-F-14_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	20	--[b]	--
116-F-14_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.32	24,600	No
116-F-15_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.45E+06	--[b]	--
116-F-15_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	16	--[b]	--
116-F-15_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
116-F-15_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,810	--[b]	--
116-F-15_Shallow	non-Rad	Barium	7440-39-3	µg/kg	90,808	--[b]	--
116-F-15_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	145	--[b]	--
116-F-15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,562	5.07E+06	No
116-F-15_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
116-F-15_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.15	--[b]	--
116-F-15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,311	--[b]	--
116-F-15_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,556	--[b]	--
116-F-15_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,130	2.34E+07	No
116-F-15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.070	--[b]	--
116-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	680	6,000[c]	No
116-F-15_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.55E+07	--[b]	--
116-F-15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	15,865	--[b]	--
116-F-15_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	244,514	--[b]	--
116-F-15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	179	--[b]	--
116-F-15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	715	2.47E+06	No
116-F-15_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,522	--[b]	--
116-F-15_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,691	35,882[e]	No
116-F-15_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.60	--[d]	--
116-F-15_Shallow	Rad	Uranium-238	U-238	pCi/g	0.57	--[d]	--
116-F-15_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,303	--[b]	--
116-F-15_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	38,914	--[b]	--
116-F-16_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	230	6,000[c]	No
116-F-16_Overburden	non-Rad	Lead	7439-92-1	µg/kg	3,200	--[b]	--
116-F-16_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	6,000[c]	No
116-F-16_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,300	--[b]	--
116-F-2_Deep	Rad	Carbon-14	14762-75-5	pCi/g	6.6	--[b]	--
116-F-2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	44	--[b]	--
116-F-2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	1.6	--[b]	--
116-F-2_Deep	Rad	Europium-152	14683-23-9	pCi/g	54	--[b]	--
116-F-2_Deep	Rad	Europium-154	15585-10-1	pCi/g	5.6	--[b]	--
116-F-2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,400	6,000[c]	No
116-F-2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.12	--[b]	--
116-F-2_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	6,000[c]	No
116-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.31	--[b]	--
116-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	1.0	--[b]	--
116-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,123	6,000[c]	No
116-F-3_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.36	--[b]	--
116-F-3_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	736	6,000[c]	No
116-F-4_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.8	--[b]	--
116-F-4_Deep_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	71,000	--[b]	--
116-F-4_Deep_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.074	--[b]	--
116-F-4_Deep_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,698	35,882[e]	No
116-F-4_Deep_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.65	--[d]	--
116-F-4_Deep_Focused	Rad	Uranium-235	15117-96-1	pCi/g	0.066	--[d]	--
116-F-4_Deep_Focused	Rad	Uranium-238	U-238	pCi/g	0.56	--[d]	--
116-F-4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	3.5	--[b]	--
116-F-4_Overburden_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	54,600	--[b]	--
116-F-4_Overburden_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	11,700	398,601	No
116-F-4_Overburden_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.080	--[b]	--
116-F-4_Overburden_Focused	Rad	Strontium-90	10098-97-2	pCi/g	1.6	24,600	No
116-F-4_Overburden_Focused	Rad	Technetium-99	14133-76-7	pCi/g	1.5	36	No
116-F-4_Overburden_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,637	35,882[e]	No
116-F-4_Overburden_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.72	--[d]	--
116-F-4_Overburden_Focused	Rad	Uranium-235	15117-96-1	pCi/g	0.075	--[d]	--
116-F-4_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.55	--[d]	--
116-F-4_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	6,500	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
116-F-4_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,607	35,882[e]	No
116-F-4_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.45	--[d]	--
116-F-4_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.54	--[d]	--
116-F-5_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.84E+06	--[b]	--
116-F-5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	--[b]	--
116-F-5_Shallow	non-Rad	Barium	7440-39-3	µg/kg	85,000	--[b]	--
116-F-5_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	550	--[b]	--
116-F-5_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.22	--[b]	--
116-F-5_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,200	--[b]	--
116-F-5_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,600	--[b]	--
116-F-5_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,400	2.34E+07	No
116-F-5_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.01E+07	--[b]	--
116-F-5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,600	--[b]	--
116-F-5_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	325,000	--[b]	--
116-F-5_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,400	--[b]	--
116-F-5_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,488	35,882[e]	No
116-F-5_Shallow	Rad	Uranium-238	U-238	pCi/g	0.50	--[d]	--
116-F-5_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	45,600	--[b]	--
116-F-5_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	43,200	--[b]	--
116-F-6_Deep	Rad	Cesium-137	10045-97-3	pCi/g	12	--[b]	--
116-F-6_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.51	--[b]	--
116-F-6_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--[b]	--
116-F-6_Deep	Rad	Europium-154	15585-10-1	pCi/g	0.86	--[b]	--
116-F-6_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,700	6,000[c]	No
116-F-6_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	32	24,600	No
116-F-6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.53	--[b]	--
116-F-6_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.083	--[b]	--
116-F-6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.28	--[b]	--
116-F-6_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	498	6,000[c]	No
116-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.4	24,600	No
116-F-7_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.25E+06	--[b]	--
116-F-7_Deep_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
116-F-7_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[b]	--
116-F-7_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	54,600	--[b]	--
116-F-7_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316	--[b]	--
116-F-7_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	147	--[b]	--
116-F-7_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,300	5.07E+06	No
116-F-7_Deep_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	115	--[b]	--
116-F-7_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.046	--[b]	--
116-F-7_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	36,700	--[b]	--
116-F-7_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	--[b]	--
116-F-7_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,800	2.34E+07	No
116-F-7_Deep_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	1.36E+06	No
116-F-7_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	742	6,000[c]	No
116-F-7_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.95E+07	--[b]	--
116-F-7_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900	--[b]	--
116-F-7_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	242,000	--[b]	--
116-F-7_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	145	--[b]	--
116-F-7_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	449	2.47E+06	No
116-F-7_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	40,900	--[b]	--
116-F-7_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,300	--[b]	--
116-F-7_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,000	--[b]	--
116-F-8_Deep	Rad	Cesium-137	10045-97-3	pCi/g	0.27	--[b]	--
116-F-8_Deep	Rad	Europium-152	14683-23-9	pCi/g	2.1	--[b]	--
116-F-8_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	250	6,000[c]	No
116-F-8_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	350	6,000[c]	No
116-F-9_Deep	Rad	Carbon-14	14762-75-5	pCi/g	8.5	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
116-F-9_Deep	Rad	Cesium-137	10045-97-3	pCi/g	2.1	--[b]	--
116-F-9_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	2.3	--[b]	--
116-F-9_Deep	Rad	Europium-152	14683-23-9	pCi/g	6.4	--[b]	--
116-F-9_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.3	--[b]	--
116-F-9_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,200	6,000[c]	No
116-F-9_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	9.5	24,600	No
116-F-9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	24,600	No
118-F-1_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	7.03E+06	--[b]	--
118-F-1_Overburden	Rad	Americium-241	14596-10-2	pCi/g	0.60	--[b]	--
118-F-1_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,400	12,637	No
118-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,529	--[b]	--
118-F-1_Overburden	non-Rad	Barium	7440-39-3	µg/kg	79,630	--[b]	--
118-F-1_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	419	--[b]	--
118-F-1_Overburden	non-Rad	Boron	7440-42-8	µg/kg	3,490	5.07E+06	No
118-F-1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.049	--[b]	--
118-F-1_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,573	--[b]	--
118-F-1_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	8,356	--[b]	--
118-F-1_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,817	2.34E+07	No
118-F-1_Overburden	Rad	Curium-244	13981-15-2	pCi/g	0.041	--[b]	--
118-F-1_Overburden	non-Rad	Iron	7439-89-6	µg/kg	2.15E+07	--[b]	--
118-F-1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	11,569	--[b]	--
118-F-1_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	339,100	--[b]	--
118-F-1_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	673	2.47E+06	No
118-F-1_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,966	--[b]	--
118-F-1_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,412	140,663	No
118-F-1_Overburden	non-Rad	Silver	7440-22-4	µg/kg	4,300	--[b]	--
118-F-1_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,433	35,882[e]	No
118-F-1_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.51	--[d]	--
118-F-1_Overburden	Rad	Uranium-234	13966-29-5	pCi/g	0.13	--[d]	--
118-F-1_Overburden	Rad	Uranium-238	U-238	pCi/g	0.48	--[d]	--
118-F-1_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	57,388	--[b]	--
118-F-1_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	45,106	--[b]	--
118-F-1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.04E+06	--[b]	--
118-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	12,637	No
118-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,459	--[b]	--
118-F-1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	51,867	--[b]	--
118-F-1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	220	--[b]	--
118-F-1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,429	5.07E+06	No
118-F-1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
118-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.24	--[b]	--
118-F-1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,367	--[b]	--
118-F-1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,339	--[b]	--
118-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.13	--[b]	--
118-F-1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,107	2.34E+07	No
118-F-1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07	--[b]	--
118-F-1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,380	--[b]	--
118-F-1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	275,054	--[b]	--
118-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	463	2.47E+06	No
118-F-1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,394	--[b]	--
118-F-1_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	6.8	--[b]	--
118-F-1_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.24	--[b]	--
118-F-1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.66	24,600	No
118-F-1_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,780	35,882[e]	No
118-F-1_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.54	--[d]	--
118-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.057	--[d]	--
118-F-1_Shallow	Rad	Uranium-238	U-238	pCi/g	0.60	--[d]	--
118-F-1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	45,765	--[b]	--
118-F-1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,708	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-1_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.09E+06	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,600	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	76,779	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	286	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,200	5.07E+06	No
118-F-1_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
118-F-1_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.74	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	10,607	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,167	--[b]	--
118-F-1_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	13,189	2.34E+07	No
118-F-1_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.21	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	33,300	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	320,989	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	690	2.47E+06	No
118-F-1_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[b]	--
118-F-1_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	14	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Silver	7440-22-4	µg/kg	880	--[b]	--
118-F-1_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.34	24,600	No
118-F-1_Staging Pile Area	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,931	35,882[e]	No
118-F-1_Staging Pile Area	Rad	Uranium-233/234	U-233/234	pCi/g	0.62	--[d]	--
118-F-1_Staging Pile Area	Rad	Uranium-238	U-238	pCi/g	0.65	--[d]	--
118-F-1_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	43,457	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	40,550	--[b]	--
118-F-2_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.80E+06	--[b]	--
118-F-2_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
118-F-2_Overburden	non-Rad	Barium	7440-39-3	µg/kg	86,800	--[b]	--
118-F-2_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	520	--[b]	--
118-F-2_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,400	5.07E+06	No
118-F-2_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	230	--[b]	--
118-F-2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.11	--[b]	--
118-F-2_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,400	--[b]	--
118-F-2_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	8,900	--[b]	--
118-F-2_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,800	2.34E+07	No
118-F-2_Overburden	non-Rad	Iron	7439-89-6	µg/kg	2.51E+07	--[b]	--
118-F-2_Overburden	non-Rad	Lead	7439-92-1	µg/kg	4,800	--[b]	--
118-F-2_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	395,000	--[b]	--
118-F-2_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	450	2.47E+06	No
118-F-2_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	13,300	--[b]	--
118-F-2_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,400	140,663	No
118-F-2_Overburden	non-Rad	Silver	7440-22-4	µg/kg	290	--[b]	--
118-F-2_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,363	35,882[e]	No
118-F-2_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.59	--[d]	--
118-F-2_Overburden	Rad	Uranium-238	U-238	pCi/g	0.46	--[d]	--
118-F-2_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	63,000	--[b]	--
118-F-2_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	52,100	--[b]	--
118-F-2_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	--[b]	--
118-F-2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	--[b]	--
118-F-2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	93,000	--[b]	--
118-F-2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	370	--[b]	--
118-F-2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	160	--[b]	--
118-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.093	--[b]	--
118-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,000	--[b]	--
118-F-2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,100	--[b]	--
118-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	17,000	2.34E+07	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-2_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.98E+07	--[b]	--
118-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,800	--[b]	--
118-F-2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	347,000	--[b]	--
118-F-2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	15,100	--[b]	--
118-F-2_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.31	--[b]	--
118-F-2_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,498	35,882[e]	No
118-F-2_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.68	--[d]	--
118-F-2_Shallow	Rad	Uranium-238	U-238	pCi/g	0.84	--[d]	--
118-F-2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	41,300	--[b]	--
118-F-2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	47,400	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.07E+06	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	780	12,637	No
118-F-2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,500	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,800	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	49	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	370	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	5.07E+06	No
118-F-2_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	23	525,145	No
118-F-2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	220	--[b]	--
118-F-2_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.062	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,600	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	61	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,400	2.34E+07	No
118-F-2_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	50	1.36E+06	No
118-F-2_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.14	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	79	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,800	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	2.47E+06	No
118-F-2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[b]	--
118-F-2_Shallow_Focused	Rad	Nickel-63	13981-37-8	pCi/g	5.1	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	73	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,289	35,882[e]	No
118-F-2_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.52	--[d]	--
118-F-2_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.43	--[d]	--
118-F-2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	56,800	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,900	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	5.83E+06	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	79,300	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	400	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,400	5.07E+06	No
118-F-2_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.62	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	8,400	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,000	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	12,600	2.34E+07	No
118-F-2_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	4,700	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	337,000	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	900	2.47E+06	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-2_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
118-F-2_Staging Pile Area	Rad	Plutonium-238	13981-16-3	pCi/g	1.0	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Selenium	7782-49-2	µg/kg	1,400	140,663	No
118-F-2_Staging Pile Area	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,557	35,882[e]	No
118-F-2_Staging Pile Area	Rad	Uranium-233/234	U-233/234	pCi/g	0.74	--[d]	--
118-F-2_Staging Pile Area	Rad	Uranium-238	U-238	pCi/g	0.52	--[d]	--
118-F-2_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	42,000	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	40,300	--[b]	--
118-F-3_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	5.70E+06	--[b]	--
118-F-3_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	--[b]	--
118-F-3_Overburden	non-Rad	Barium	7440-39-3	µg/kg	73,200	--[b]	--
118-F-3_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	280	--[b]	--
118-F-3_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,600	5.07E+06	No
118-F-3_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,900	--[b]	--
118-F-3_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,500	--[b]	--
118-F-3_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,800	2.34E+07	No
118-F-3_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07	--[b]	--
118-F-3_Overburden	non-Rad	Lead	7439-92-1	µg/kg	4,900	--[b]	--
118-F-3_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	302,000	--[b]	--
118-F-3_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	12,300	--[b]	--
118-F-3_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	39,300	--[b]	--
118-F-3_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	36,400	--[b]	--
118-F-3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.05E+06	--[b]	--
118-F-3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[b]	--
118-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	116,000	--[b]	--
118-F-3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	240	--[b]	--
118-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	12,700	5.07E+06	No
118-F-3_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.16	--[b]	--
118-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,300	--[b]	--
118-F-3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,600	--[b]	--
118-F-3_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	--[b]	--
118-F-3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,000	2.34E+07	No
118-F-3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.47E+07	--[b]	--
118-F-3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,500	--[b]	--
118-F-3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	264,000	--[b]	--
118-F-3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,800	--[b]	--
118-F-3_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	24	--[b]	--
118-F-3_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.28	24,600	No
118-F-3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,000	--[b]	--
118-F-3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,300	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	4.85E+06	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	1,900	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	98,300	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	250	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	6,600	5.07E+06	No
118-F-3_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.22	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	7,400	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,500	--[b]	--
118-F-3_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	12,800	2.34E+07	No
118-F-3_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.11	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.39E+07	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	5,600	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	261,000	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	8,900	--[b]	--
118-F-3_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	15	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	32,200	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-3_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	36,700	--[b]	--
118-F-5_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.026	--[b]	--
118-F-5_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.65	24,600	No
118-F-5_Shallow_1	Rad	Tritium	10028-17-8	pCi/g	4.8	1,660	No
118-F-6_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.048	--[b]	--
118-F-6_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.3	24,600	No
118-F-6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.32	--[b]	--
118-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	4.1	24,600	No
118-F-6_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42,000	--[b]	--
118-F-6_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.6	--[b]	--
118-F-6_Shallow_Focused	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.46	24,600	No
118-F-6_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,164	35,882[e]	No
118-F-6_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.40	--[d]	--
118-F-6_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.39	--[d]	--
118-F-7_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	4.56E+06	--[b]	--
118-F-7_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
118-F-7_Overburden	non-Rad	Barium	7440-39-3	µg/kg	49,400	--[b]	--
118-F-7_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	550	--[b]	--
118-F-7_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,400	5.07E+06	No
118-F-7_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,600	--[b]	--
118-F-7_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	4,900	--[b]	--
118-F-7_Overburden	non-Rad	Copper	7440-50-8	µg/kg	11,500	2.34E+07	No
118-F-7_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	--[b]	--
118-F-7_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,300	--[b]	--
118-F-7_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	256,000	--[b]	--
118-F-7_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,600	--[b]	--
118-F-7_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	31,400	--[b]	--
118-F-7_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	32,000	--[b]	--
118-F-7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.15E+06	--[b]	--
118-F-7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,900	--[b]	--
118-F-7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	65,000	--[b]	--
118-F-7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	390	--[b]	--
118-F-7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,800	5.07E+06	No
118-F-7_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.40	--[b]	--
118-F-7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,300	--[b]	--
118-F-7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	--[b]	--
118-F-7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,500	2.34E+07	No
118-F-7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.50E+07	--[b]	--
118-F-7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,800	--[b]	--
118-F-7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	259,000	--[b]	--
118-F-7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	2,400	2.47E+06	No
118-F-7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,500	--[b]	--
118-F-7_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.25	24,600	No
118-F-7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,800	--[b]	--
118-F-7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,300	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.25E+06	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,000	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	350	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900	5.07E+06	No
118-F-7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,300	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,000	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,300	2.34E+07	No
118-F-7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.20E+07	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	63,800	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	254,000	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,500	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,100	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,400	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	4.71E+06	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	8,600	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	83,200	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	810	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	3,900	5.07E+06	No
118-F-7_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.23	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	13,700	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000	2.34E+07	No
118-F-7_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.39	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.72E+07	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	31,100	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	279,000	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	10	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	2.47E+06	No
118-F-7_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	13,200	--[b]	--
118-F-7_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.82	24,600	No
118-F-7_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	45,100	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	43,500	--[b]	--
118-F-8:1_Deep	non-Rad	Aroclor-1248	12672-29-6	µg/kg	35	--[b]	--
118-F-8:1_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	62,000	--[b]	--
118-F-8:1_Deep	non-Rad	Chromium	7440-47-3	µg/kg	12,247	--[b]	--
118-F-8:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	923	6,000[c]	No
118-F-8:1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
118-F-8:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	137,000	--[b]	--
118-F-8:1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.62	--[b]	--
118-F-8:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	38,777	--[b]	--
118-F-8:1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.59	--[b]	--
118-F-8:1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.094	--[b]	--
118-F-8:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	752	6,000[c]	No
118-F-8:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
118-F-8:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.20	24,600	No
118-F-8:1_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,753	35,882[e]	No
118-F-8:1_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.65	--[d]	--
118-F-8:1_Shallow	Rad	Uranium-238	U-238	pCi/g	0.59	--[d]	--
118-F-8:3_Deep	Rad	Americium-241	14596-10-2	pCi/g	2.2	--[b]	--
118-F-8:3_Deep	non-Rad	Aroclor-1254	11097-69-1	µg/kg	97	--[b]	--
118-F-8:3_Deep	non-Rad	Barium	7440-39-3	µg/kg	41,588	--[b]	--
118-F-8:3_Deep	Rad	Carbon-14	14762-75-5	pCi/g	22	--[b]	--
118-F-8:3_Deep	Rad	Cesium-137	10045-97-3	pCi/g	319	--[b]	--
118-F-8:3_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	18	--[b]	--
118-F-8:3_Deep	Rad	Europium-152	14683-23-9	pCi/g	183	--[b]	--
118-F-8:3_Deep	Rad	Europium-154	15585-10-1	pCi/g	7.7	--[b]	--
118-F-8:3_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	932	6,000[c]	No
118-F-8:3_Deep	non-Rad	Lead	7439-92-1	µg/kg	4,469	--[b]	--
118-F-8:3_Deep	non-Rad	Mercury	7439-97-6	µg/kg	125	--[b]	--
118-F-8:3_Deep	Rad	Nickel-63	13981-37-8	pCi/g	617	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-238	13981-16-3	pCi/g	0.62	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	4.2	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	13	--[b]	--
118-F-8:3_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	103	24,600	No
118-F-8:3_Deep	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,233	35,882[e]	No
118-F-8:3_Deep	Rad	Tritium	10028-17-8	pCi/g	0.69	1,660	No
118-F-8:3_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.40	--[d]	--
118-F-8:3_Deep	Rad	Uranium-238	U-238	pCi/g	0.42	--[d]	--
118-F-8:4_Deep	non-Rad	Aluminum	7429-90-5	µg/kg	4.73E+06	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-8:4_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.11	--[b]	--
118-F-8:4_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	49	--[b]	--
118-F-8:4_Deep	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[b]	--
118-F-8:4_Deep	non-Rad	Barium	7440-39-3	µg/kg	57,100	--[b]	--
118-F-8:4_Deep	non-Rad	Beryllium	7440-41-7	µg/kg	140	--[b]	--
118-F-8:4_Deep	non-Rad	Boron	7440-42-8	µg/kg	1,500	5.07E+06	No
118-F-8:4_Deep	Rad	Cesium-137	10045-97-3	pCi/g	6.6	--[b]	--
118-F-8:4_Deep	non-Rad	Chromium	7440-47-3	µg/kg	12,800	--[b]	--
118-F-8:4_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	--[b]	--
118-F-8:4_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.27	--[b]	--
118-F-8:4_Deep	non-Rad	Copper	7440-50-8	µg/kg	12,500	2.34E+07	No
118-F-8:4_Deep	Rad	Europium-152	14683-23-9	pCi/g	4.4	--[b]	--
118-F-8:4_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[c]	No
118-F-8:4_Deep	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	--[b]	--
118-F-8:4_Deep	non-Rad	Lead	7439-92-1	µg/kg	5,800	--[b]	--
118-F-8:4_Deep	non-Rad	Manganese	7439-96-5	µg/kg	252,000	--[b]	--
118-F-8:4_Deep	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
118-F-8:4_Deep	non-Rad	Molybdenum	7439-98-7	µg/kg	510	2.47E+06	No
118-F-8:4_Deep	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
118-F-8:4_Deep	Rad	Nickel-63	13981-37-8	pCi/g	26	--[b]	--
118-F-8:4_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.75	--[b]	--
118-F-8:4_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.2	24,600	No
118-F-8:4_Deep	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,015	35,882[e]	No
118-F-8:4_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.56	--[d]	--
118-F-8:4_Deep	Rad	Uranium-238	U-238	pCi/g	0.68	--[d]	--
118-F-8:4_Deep	non-Rad	Vanadium	7440-62-2	µg/kg	30,300	--[b]	--
118-F-8:4_Deep	non-Rad	Zinc	7440-66-6	µg/kg	34,000	--[b]	--
118-F-8:4_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.01E+06	--[b]	--
118-F-8:4_Overburden	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--[b]	--
118-F-8:4_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,820	--[b]	--
118-F-8:4_Overburden	non-Rad	Barium	7440-39-3	µg/kg	67,998	--[b]	--
118-F-8:4_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	690	--[b]	--
118-F-8:4_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,006	5.07E+06	No
118-F-8:4_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	275	--[b]	--
118-F-8:4_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.29	--[b]	--
118-F-8:4_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,304	--[b]	--
118-F-8:4_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,232	--[b]	--
118-F-8:4_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.020	--[b]	--
118-F-8:4_Overburden	non-Rad	Copper	7440-50-8	µg/kg	13,996	2.34E+07	No
118-F-8:4_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.44	--[b]	--
118-F-8:4_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	288	6,000[c]	No
118-F-8:4_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.73E+07	--[b]	--
118-F-8:4_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,499	--[b]	--
118-F-8:4_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	318,045	--[b]	--
118-F-8:4_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	127	--[b]	--
118-F-8:4_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	623	2.47E+06	No
118-F-8:4_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,490	--[b]	--
118-F-8:4_Overburden	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.97	--[b]	--
118-F-8:4_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,617	35,882[e]	No
118-F-8:4_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.50	--[d]	--
118-F-8:4_Overburden	Rad	Uranium-235	15117-96-1	pCi/g	0.029	--[d]	--
118-F-8:4_Overburden	Rad	Uranium-238	U-238	pCi/g	0.54	--[d]	--
118-F-8:4_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	41,120	--[b]	--
118-F-8:4_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	38,251	--[b]	--
118-F-8:4_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.13E+06	--[b]	--
118-F-8:4_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
118-F-8:4_Shallow	non-Rad	Barium	7440-39-3	µg/kg	74,300	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-8:4_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	460	--[b]	--
118-F-8:4_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,500	5.07E+06	No
118-F-8:4_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	280	--[b]	--
118-F-8:4_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.32	--[b]	--
118-F-8:4_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,100	--[b]	--
118-F-8:4_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	--[b]	--
118-F-8:4_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,800	2.34E+07	No
118-F-8:4_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.19	--[b]	--
118-F-8:4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	6,000[c]	No
118-F-8:4_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.60E+07	--[b]	--
118-F-8:4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,300	--[b]	--
118-F-8:4_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	285,000	--[b]	--
118-F-8:4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	530	--[b]	--
118-F-8:4_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,700	--[b]	--
118-F-8:4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,500	140,663	No
118-F-8:4_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,551	35,882[e]	No
118-F-8:4_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.58	--[d]	--
118-F-8:4_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.034	--[d]	--
118-F-8:4_Shallow	Rad	Uranium-238	U-238	pCi/g	0.52	--[d]	--
118-F-8:4_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	37,500	--[b]	--
118-F-8:4_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,100	--[b]	--
120-F-1_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--[b]	--
120-F-1_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1	--[b]	--
120-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	8.8	--[b]	--
120-F-1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.95E+06	--[b]	--
120-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	910	12,637	No
120-F-1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--[b]	--
120-F-1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.8	--[b]	--
120-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,615	--[b]	--
120-F-1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	56,732	--[b]	--
120-F-1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	505	--[b]	--
120-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	94	--[b]	--
120-F-1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,457	5.07E+06	No
120-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	8.7	--[b]	--
120-F-1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,781	--[b]	--
120-F-1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,270	--[b]	--
120-F-1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,167	2.34E+07	No
120-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	1.36E+06	No
120-F-1_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.8	115,960	No
120-F-1_Shallow	non-Rad	Fluoride	16984-48-8	µg/kg	3,900	--[b]	--
120-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	300	6,000[c]	No
120-F-1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.82E+07	--[b]	--
120-F-1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,896	--[b]	--
120-F-1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	286,696	--[b]	--
120-F-1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	102	--[b]	--
120-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	850	2.47E+06	No
120-F-1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,814	--[b]	--
120-F-1_Shallow	non-Rad	Nitrate	14797-55-8	µg/kg	8,849	1.79E+06	No
120-F-1_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,800	140,663	No
120-F-1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,878	--[b]	--
120-F-1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,425	--[b]	--
126-F-1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.10	--[b]	--
126-F-1_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.081	--[b]	--
126-F-1_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.38	--[b]	--
126-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.51	--[b]	--
126-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.20	--[b]	--
126-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.3	--[b]	--
126-F-1_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.46	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
126-F-1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.032	--[b]	--
126-F-1_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	109	35,882[e]	No
126-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.24	--[d]	--
126-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	173	3.41E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.29E+06	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	412	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	478	12,637	No
126-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	74	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,400	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	758	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	696	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	555	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	758	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	299	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	407	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,600	5.07E+06	No
126-F-2_Staging pile area_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.071	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	842	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,400	2.34E+07	No
126-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	203	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	1,804	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	211	2.85E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	256	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	17,200	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	389	2.47E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,300	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1,754	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06	1.00E+06[f]	Yes
126-F-2_Staging pile area_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,265	35,882[e]	No
126-F-2_Staging pile area_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.53	--[d]	--
126-F-2_Staging pile area_Focused	Rad	Uranium-238	U-238	pCi/g	0.76	--[d]	--
126-F-2_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,600	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	76,900	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,400	--[b]	--
128-F-1_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.8	60	No
128-F-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	21	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,100	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	4,400	1.00E+06[f]	No
128-F-2_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	3.0	--[b]	--
128-F-2_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.6	--[b]	--
128-F-2_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	34	--[b]	--
128-F-2_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	63	3.41E+06	No
128-F-2_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	1.7	--[b]	--
128-F-2_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	3.7	--[b]	--
128-F-2_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.93E+06	--[b]	--
128-F-2_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	120	--[b]	--
128-F-2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	12,637	No
128-F-2_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	44	--[b]	--
128-F-2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,866	--[b]	--
128-F-2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	77,043	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
128-F-2_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	264	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	263	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	198	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	263	--[b]	--
128-F-2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	322	--[b]	--
128-F-2_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	8.8	60	No
128-F-2_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	105	--[b]	--
128-F-2_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,955	5.07E+06	No
128-F-2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	148	--[b]	--
128-F-2_Shallow	non-Rad	Carbazole	86-74-8	µg/kg	62	7,944	No
128-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.22	--[b]	--
128-F-2_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.6	--[b]	--
128-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	21,554	--[b]	--
128-F-2_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	290	--[b]	--
128-F-2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,012	--[b]	--
128-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	40,037	2.34E+07	No
128-F-2_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	99	--[b]	--
128-F-2_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	21	121,721	No
128-F-2_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	35	1.36E+06	No
128-F-2_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	4.0	115,960	No
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22	14,032	No
128-F-2_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--[b]	--
128-F-2_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	46	2.85E+06	No
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3	111	No
128-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	6,000[c]	No
128-F-2_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	157	--[b]	--
128-F-2_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	--[b]	--
128-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,776	--[b]	--
128-F-2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	281,593	--[b]	--
128-F-2_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	35	--[b]	--
128-F-2_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	440	2.47E+06	No
128-F-2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	14,310	--[b]	--
128-F-2_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	239	--[b]	--
128-F-2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	35,140	--[b]	--
128-F-2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,403	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.2	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	6.6	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	27	3.41E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.98E+06	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	60	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,500	12,637	No
128-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,200	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,200	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	320	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	280	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	210	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	230	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Carbazole	86-74-8	µg/kg	30	7,944	No
128-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,200	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	370	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,300	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	23,900	2.34E+07	No
128-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	77	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	71	1.36E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	670	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	19	2.85E+06	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
128-F-2_Staging pile area_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	730	6,000[c]	No
128-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	150	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,800	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	277,000	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	2.47E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,700	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	790	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Selenium	7782-49-2	µg/kg	950	140,663	No
128-F-2_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,700	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	124,000	--[b]	--
128-F-3_Shallow	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	202,192	No
128-F-3_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	8.0	1,907	No
128-F-3_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.3	--[b]	--
128-F-3_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.3	--[b]	--
128-F-3_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.6	--[b]	--
128-F-3_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	8.0	29,716	No
128-F-3_Shallow	non-Rad	Acetone	67-64-1	µg/kg	9.0	289,264	No
128-F-3_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.56	--[b]	--
128-F-3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.8	--[b]	--
128-F-3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.94E+06	--[b]	--
128-F-3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,588	--[b]	--
128-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	209,520	--[b]	--
128-F-3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	485	--[b]	--
128-F-3_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	5.4	60	No
128-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	17,002	5.07E+06	No
128-F-3_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	260	--[b]	--
128-F-3_Shallow	non-Rad	Chlorobenzene	108-90-7	µg/kg	4.2	15,662	No
128-F-3_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.8	96	No
128-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	42,093	--[b]	--
128-F-3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,229	--[b]	--
128-F-3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	20,447	2.34E+07	No
128-F-3_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.3	115,960	No
128-F-3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	588	No
128-F-3_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	1.3	59	No
128-F-3_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.55	--[b]	--
128-F-3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.54E+07	--[b]	--
128-F-3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,453	--[b]	--
128-F-3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	295,905	--[b]	--
128-F-3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
128-F-3_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	9.8	--[b]	--
128-F-3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	21	226	No
128-F-3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,844	--[b]	--
128-F-3_Shallow	non-Rad	Silver	7440-22-4	µg/kg	280	--[b]	--
128-F-3_Shallow	non-Rad	Styrene	100-42-5	µg/kg	4.0	56,031	No
128-F-3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	1.0	15	No
128-F-3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,225	--[b]	--
128-F-3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	7.0	258,355	No
128-F-3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,793	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.1	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.76	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.93E+06	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	141,000	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	580	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,500	5.07E+06	No
128-F-3_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	3.0	15,662	No
128-F-3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	3.0	96	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
128-F-3_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,800	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,600	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,600	2.34E+07	No
128-F-3_Staging pile area_Focused	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.88	115,960	No
128-F-3_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,300	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	331,000	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	22	226	No
128-F-3_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,200	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,400	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,800	--[b]	--
132-F-1_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	171	50,401	No
132-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	75	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	88	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	74	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	98	--[b]	--
132-F-1_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.8	60	No
132-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	90	--[b]	--
132-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.4	--[b]	--
132-F-1_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	104	--[b]	--
132-F-1_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	44	121,721	No
132-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	43	1.36E+06	No
132-F-1_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	102	--[b]	--
132-F-1_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	43	--[b]	--
132-F-1_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	245	107,951	No
132-F-1_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	124	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.7	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	269	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	535	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1,114	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	841	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	780	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	57	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2,137	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	256	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	169	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	620	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	273	--[b]	--
141-C_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.39E+06	--[b]	--
141-C_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	65	--[b]	--
141-C_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,743	--[b]	--
141-C_Shallow	non-Rad	Barium	7440-39-3	µg/kg	93,191	--[b]	--
141-C_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	125	--[b]	--
141-C_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	65	--[b]	--
141-C_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	41	--[b]	--
141-C_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	76	--[b]	--
141-C_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	346	--[b]	--
141-C_Shallow	non-Rad	Boron	7440-42-8	µg/kg	5,336	5.07E+06	No
141-C_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.059	--[b]	--
141-C_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,938	--[b]	--
141-C_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	63	--[b]	--
141-C_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,059	--[b]	--
141-C_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,899	2.34E+07	No
141-C_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	15	--[b]	--
141-C_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	176	--[b]	--
141-C_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	30	2.85E+06	No
141-C_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	671	6,000[c]	No

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
141-C_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	45	--[b]	--
141-C_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.70E+07	--[b]	--
141-C_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,208	--[b]	--
141-C_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	315,353	--[b]	--
141-C_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	--[b]	--
141-C_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,995	--[b]	--
141-C_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	163	--[b]	--
141-C_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.7	24,600	No
141-C_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,368	--[b]	--
141-C_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	46,969	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	3.41E+06	No
141-C_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.17E+06	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	7.6	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	81,700	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	46	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	302	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700	5.07E+06	No
141-C_Staging Pile Area_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.041	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,000	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	197	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900	2.34E+07	No
141-C_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	88	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.42E+07	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,300	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	285,000	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,600	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	82	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	33,400	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	37,500	--[b]	--
1607-F2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.19	--[b]	--
1607-F2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.51	--[b]	--
1607-F3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.0	--[b]	--
1607-F3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.51E+06	--[b]	--
1607-F3_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.5	--[b]	--
1607-F3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,552	--[b]	--
1607-F3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	73,139	--[b]	--
1607-F3_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	33	--[b]	--
1607-F3_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--[b]	--
1607-F3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	253	--[b]	--
1607-F3_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--[b]	--
1607-F3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	451	5.07E+06	No
1607-F3_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	460	--[b]	--
1607-F3_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14	--[b]	--
1607-F3_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--[b]	--
1607-F3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,725	--[b]	--
1607-F3_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	22	--[b]	--
1607-F3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,991	--[b]	--
1607-F3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,229	2.34E+07	No
1607-F3_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	1.36E+06	No
1607-F3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	588	No
1607-F3_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
1607-F3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	--[b]	--
1607-F3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	24,146	--[b]	--
1607-F3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	273,899	--[b]	--
1607-F3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	--[b]	--
1607-F3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	26	226	No
1607-F3_Shallow	non-Rad	m-Xylene	108-38-3	µg/kg	4.0	236,404	No
1607-F3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,246	--[b]	--
1607-F3_Shallow	non-Rad	o-Xylene	95-47-6	µg/kg	2.0	266,606	No
1607-F3_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	4,200	140,663	No
1607-F3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	2.0	15	No
1607-F3_Shallow	non-Rad	Toluene	108-88-3	µg/kg	1.0	70,164	No
1607-F3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,149	--[b]	--
1607-F3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	4.7	258,355	No
1607-F3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,536	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.49	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.35	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Acetone	67-64-1	µg/kg	5.0	289,264	No
1607-F3_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.46E+06	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.4	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	12,100	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	60,200	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	20	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	82	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	5.07E+06	No
1607-F3_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.83	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	96	No
1607-F3_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,400	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,500	2.34E+07	No
1607-F3_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	1.36E+06	No
1607-F3_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	54,900	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	255,000	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.0	226	No
1607-F3_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,600	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	28,200	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,400	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.70E+06	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	125,000	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	430	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	140	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	5.07E+06	No
1607-F4_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600	2.34E+07	No
1607-F4_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	24	1.36E+06	No
1607-F4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
1607-F4_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.04E+07	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,700	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	334,000	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	47,900	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,300	--[b]	--
1607-F4_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.1	--[b]	--
1607-F4_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.8	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
1607-F4_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.6	--[b]	--
1607-F4_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.26E+06	--[b]	--
1607-F4_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,010	12,637	No
1607-F4_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	46	--[b]	--
1607-F4_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	6.7	--[b]	--
1607-F4_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,198	--[b]	--
1607-F4_Shallow	non-Rad	Barium	7440-39-3	µg/kg	70,070	--[b]	--
1607-F4_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--[b]	--
1607-F4_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	18	--[b]	--
1607-F4_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	333	--[b]	--
1607-F4_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	91	--[b]	--
1607-F4_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,876	5.07E+06	No
1607-F4_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	380	--[b]	--
1607-F4_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.5	--[b]	--
1607-F4_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	14,407	--[b]	--
1607-F4_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--[b]	--
1607-F4_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,530	--[b]	--
1607-F4_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,304	2.34E+07	No
1607-F4_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	33	1.36E+06	No
1607-F4_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	44	--[b]	--
1607-F4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	210	6,000[c]	No
1607-F4_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	--[b]	--
1607-F4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,758	--[b]	--
1607-F4_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	297,305	--[b]	--
1607-F4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	--[b]	--
1607-F4_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	580	2.47E+06	No
1607-F4_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,942	--[b]	--
1607-F4_Shallow	non-Rad	Phenol	108-95-2	µg/kg	28	131,276	No
1607-F4_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	38	--[b]	--
1607-F4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,602	140,663	No
1607-F4_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,330	--[b]	--
1607-F4_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	50,618	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.49E+06	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	36,100	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	270	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	190	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,000	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,500	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600	2.34E+07	No
1607-F4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	41	1.36E+06	No
1607-F4_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.18E+07	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,400	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	218,000	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	490	2.47E+06	No
1607-F4_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,500	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,363	35,882[e]	No
1607-F4_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.49	--[d]	--
1607-F4_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.46	--[d]	--
1607-F4_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,300	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	30,800	--[b]	--
1607-F5_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.26E+06	--[b]	--
1607-F5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,763	--[b]	--
1607-F5_Shallow	non-Rad	Barium	7440-39-3	µg/kg	45,328	--[b]	--
1607-F5_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	199	--[b]	--
1607-F5_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	172	--[b]	--
1607-F5_Shallow	non-Rad	Boron	7440-42-8	µg/kg	474	5.07E+06	No
1607-F5_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,606	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
1607-F5_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,642	--[b]	--
1607-F5_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,290	2.34E+07	No
1607-F5_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	93	1.36E+06	No
1607-F5_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.23E+07	--[b]	--
1607-F5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,655	--[b]	--
1607-F5_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	216,602	--[b]	--
1607-F5_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	530	2.47E+06	No
1607-F5_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,084	--[b]	--
1607-F5_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	27,297	--[b]	--
1607-F5_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	29,602	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.45E+06	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	69,700	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	90	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.6	60	No
1607-F5_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	75	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,000	5.07E+06	No
1607-F5_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	330	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,600	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600	2.34E+07	No
1607-F5_Staging pile area_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	0.60	115,960	No
1607-F5_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.27E+07	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,900	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	239,000	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	310	2.47E+06	No
1607-F5_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,300	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	29,000	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,300	--[b]	--
1607-F6_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
1607-F6_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,796	--[b]	--
1607-F6_Overburden	non-Rad	Diethylphthalate	84-66-2	µg/kg	130	1.07E+06	No
1607-F6_Overburden	non-Rad	Lead	7439-92-1	µg/kg	2,736	--[b]	--
1607-F6_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,587	35,882[e]	No
1607-F6_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.47	--[d]	--
1607-F6_Overburden	Rad	Uranium-234	13966-29-5	pCi/g	0.63	--[d]	--
1607-F6_Overburden	Rad	Uranium-238	U-238	pCi/g	0.53	--[d]	--
1607-F6_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	342	--[b]	--
1607-F6_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	60	--[b]	--
1607-F6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.089	--[b]	--
1607-F6_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,300	--[b]	--
1607-F6_Shallow	non-Rad	Diethylphthalate	84-66-2	µg/kg	24	1.07E+06	No
1607-F6_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	1.36E+06	No
1607-F6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.065	--[b]	--
1607-F6_Shallow	non-Rad	Lead	7439-92-1	µg/kg	13,247	--[b]	--
1607-F6_Shallow	non-Rad	Phenol	108-95-2	µg/kg	84	131,276	No
1607-F6_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	22	--[b]	--
1607-F6_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,284	35,882[e]	No
1607-F6_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.50	--[d]	--
1607-F6_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.19	--[d]	--
1607-F6_Shallow	Rad	Uranium-238	U-238	pCi/g	0.75	--[d]	--
1607-F7_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	2.7	1,907	No
1607-F7_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	134	50,401	No
1607-F7_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6	--[b]	--
1607-F7_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	5.3	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
1607-F7_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	3.0	29,716	No
1607-F7_Shallow	non-Rad	Acetone	67-64-1	µg/kg	15	289,264	No
1607-F7_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.42	--[b]	--
1607-F7_Shallow	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.1	14	No
1607-F7_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.2	--[b]	--
1607-F7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.46E+06	--[b]	--
1607-F7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	530	12,637	No
1607-F7_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.4	--[b]	--
1607-F7_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.0	--[b]	--
1607-F7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,720	--[b]	--
1607-F7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	99,249	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	46	--[b]	--
1607-F7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	396	--[b]	--
1607-F7_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.7	60	No
1607-F7_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--[b]	--
1607-F7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	3,219	5.07E+06	No
1607-F7_Shallow	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	37	525,145	No
1607-F7_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	216	--[b]	--
1607-F7_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	1.1	--[b]	--
1607-F7_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.4	96	No
1607-F7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,376	--[b]	--
1607-F7_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	76	--[b]	--
1607-F7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,635	--[b]	--
1607-F7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,715	2.34E+07	No
1607-F7_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	30	121,721	No
1607-F7_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	40	1.36E+06	No
1607-F7_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.54	115,960	No
1607-F7_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--[b]	--
1607-F7_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	0.92	59	No
1607-F7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	6,000[c]	No
1607-F7_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--[b]	--
1607-F7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.40E+07	--[b]	--
1607-F7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,177	--[b]	--
1607-F7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	279,444	--[b]	--
1607-F7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
1607-F7_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.4	--[b]	--
1607-F7_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	14	226	No
1607-F7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	477	2.47E+06	No
1607-F7_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	96	107,951	No
1607-F7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,902	--[b]	--
1607-F7_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	71	--[b]	--
1607-F7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	31,959	--[b]	--
1607-F7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	50,531	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	1,4-Dichlorobenzene	106-46-7	µg/kg	46	3,168	No
1607-F7_Staging pile area_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	110	50,401	No
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.2	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	58	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	46	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.5	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.10E+06	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,400	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	147,000	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	32	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
1607-F7_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.4	60	No
1607-F7_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	35	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	7,700	5.07E+06	No
1607-F7_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	220	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	3.7	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	1.0	15,662	No
1607-F7_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	96	No
1607-F7_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,200	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	850	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,400	2.34E+07	No
1607-F7_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Dibenzofuran	132-64-9	µg/kg	27	121,721	No
1607-F7_Staging pile area_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	23	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	1.36E+06	No
1607-F7_Staging pile area_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	588	No
1607-F7_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	37	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15	111	No
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.89	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	27	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	300,000	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	13	226	No
1607-F7_Staging pile area_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	72	107,951	No
1607-F7_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,300	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	51	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Styrene	100-42-5	µg/kg	3.0	56,031	No
1607-F7_Staging pile area_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	70,164	No
1607-F7_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	40,200	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	6.0	258,355	No
1607-F7_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	72,000	--[b]	--
182-F_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.90E+06	--[b]	--
182-F_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	500	12,637	No
182-F_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	36	--[b]	--
182-F_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
182-F_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	6,400	--[b]	--
182-F_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	79,000	--[b]	--
182-F_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	490	--[b]	--
182-F_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,200	5.07E+06	No
182-F_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	780	--[b]	--
182-F_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.11	--[b]	--
182-F_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,600	--[b]	--
182-F_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	--[b]	--
182-F_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,700	2.34E+07	No
182-F_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
182-F_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.05E+07	--[b]	--
182-F_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	58,700	--[b]	--
182-F_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	312,000	--[b]	--
182-F_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
182-F_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	560	2.47E+06	No
182-F_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	16,800	--[b]	--
182-F_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,100	--[b]	--
182-F_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	139,000	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1016	12674-11-2	µg/kg	20	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	110	--[b]	--

Table A-1. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
182-F_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--[b]	--
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300	1,033	Yes
600-351_Shallow_Focused	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	27	11,973	No
600-351_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07	--[b]	--
600-351_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	900	12,637	No
600-351_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	250,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	97,100	--[b]	--
600-351_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300	--[b]	--
600-351_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	5.07E+06	No
600-351_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	340	--[b]	--
600-351_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,400	--[b]	--
600-351_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,400	--[b]	--
600-351_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,300	2.34E+07	No
600-351_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.22E+07	--[b]	--
600-351_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	805,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	8.0	--[b]	--
600-351_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	500	2.47E+06	No
600-351_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,500	--[b]	--
600-351_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	920	140,663	No
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,000	2.00E+06[f]	No
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,000	2.00E+06[f]	No
600-351_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,800	--[b]	--
600-351_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	51,200	--[b]	--
UPR-100-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14	--[b]	--
UPR-100-F-2_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.086	--[b]	--
UPR-100-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
UPR-100-F-2_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.20	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g. An exception to this convention is strontium-90, which is calculated based on a 100:0 source distribution because of data that indicated strontium-90 distributed throughout the vadose zone at some locations in this operable unit.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

d. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.

e. The soil screening level for Total_U_Isotopes is the same as the value calculated for total uranium (CAS # 7440-61-1).

f. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."
-- = Not applicable or no value.

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-11_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,600	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.67E+06	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	55	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,700	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	436	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	995	--[c]	--
100-F-12_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	110	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	329,092	No
100-F-12_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.97E+07	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,500	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	318,000	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	216	3.99E+07	No
100-F-12_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,200	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	89	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,500	--[c]	--
100-F-12_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,100	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.4	2.5	No
100-F-14_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.49E+06	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,900	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,500	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	463	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	25	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	--[c]	--
100-F-14_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,100	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,400	329,092	No
100-F-14_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	1.70E+06	No
100-F-14_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.24E+07	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,600	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	311,000	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	84	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	19	208	No
100-F-14_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	458	3.99E+07	No
100-F-14_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,400	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	59,700	--[c]	--
100-F-14_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,400	--[b]	--
100-F-14_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.017	--[b]	--
100-F-15_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	13,800	--[b]	--
100-F-15_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,300	4,981	No
100-F-15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	15,600	--[b]	--
100-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	450	4,981	No
100-F-16_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,100	--[b]	--
100-F-16_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	510	4,981	No
100-F-16_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.032	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.43E+06	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,700	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	38,000	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	269	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	20	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	619	--[c]	--
100-F-18_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,500	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,700	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,700	329,092	No
100-F-18_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	1.70E+06	No
100-F-18_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.33E+07	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	217,000	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	89	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.7	208	No
100-F-18_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	250	3.99E+07	No
100-F-18_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,500	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,600	--[c]	--
100-F-18_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500	--[b]	--
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600	4,981	Yes
100-F-19:1_Deep	Rad	Cesium-137	10045-97-3	pCi/g	21	--[b]	--
100-F-19:1_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	13	--[b]	--
100-F-19:1_Deep	Rad	Europium-152	14683-23-9	pCi/g	325	--[b]	--
100-F-19:1_Deep	Rad	Europium-154	15585-10-1	pCi/g	25	--[b]	--
100-F-19:1_Deep	Rad	Nickel-63	13981-37-8	pCi/g	351	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-19:1_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.1	24,600	No
100-F-19:1_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	740	4,981	No
100-F-19:1_Overburden	Rad	Carbon-14	14762-75-5	pCi/g	5.0	--[b]	--
100-F-19:1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.043	--[b]	--
100-F-19:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	624	4,981	No
100-F-19:1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	4.1	--[b]	--
100-F-19:1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.10	--[b]	--
100-F-19:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.33	24,600	No
100-F-19:2_Deep	non-Rad	Barium	7440-39-3	µg/kg	66,100	--[b]	--
100-F-19:2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,140	4,981	No
100-F-19:2_Deep	non-Rad	Lead	7439-92-1	µg/kg	4,100	--[b]	--
100-F-19:2_Deep	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,762	930,263[d]	No
100-F-19:2_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.049	--[b]	--
100-F-19:2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	3.9	--[b]	--
100-F-19:2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.67	--[b]	--
100-F-19:2_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--[b]	--
100-F-19:2_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.7	--[b]	--
100-F-19:2_Deep	Rad	Nickel-63	13981-37-8	pCi/g	340	--[b]	--
100-F-19:2_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	23	--[b]	--
100-F-19:2_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	24,600	No
100-F-19:2_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.50	--[e]	--
100-F-19:2_Deep	Rad	Uranium-238	U-238	pCi/g	0.59	--[e]	--
100-F-19:2_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	690	4,981	No
100-F-19:2_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.1	--[b]	--
100-F-19:2_Deep_Focused	Rad	Cobalt-60	10198-40-0	pCi/g	0.36	--[b]	--
100-F-19:2_Deep_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.5	--[b]	--
100-F-19:2_Overburden	non-Rad	Barium	7440-39-3	µg/kg	51,200	--[b]	--
100-F-19:2_Overburden	non-Rad	Lead	7439-92-1	µg/kg	8,000	--[b]	--
100-F-19:2_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	410	--[b]	--
100-F-19:2_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,671	930,263[d]	No
100-F-19:2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.20	--[b]	--
100-F-19:2_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	--[b]	--
100-F-19:2_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.37	--[b]	--
100-F-19:2_Overburden	Rad	Europium-154	15585-10-1	pCi/g	0.18	--[b]	--
100-F-19:2_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	4.9	--[b]	--
100-F-19:2_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.42	24,600	No
100-F-19:2_Overburden	Rad	Tritium	10028-17-8	pCi/g	0.81	1,660	No
100-F-19:2_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.52	--[e]	--
100-F-19:2_Overburden	Rad	Uranium-238	U-238	pCi/g	0.57	--[e]	--
100-F-19:2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	122,000	--[b]	--
100-F-19:2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,800	--[b]	--
100-F-19:2_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,916	930,263[d]	No
100-F-19:2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14	--[b]	--
100-F-19:2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.35	--[b]	--
100-F-19:2_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	7.0	--[b]	--
100-F-19:2_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.59	--[e]	--
100-F-19:2_Shallow	Rad	Uranium-238	U-238	pCi/g	0.64	--[e]	--
100-F-19:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	4,981	No
100-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.35	--[b]	--
100-F-20_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,200	--[b]	--
100-F-20_Staging pile area	non-Rad	Aluminum	7429-90-5	µg/kg	5.35E+06	--[b]	--
100-F-20_Staging pile area	non-Rad	Arsenic	7440-38-2	µg/kg	3,400	--[b]	--
100-F-20_Staging pile area	non-Rad	Barium	7440-39-3	µg/kg	77,800	--[b]	--
100-F-20_Staging pile area	non-Rad	Beryllium	7440-41-7	µg/kg	530	--[b]	--
100-F-20_Staging pile area	non-Rad	Boron	7440-42-8	µg/kg	2,600	--[c]	--
100-F-20_Staging pile area	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[b]	--
100-F-20_Staging pile area	non-Rad	Chromium	7440-47-3	µg/kg	9,200	--[b]	--
100-F-20_Staging pile area	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[b]	--
100-F-20_Staging pile area	non-Rad	Copper	7440-50-8	µg/kg	23,700	329,092	No
100-F-20_Staging pile area	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07	--[b]	--
100-F-20_Staging pile area	non-Rad	Lead	7439-92-1	µg/kg	18,500	--[b]	--
100-F-20_Staging pile area	non-Rad	Manganese	7439-96-5	µg/kg	328,000	--[b]	--
100-F-20_Staging pile area	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
100-F-20_Staging pile area	non-Rad	Molybdenum	7439-98-7	µg/kg	850	3.99E+07	No
100-F-20_Staging pile area	non-Rad	Nickel	7440-02-0	µg/kg	9,900	--[b]	--
100-F-20_Staging pile area	non-Rad	Vanadium	7440-62-2	µg/kg	42,900	--[c]	--
100-F-20_Staging pile area	non-Rad	Zinc	7440-66-6	µg/kg	87,600	--[b]	--
100-F-20_Staging pile area	Rad	Cesium-137	10045-97-3	pCi/g	0.044	--[b]	--
100-F-24_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.053	--[b]	--
100-F-25_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	140	--[b]	--
100-F-25_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.071	--[b]	--
100-F-25_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.13	--[b]	--
100-F-25_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	4.6	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:1_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.18E+06	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	280	11,795	No
100-F-26:1_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	53,500	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	520	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	--[c]	--
100-F-26:1_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,700	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,300	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	329,092	No
100-F-26:1_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	181,000	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	256,000	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,380	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	621	3.99E+07	No
100-F-26:1_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	35,100	--[c]	--
100-F-26:1_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,300	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.50E+06	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	263	11,795	No
100-F-26:1_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,600	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,700	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,800	--[c]	--
100-F-26:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	157	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,900	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,200	329,092	No
100-F-26:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	4,981	No
100-F-26:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.08E+07	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,900	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	352,000	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	93	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	373	3.99E+07	No
100-F-26:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,800	--[c]	--
100-F-26:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,200	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	880	11,795	No
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	7.9	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	10	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,700	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	117,000	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	25	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	280	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	250	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	--[c]	--
100-F-26:10_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,700	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	23	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,800	329,092	No
100-F-26:10_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	1.70E+06	No
100-F-26:10_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	270	4,981	No
100-F-26:10_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.65E+07	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,700	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	291,000	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,300	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	35	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,800	14,066	No
100-F-26:10_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,500	--[c]	--
100-F-26:10_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	51,900	--[b]	--
100-F-26:10_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.35E+06	--[b]	--
100-F-26:10_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	11,795	No
100-F-26:10_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	54	--[b]	--
100-F-26:10_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	54	--[b]	--
100-F-26:10_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,105	--[b]	--
100-F-26:10_Shallow	non-Rad	Barium	7440-39-3	µg/kg	69,412	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	41	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	39	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:10_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	48	--[b]	--
100-F-26:10_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	310	--[b]	--
100-F-26:10_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	93	--[b]	--
100-F-26:10_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,790	--[c]	--
100-F-26:10_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,640	--[b]	--
100-F-26:10_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	60	--[b]	--
100-F-26:10_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,034	--[b]	--
100-F-26:10_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,269	329,092	No
100-F-26:10_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	4.9	--[b]	--
100-F-26:10_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	1.70E+06	No
100-F-26:10_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	120	--[b]	--
100-F-26:10_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	268	4,981	No
100-F-26:10_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--[b]	--
100-F-26:10_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.51E+07	--[b]	--
100-F-26:10_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,969	--[b]	--
100-F-26:10_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	286,118	--[b]	--
100-F-26:10_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	10	--[b]	--
100-F-26:10_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.7	--[b]	--
100-F-26:10_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	640	3.99E+07	No
100-F-26:10_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,726	--[b]	--
100-F-26:10_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	110	--[b]	--
100-F-26:10_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,369	14,066	No
100-F-26:10_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,054	--[c]	--
100-F-26:10_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,294	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.80E+06	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,500	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	54,100	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	290	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	860	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,600	--[c]	--
100-F-26:10_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,800	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	329,092	No
100-F-26:10_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	39	1.70E+06	No
100-F-26:10_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	4,981	No
100-F-26:10_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.23E+07	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,900	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	257,000	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	3.0	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	470	3.99E+07	No
100-F-26:10_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,700	--[c]	--
100-F-26:10_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,500	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.19E+06	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	63,200	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	20	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400	--[c]	--
100-F-26:11_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,700	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,200	329,092	No
100-F-26:11_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	38	1.70E+06	No
100-F-26:11_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	4,981	No
100-F-26:11_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.85E+07	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	23,600	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	294,000	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	240	3.99E+07	No
100-F-26:11_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,900	--[c]	--
100-F-26:11_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	56,700	--[b]	--
100-F-26:12_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	5.61E+06	--[b]	--
100-F-26:12_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,882	--[b]	--
100-F-26:12_Overburden	non-Rad	Barium	7440-39-3	µg/kg	57,538	--[b]	--
100-F-26:12_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	262	--[b]	--
100-F-26:12_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,421	--[c]	--
100-F-26:12_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	158	--[b]	--
100-F-26:12_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,743	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:12_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	4,943	--[b]	--
100-F-26:12_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,210	329,092	No
100-F-26:12_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	293	4,981	No
100-F-26:12_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.34E+07	--[b]	--
100-F-26:12_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,695	--[b]	--
100-F-26:12_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	240,610	--[b]	--
100-F-26:12_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	60	--[b]	--
100-F-26:12_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	620	3.99E+07	No
100-F-26:12_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,811	--[b]	--
100-F-26:12_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	31,558	--[c]	--
100-F-26:12_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	32,061	--[b]	--
100-F-26:12_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.056	--[b]	--
100-F-26:12_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.081	--[b]	--
100-F-26:12_Overburden	Rad	Tritium	10028-17-8	pCi/g	5.9	1,660	No
100-F-26:12_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.13E+06	--[b]	--
100-F-26:12_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	11,795	No
100-F-26:12_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,797	--[b]	--
100-F-26:12_Shallow	non-Rad	Barium	7440-39-3	µg/kg	54,294	--[b]	--
100-F-26:12_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	186	--[b]	--
100-F-26:12_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,013	--[c]	--
100-F-26:12_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	7,949	--[b]	--
100-F-26:12_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,004	--[b]	--
100-F-26:12_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,109	329,092	No
100-F-26:12_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	4,981	No
100-F-26:12_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.20E+07	--[b]	--
100-F-26:12_Shallow	non-Rad	Lead	7439-92-1	µg/kg	9,282	--[b]	--
100-F-26:12_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	225,939	--[b]	--
100-F-26:12_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	28	--[b]	--
100-F-26:12_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	480	3.99E+07	No
100-F-26:12_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,312	--[b]	--
100-F-26:12_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	28,449	--[c]	--
100-F-26:12_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	32,386	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.63E+06	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	3,626	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	73,949	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	160	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,972	--[c]	--
100-F-26:12_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	190	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	11,246	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,238	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	13,599	329,092	No
100-F-26:12_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	307	4,981	No
100-F-26:12_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.70E+07	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	7,611	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	264,980	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	56	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	534	3.99E+07	No
100-F-26:12_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,946	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	38,910	--[c]	--
100-F-26:12_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	44,863	--[b]	--
100-F-26:12_Staging Pile Area	Rad	Carbon-14	14762-75-5	pCi/g	5.1	--[b]	--
100-F-26:12_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.064	--[b]	--
100-F-26:12_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.56	24,600	No
100-F-26:13_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.76E+06	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	38	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	9,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	92,800	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	6,100	--[c]	--
100-F-26:13_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100	329,092	No
100-F-26:13_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	29,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	295,000	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	520	3.99E+07	No
100-F-26:13_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,000	--[c]	--
100-F-26:13_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,900	--[b]	--
100-F-26:13_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.13	--[b]	--
100-F-26:13_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.35E+06	--[b]	--
100-F-26:13_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.1	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:13_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.6	--[b]	--
100-F-26:13_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,402	--[b]	--
100-F-26:13_Shallow	non-Rad	Barium	7440-39-3	µg/kg	52,589	--[b]	--
100-F-26:13_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	337	--[b]	--
100-F-26:13_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,500	--[c]	--
100-F-26:13_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,231	--[b]	--
100-F-26:13_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,264	--[b]	--
100-F-26:13_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,289	329,092	No
100-F-26:13_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.44E+07	--[b]	--
100-F-26:13_Shallow	non-Rad	Lead	7439-92-1	µg/kg	14,012	--[b]	--
100-F-26:13_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	237,795	--[b]	--
100-F-26:13_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	554	3.99E+07	No
100-F-26:13_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,195	--[b]	--
100-F-26:13_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,581	930,263[d]	No
100-F-26:13_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,034	--[c]	--
100-F-26:13_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,774	--[b]	--
100-F-26:13_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	13	--[b]	--
100-F-26:13_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.055	--[b]	--
100-F-26:13_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	2.0	24,600	No
100-F-26:13_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.66	--[e]	--
100-F-26:13_Shallow	Rad	Uranium-238	U-238	pCi/g	0.53	--[e]	--
100-F-26:13_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	3.66E+06	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	44,500	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400	--[c]	--
100-F-26:13_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,900	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,300	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,300	329,092	No
100-F-26:13_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	9.76E+06	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,400	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	201,000	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	3.99E+07	No
100-F-26:13_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,300	--[b]	--
100-F-26:13_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	22,300	--[c]	--
100-F-26:13_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	26,700	--[b]	--
100-F-26:14_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.75E+06	--[b]	--
100-F-26:14_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	--[b]	--
100-F-26:14_Overburden	non-Rad	Barium	7440-39-3	µg/kg	105,000	--[b]	--
100-F-26:14_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[b]	--
100-F-26:14_Overburden	non-Rad	Boron	7440-42-8	µg/kg	13,500	--[c]	--
100-F-26:14_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	190	--[b]	--
100-F-26:14_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,700	--[b]	--
100-F-26:14_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	--[b]	--
100-F-26:14_Overburden	non-Rad	Copper	7440-50-8	µg/kg	15,300	329,092	No
100-F-26:14_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	--[b]	--
100-F-26:14_Overburden	non-Rad	Lead	7439-92-1	µg/kg	20,400	--[b]	--
100-F-26:14_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	298,000	--[b]	--
100-F-26:14_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	70	--[b]	--
100-F-26:14_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	560	3.99E+07	No
100-F-26:14_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,400	--[b]	--
100-F-26:14_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	42,400	--[c]	--
100-F-26:14_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	38,900	--[b]	--
100-F-26:14_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	2.0	--[b]	--
100-F-26:14_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.25	--[b]	--
100-F-26:14_Overburden	Rad	Europium-152	14683-23-9	pCi/g	1.4	--[b]	--
100-F-26:14_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	9.6	--[b]	--
100-F-26:14_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.37	24,600	No
100-F-26:14_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	--[b]	--
100-F-26:14_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	830	11,795	No
100-F-26:14_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	--[b]	--
100-F-26:14_Shallow	non-Rad	Barium	7440-39-3	µg/kg	216,000	--[b]	--
100-F-26:14_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	330	--[b]	--
100-F-26:14_Shallow	non-Rad	Boron	7440-42-8	µg/kg	31,600	--[c]	--
100-F-26:14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,500	--[b]	--
100-F-26:14_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,600	--[b]	--
100-F-26:14_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,200	329,092	No
100-F-26:14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	4,981	No
100-F-26:14_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.67E+07	--[b]	--
100-F-26:14_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,900	--[b]	--
100-F-26:14_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	291,000	--[b]	--
100-F-26:14_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
100-F-26:14_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	510	3.99E+07	No
100-F-26:14_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,000	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:14_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,200	--[c]	--
100-F-26:14_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,900	--[b]	--
100-F-26:14_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.26	--[b]	--
100-F-26:14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.089	--[b]	--
100-F-26:14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.53	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.77E+06	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	66,900	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	290	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900	--[c]	--
100-F-26:15_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,500	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,900	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,300	329,092	No
100-F-26:15_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.56E+07	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,000	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	277,000	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,700	--[b]	--
100-F-26:15_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,700	--[c]	--
100-F-26:15_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,800	--[b]	--
100-F-26:15_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.10	--[b]	--
100-F-26:15_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.31	--[b]	--
100-F-26:15_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.49E+06	--[b]	--
100-F-26:15_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	850	11,795	No
100-F-26:15_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,314	--[b]	--
100-F-26:15_Shallow	non-Rad	Barium	7440-39-3	µg/kg	79,390	--[b]	--
100-F-26:15_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	248	--[b]	--
100-F-26:15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,162	--[c]	--
100-F-26:15_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	170	--[b]	--
100-F-26:15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,578	--[b]	--
100-F-26:15_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,851	--[b]	--
100-F-26:15_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,718	329,092	No
100-F-26:15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	262	4,981	No
100-F-26:15_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.47E+07	--[b]	--
100-F-26:15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,125	--[b]	--
100-F-26:15_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	280,532	--[b]	--
100-F-26:15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	130	--[b]	--
100-F-26:15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	661	3.99E+07	No
100-F-26:15_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,579	--[b]	--
100-F-26:15_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,310	--[c]	--
100-F-26:15_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	33,378	--[b]	--
100-F-26:15_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.099	--[b]	--
100-F-26:15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.22	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.72E+06	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	40,100	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	170	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400	--[c]	--
100-F-26:15_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,200	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,700	329,092	No
100-F-26:15_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.32E+07	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,200	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	235,000	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,400	--[b]	--
100-F-26:15_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,300	--[c]	--
100-F-26:15_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	28,300	--[b]	--
100-F-26:15_Shallow_Focused	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.96E+06	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	74,300	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	190	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	--[c]	--
100-F-26:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,700	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,600	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,100	329,092	No
100-F-26:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	4,981	No
100-F-26:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,400	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	303,000	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	420	3.99E+07	No
100-F-26:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,700	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,900	--[c]	--
100-F-26:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,300	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.59E+06	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.3	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	260,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	420	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	32,300	--[c]	--
100-F-26:4_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	201	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,300	329,092	No
100-F-26:4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	4,981	No
100-F-26:4_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.68E+07	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	20,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	297,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	3.99E+07	No
100-F-26:4_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,900	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	141,000	--[c]	--
100-F-26:4_Overburden_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,453	930,263[d]	No
100-F-26:4_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,500	--[c]	--
100-F-26:4_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	56,600	--[b]	--
100-F-26:4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.062	--[b]	--
100-F-26:4_Overburden_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.46	--[e]	--
100-F-26:4_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.49	--[e]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Aluminum	7429-90-5	µg/kg	8.53E+06	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Arsenic	7440-38-2	µg/kg	6,500	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Barium	7440-39-3	µg/kg	109,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Beryllium	7440-41-7	µg/kg	230	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Boron	7440-42-8	µg/kg	5,100	--[c]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Cadmium	7440-43-9	µg/kg	99	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Chromium	7440-47-3	µg/kg	11,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Cobalt	7440-48-4	µg/kg	6,500	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Copper	7440-50-8	µg/kg	15,000	329,092	No
100-F-26:4_Overburden_Focused_3	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Lead	7439-92-1	µg/kg	16,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Manganese	7439-96-5	µg/kg	299,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Mercury	7439-97-6	µg/kg	8.3	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Molybdenum	7439-98-7	µg/kg	300	3.99E+07	No
100-F-26:4_Overburden_Focused_3	non-Rad	Nickel	7440-02-0	µg/kg	11,200	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,700	--[c]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	10,000	--[c]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Vanadium	7440-62-2	µg/kg	47,200	--[c]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Zinc	7440-66-6	µg/kg	41,900	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	4.66E+06	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	718	11,795	No
100-F-26:4_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	1,950	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	75,842	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	5,760	--[c]	--
100-F-26:4_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	8,347	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	4,973	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	11,577	329,092	No
100-F-26:4_Shallow_1	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	546	4,981	No
100-F-26:4_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.19E+07	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	5,817	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	232,660	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	60	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	890	3.99E+07	No
100-F-26:4_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	9,380	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Selenium	7782-49-2	µg/kg	2,700	14,066	No
100-F-26:4_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	27,956	--[c]	--
100-F-26:4_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	34,707	--[b]	--
100-F-26:4_Shallow_1	Rad	Cesium-137	10045-97-3	pCi/g	0.26	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,827	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	92,173	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:4_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	209	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,903	--[c]	--
100-F-26:4_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	89	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,066	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	6,033	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,975	329,092	No
100-F-26:4_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	9,654	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	275,252	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	12	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	316	3.99E+07	No
100-F-26:4_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,596	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Selenium	7782-49-2	µg/kg	930	14,066	No
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	6,371	--[c]	--
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	25,575	--[c]	--
100-F-26:4_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	43,748	--[c]	--
100-F-26:4_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	37,849	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	26	218,655	No
100-F-26:4_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.02E+06	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	381	11,795	No
100-F-26:4_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,600	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	611	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	241	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700	--[c]	--
100-F-26:4_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	669	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,100	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,900	329,092	No
100-F-26:4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	226	1.70E+06	No
100-F-26:4_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	370	4,981	No
100-F-26:4_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,600	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	310,000	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	314	3.99E+07	No
100-F-26:4_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	39	3.33E+06	No
100-F-26:4_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,100	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	33	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	591	14,066	No
100-F-26:4_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	219	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,100	--[c]	--
100-F-26:4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,100	--[b]	--
100-F-26:4_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.58	--[b]	--
100-F-26:4_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.23	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.26E+06	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	662	11,795	No
100-F-26:5_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	35	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	37,100	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	396	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	--[c]	--
100-F-26:5_Deep_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	292	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,100	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,600	329,092	No
100-F-26:5_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	875	4,981	No
100-F-26:5_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.16E+07	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,600	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	206,000	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	98	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	436	3.99E+07	No
100-F-26:5_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,900	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	28,300	--[c]	--
100-F-26:5_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	64,200	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.72E+06	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	50,400	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	--[c]	--
100-F-26:5_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	280	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,300	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,800	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500	329,092	No
100-F-26:5_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
100-F-26:5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.39E+07	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,600	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	231,000	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	320	3.99E+07	No
100-F-26:5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	33,500	--[c]	--
100-F-26:5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,200	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.66E+06	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	680	11,795	No
100-F-26:7_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	153,000	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	120	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	10,600	--[c]	--
100-F-26:7_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,700	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,400	329,092	No
100-F-26:7_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,900	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	319,000	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	66	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,500	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	47,600	--[c]	--
100-F-26:7_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,400	--[b]	--
100-F-26:7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.14E+06	--[b]	--
100-F-26:7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	684	11,795	No
100-F-26:7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	1,957	--[b]	--
100-F-26:7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	103,545	--[b]	--
100-F-26:7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	65	--[b]	--
100-F-26:7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	8,960	--[c]	--
100-F-26:7_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	108	--[b]	--
100-F-26:7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,159	--[b]	--
100-F-26:7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,949	--[b]	--
100-F-26:7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,070	329,092	No
100-F-26:7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	346	4,981	No
100-F-26:7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.78E+07	--[b]	--
100-F-26:7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,875	--[b]	--
100-F-26:7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	282,226	--[b]	--
100-F-26:7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	18	--[b]	--
100-F-26:7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	410	3.99E+07	No
100-F-26:7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,497	--[b]	--
100-F-26:7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	47,555	--[c]	--
100-F-26:7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,672	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,300	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	64	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	--[c]	--
100-F-26:7_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,000	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,400	329,092	No
100-F-26:7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.84E+07	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,700	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	321,000	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.8	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,700	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,700	--[c]	--
100-F-26:7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,500	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.46E+06	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	731	11,795	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	1,716	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	106,026	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	5,756	--[c]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:7_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	99	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	9,634	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,118	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	12,164	329,092	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	3,804	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	276,272	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	6.7	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	366	3.99E+07	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	9,792	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	960	14,066	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	52,232	--[c]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	37,192	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.9	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.4	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,900	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	38	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	23	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	30	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	450	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	62	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,600	--[c]	--
100-F-26:8_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	37	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	329,092	No
100-F-26:8_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	1.70E+06	No
100-F-26:8_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	220	4,981	No
100-F-26:8_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	11,500	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	332,000	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	1.8	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	57	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,900	--[c]	--
100-F-26:8_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	54,000	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	1.2	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.1	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.0	--[b]	--
100-F-26:8_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	4.2	--[b]	--
100-F-26:8_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.25E+06	--[b]	--
100-F-26:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,100	11,795	No
100-F-26:8_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,206	--[b]	--
100-F-26:8_Shallow	non-Rad	Barium	7440-39-3	µg/kg	63,964	--[b]	--
100-F-26:8_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	300	--[b]	--
100-F-26:8_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	0.60	11	No
100-F-26:8_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	178	--[b]	--
100-F-26:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,100	--[c]	--
100-F-26:8_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.5	--[b]	--
100-F-26:8_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	12,660	--[b]	--
100-F-26:8_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,604	--[b]	--
100-F-26:8_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,206	329,092	No
100-F-26:8_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	29	1.70E+06	No
100-F-26:8_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.53	68	No
100-F-26:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--[b]	--
100-F-26:8_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.60	--[b]	--
100-F-26:8_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.44E+07	--[b]	--
100-F-26:8_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,311	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:8_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	263,616	--[b]	--
100-F-26:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	160	--[b]	--
100-F-26:8_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.0	--[b]	--
100-F-26:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	3.99E+07	No
100-F-26:8_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,851	--[b]	--
100-F-26:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	29	--[b]	--
100-F-26:8_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,335	14,066	No
100-F-26:8_Shallow	non-Rad	Silver	7440-22-4	µg/kg	510	--[b]	--
100-F-26:8_Shallow	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	253,000	--[c]	--
100-F-26:8_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,413	--[c]	--
100-F-26:8_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,472	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.83E+06	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	85,200	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	460	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	84	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,600	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	329,092	No
100-F-26:8_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	1.70E+06	No
100-F-26:8_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,100	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,300	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,238	930,263[d]	No
100-F-26:8_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,800	--[c]	--
100-F-26:8_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	47,400	--[b]	--
100-F-26:8_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.60	--[e]	--
100-F-26:8_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.42	--[e]	--
100-F-26:9_Overburden	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	27	218,655	No
100-F-26:9_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.48E+06	--[b]	--
100-F-26:9_Overburden	non-Rad	Anthracene	120-12-7	µg/kg	22	--[b]	--
100-F-26:9_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,000	11,795	No
100-F-26:9_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	180	--[b]	--
100-F-26:9_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,859	--[b]	--
100-F-26:9_Overburden	non-Rad	Barium	7440-39-3	µg/kg	266,416	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	100	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	110	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	89	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	97	--[b]	--
100-F-26:9_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	317	--[b]	--
100-F-26:9_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	243	--[b]	--
100-F-26:9_Overburden	non-Rad	Boron	7440-42-8	µg/kg	15,662	--[c]	--
100-F-26:9_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,384	--[b]	--
100-F-26:9_Overburden	non-Rad	Chrysene	218-01-9	µg/kg	140	--[b]	--
100-F-26:9_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,286	--[b]	--
100-F-26:9_Overburden	non-Rad	Copper	7440-50-8	µg/kg	17,179	329,092	No
100-F-26:9_Overburden	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	22	--[b]	--
100-F-26:9_Overburden	non-Rad	Fluoranthene	206-44-0	µg/kg	220	--[b]	--
100-F-26:9_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	319	4,981	No
100-F-26:9_Overburden	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	71	--[b]	--
100-F-26:9_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	--[b]	--
100-F-26:9_Overburden	non-Rad	Lead	7439-92-1	µg/kg	6,965	--[b]	--
100-F-26:9_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	277,999	--[b]	--
100-F-26:9_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	100	--[b]	--
100-F-26:9_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	3.99E+07	No
100-F-26:9_Overburden	non-Rad	Naphthalene	91-20-3	µg/kg	18	3.33E+06	No
100-F-26:9_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,648	--[b]	--
100-F-26:9_Overburden	non-Rad	Pyrene	129-00-0	µg/kg	260	--[b]	--
100-F-26:9_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	40,062	--[c]	--
100-F-26:9_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	44,529	--[b]	--
100-F-26:9_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.044	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	23	218,655	No
100-F-26:9_Overburden_Focused	non-Rad	4-Nitroaniline	100-01-6	µg/kg	37	5,429	No
100-F-26:9_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.35E+06	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	72	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	77	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	659,000	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	21	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:9_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	860	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	450	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	61,700	--[c]	--
100-F-26:9_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,500	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	44	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,600	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	183,000	329,092	No
100-F-26:9_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	32	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	4,981	No
100-F-26:9_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	81,700	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	254,000	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	3.99E+07	No
100-F-26:9_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	30	3.33E+06	No
100-F-26:9_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,200	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	59	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,300	--[c]	--
100-F-26:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,800	--[b]	--
100-F-26:9_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.52E+06	--[b]	--
100-F-26:9_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-26:9_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--[b]	--
100-F-26:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
100-F-26:9_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,650	--[b]	--
100-F-26:9_Shallow	non-Rad	Barium	7440-39-3	µg/kg	117,460	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	108	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	120	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	85	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	100	--[b]	--
100-F-26:9_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	271	--[b]	--
100-F-26:9_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	152	--[b]	--
100-F-26:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	14,334	--[c]	--
100-F-26:9_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	174	--[b]	--
100-F-26:9_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,462	--[b]	--
100-F-26:9_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	134	--[b]	--
100-F-26:9_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,363	--[b]	--
100-F-26:9_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,904	329,092	No
100-F-26:9_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	39	--[b]	--
100-F-26:9_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	235	--[b]	--
100-F-26:9_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	284	4,981	No
100-F-26:9_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--[b]	--
100-F-26:9_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.74E+07	--[b]	--
100-F-26:9_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,799	--[b]	--
100-F-26:9_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	285,355	--[b]	--
100-F-26:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	278	--[b]	--
100-F-26:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	910	3.99E+07	No
100-F-26:9_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,157	--[b]	--
100-F-26:9_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	227	--[b]	--
100-F-26:9_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	42,960	--[c]	--
100-F-26:9_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,180	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.19E+07	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	20	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,600	11,795	No
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	329,000	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	90	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	71	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	49	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	68	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	596	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	690	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	28,600	--[c]	--
100-F-26:9_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	49	93,961	No
100-F-26:9_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	340	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,000	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	120	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,500	329,092	No
100-F-26:9_Shallow_Focused	non-Rad	Diethylphthalate	84-66-2	µg/kg	34	1.42E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	136	1.70E+06	No

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:9_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	130	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	360	4,981	No
100-F-26:9_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	47	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.52E+07	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	16,900	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	810	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	3.99E+07	No
100-F-26:9_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	23	3.33E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	310	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,300	14,066	No
100-F-26:9_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,200	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,300	--[c]	--
100-F-26:9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	--[b]	--
100-F-26:9_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.29	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.9	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.39E+06	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,014	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	59,167	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	140	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	75	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	462	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.9	11	No
100-F-26:9_Staging Pile Area	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	333	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,604	--[c]	--
100-F-26:9_Staging Pile Area	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	10,408	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	160	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,815	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	15,482	329,092	No
100-F-26:9_Staging Pile Area	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	1.70E+06	No
100-F-26:9_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	281	4,981	No
100-F-26:9_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	35,063	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	263,395	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	750	3.99E+07	No
100-F-26:9_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	11,185	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	260	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	30,622	--[c]	--
100-F-26:9_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	36,533	--[b]	--
100-F-31_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.07E+06	--[b]	--
100-F-31_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	490	11,795	No
100-F-31_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	17	--[b]	--
100-F-31_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,822	--[b]	--
100-F-31_Shallow	non-Rad	Barium	7440-39-3	µg/kg	75,963	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	45	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	41	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	39	--[b]	--
100-F-31_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	166	--[b]	--
100-F-31_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	59	--[b]	--
100-F-31_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,890	--[c]	--
100-F-31_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	685	--[b]	--
100-F-31_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,321	--[b]	--
100-F-31_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	52	--[b]	--
100-F-31_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,614	--[b]	--
100-F-31_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,914	329,092	No
100-F-31_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	1.70E+06	No
100-F-31_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	69	--[b]	--
100-F-31_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	363	4,981	No
100-F-31_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	25	--[b]	--
100-F-31_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.51E+07	--[b]	--
100-F-31_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,680	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-31_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	230,196	--[b]	--
100-F-31_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	--[b]	--
100-F-31_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,916	--[b]	--
100-F-31_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	89	--[b]	--
100-F-31_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,376	--[c]	--
100-F-31_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,652	--[b]	--
100-F-33_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	31	218,655	No
100-F-33_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
100-F-33_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,355	--[b]	--
100-F-33_Shallow	non-Rad	Barium	7440-39-3	µg/kg	68,146	--[b]	--
100-F-33_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	40	--[b]	--
100-F-33_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	64	--[b]	--
100-F-33_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,514	--[c]	--
100-F-33_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
100-F-33_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,437	--[b]	--
100-F-33_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,528	--[b]	--
100-F-33_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,662	329,092	No
100-F-33_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	1.70E+06	No
100-F-33_Shallow	non-Rad	Lead	7439-92-1	µg/kg	9,061	--[b]	--
100-F-33_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	256,825	--[b]	--
100-F-33_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	47	--[b]	--
100-F-33_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	255	3.99E+07	No
100-F-33_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	22	3.33E+06	No
100-F-33_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,321	--[b]	--
100-F-33_Shallow	non-Rad	Phenol	108-95-2	µg/kg	19	546,982	No
100-F-33_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,010	--[c]	--
100-F-33_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	71,718	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.64E+06	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	347	11,795	No
100-F-33_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	94	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,200	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	408	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700	--[c]	--
100-F-33_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	171	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,400	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,500	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	44,200	329,092	No
100-F-33_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	4,981	No
100-F-33_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.05E+07	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,700	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	312,000	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	266	3.99E+07	No
100-F-33_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,800	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,400	--[c]	--
100-F-33_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	58,200	--[b]	--
100-F-33_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.19	--[b]	--
100-F-33_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.095	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	77,400	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	52	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000	--[c]	--
100-F-33_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,400	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500	329,092	No
100-F-33_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	1.70E+06	No
100-F-33_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,300	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	250,000	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	381	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	280	3.99E+07	No
100-F-33_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,900	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Silver	7440-22-4	µg/kg	174	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,100	--[c]	--
100-F-33_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	49,000	--[b]	--
100-F-35_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	520	4,981	No
100-F-35_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,399	930,263[d]	No
100-F-35_Shallow	Rad	Americium-241	14596-10-2	pCi/g	1.8	--[b]	--
100-F-35_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	2.6	--[b]	--
100-F-35_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	1.7	--[b]	--
100-F-35_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.64	24,600	No
100-F-35_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.91	--[e]	--
100-F-35_Shallow	Rad	Uranium-238	U-238	pCi/g	0.81	--[e]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-36_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	3.66E+06	--[b]	--
100-F-36_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	1,800	--[b]	--
100-F-36_Shallow	non-Rad	Barium	7440-39-3	µg/kg	33,500	--[b]	--
100-F-36_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	190	--[b]	--
100-F-36_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	6,900	--[b]	--
100-F-36_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	3,800	--[b]	--
100-F-36_Shallow	non-Rad	Copper	7440-50-8	µg/kg	10,200	329,092	No
100-F-36_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	325	4,981	No
100-F-36_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.08E+07	--[b]	--
100-F-36_Shallow	non-Rad	Lead	7439-92-1	µg/kg	2,100	--[b]	--
100-F-36_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	195,000	--[b]	--
100-F-36_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,100	--[b]	--
100-F-36_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	3,007	930,263[d]	No
100-F-36_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	27,700	--[c]	--
100-F-36_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	25,300	--[b]	--
100-F-36_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.69	--[e]	--
100-F-36_Shallow	Rad	Uranium-238	U-238	pCi/g	1.0	--[e]	--
100-F-36_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.05E+06	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,100	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	350	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	--[c]	--
100-F-36_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,800	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100	329,092	No
100-F-36_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	866	4,981	No
100-F-36_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,500	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	356,000	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,000	--[b]	--
100-F-36_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,131	930,263[d]	No
100-F-36_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,800	--[c]	--
100-F-36_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,000	--[b]	--
100-F-36_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.57	--[e]	--
100-F-36_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.72	--[e]	--
100-F-37_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	508,000	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	340	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	710	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,100	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	214,000	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	70	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.77E+06	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	388,000	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	434	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	513	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	23,500	--[c]	--
100-F-38_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	117	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,500	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,300	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,000	329,092	No
100-F-38_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	47	1.70E+06	No
100-F-38_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,900	4,981	No
100-F-38_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	38,400	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	291,000	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	510	3.99E+07	No
100-F-38_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,100	--[c]	--
100-F-38_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,400	--[b]	--
100-F-4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,100	--[b]	--
100-F-4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	3,200	4,981	No
100-F-4_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.052	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.19E+06	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	51,800	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	140	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,800	--[c]	--
100-F-44:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,200	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-44:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,800	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,800	329,092	No
100-F-44:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
100-F-44:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,200	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	235,000	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,600	--[c]	--
100-F-44:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	90,700	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.86E+06	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	46,400	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	340	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100	--[c]	--
100-F-44:5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,900	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500	329,092	No
100-F-44:5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.29E+07	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	250,000	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,200	--[b]	--
100-F-44:5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	30,600	--[c]	--
100-F-44:5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	29,100	--[b]	--
100-F-44:8_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.97E+06	--[b]	--
100-F-44:8_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	9.1	--[b]	--
100-F-44:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	360	11,795	No
100-F-44:8_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	84	--[b]	--
100-F-44:8_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	59	--[b]	--
100-F-44:8_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,416	--[b]	--
100-F-44:8_Shallow	non-Rad	Barium	7440-39-3	µg/kg	125,676	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	36	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	18	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.8	--[b]	--
100-F-44:8_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	143	--[b]	--
100-F-44:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,762	--[c]	--
100-F-44:8_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	95	--[b]	--
100-F-44:8_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,810	--[b]	--
100-F-44:8_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	23	--[b]	--
100-F-44:8_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,982	--[b]	--
100-F-44:8_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,533	329,092	No
100-F-44:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--[b]	--
100-F-44:8_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--[b]	--
100-F-44:8_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07	--[b]	--
100-F-44:8_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,741	--[b]	--
100-F-44:8_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	289,822	--[b]	--
100-F-44:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	106	--[b]	--
100-F-44:8_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	208	No
100-F-44:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	386	3.99E+07	No
100-F-44:8_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,934	--[b]	--
100-F-44:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	39	--[b]	--
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	47,322	--[c]	--
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	105,648	--[c]	--
100-F-44:8_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	49,287	--[c]	--
100-F-44:8_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	47,891	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.46E+06	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	26	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	29	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,392	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	69,258	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	31	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	31	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.7	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-44:8_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	99	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,433	--[c]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	96	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	8,432	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	24	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,348	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	13,669	329,092	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	50	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	5,664	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	271,082	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	53	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	208	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	10,454	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	56	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	13,238	--[c]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	110,000	--[c]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	50,796	--[c]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	43,092	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.52E+06	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	11,795	No
100-F-44:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	31	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,000	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,300	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	88	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000	--[c]	--
100-F-44:9_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	210	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,700	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,100	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,800	329,092	No
100-F-44:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	311	4,981	No
100-F-44:9_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.63E+07	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,600	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	281,000	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	3.99E+07	No
100-F-44:9_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	18,600	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	14,066	No
100-F-44:9_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,200	--[c]	--
100-F-44:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	55,300	--[b]	--
100-F-44:9_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.081	--[b]	--
100-F-44:9_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.12	--[b]	--
100-F-44:9_Overburden_Focused	Rad	Tritium	10028-17-8	pCi/g	0.018	1,660	No
100-F-44:9_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.93E+06	--[b]	--
100-F-44:9_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	510	11,795	No
100-F-44:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	34	--[b]	--
100-F-44:9_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,733	--[b]	--
100-F-44:9_Shallow	non-Rad	Barium	7440-39-3	µg/kg	59,638	--[b]	--
100-F-44:9_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	173	--[b]	--
100-F-44:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,450	--[c]	--
100-F-44:9_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	92	--[b]	--
100-F-44:9_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,182	--[b]	--
100-F-44:9_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,559	--[b]	--
100-F-44:9_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,504	329,092	No
100-F-44:9_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.84E+07	--[b]	--
100-F-44:9_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,400	--[b]	--
100-F-44:9_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	290,704	--[b]	--
100-F-44:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-44:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	374	3.99E+07	No
100-F-44:9_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,979	--[b]	--
100-F-44:9_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	42,977	--[c]	--
100-F-44:9_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,535	--[b]	--
100-F-44:9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.21	24,600	No
100-F-44:9_Shallow	Rad	Tritium	10028-17-8	pCi/g	0.015	1,660	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	7.90E+06	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,142	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	65,552	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	134	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,980	--[c]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	86	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	12,509	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,335	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	15,113	329,092	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	178	4,981	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.95E+07	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	4,786	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	304,989	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	34	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	450	3.99E+07	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	11,033	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	930	14,066	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	430	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	46,865	--[c]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	40,985	--[b]	--
100-F-44:9_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.18	--[b]	--
100-F-44:9_Staging Pile Area Footprint	Rad	Europium-152	14683-23-9	pCi/g	1.1	--[b]	--
100-F-44:9_Staging Pile Area Footprint	Rad	Tritium	10028-17-8	pCi/g	0.090	1,660	No
100-F-45_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.63E+06	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,700	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,300	--[c]	--
100-F-45_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	98	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	20,700	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,300	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,500	329,092	No
100-F-45_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	231	4,981	No
100-F-45_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.41E+07	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	237,000	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	59	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	34,500	--[c]	--
100-F-45_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500	--[b]	--
100-F-45_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.067	--[b]	--
100-F-45_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.92E+06	--[b]	--
100-F-45_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,484	--[b]	--
100-F-45_Shallow	non-Rad	Barium	7440-39-3	µg/kg	72,078	--[b]	--
100-F-45_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	108	--[b]	--
100-F-45_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,700	--[c]	--
100-F-45_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	290	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-45_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	34,335	--[b]	--
100-F-45_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,959	--[b]	--
100-F-45_Shallow	non-Rad	Copper	7440-50-8	µg/kg	17,272	329,092	No
100-F-45_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	960	4,981	No
100-F-45_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.58E+07	--[b]	--
100-F-45_Shallow	non-Rad	Lead	7439-92-1	µg/kg	7,617	--[b]	--
100-F-45_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	274,740	--[b]	--
100-F-45_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,034	--[b]	--
100-F-45_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	487	3.99E+07	No
100-F-45_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,261	--[b]	--
100-F-45_Shallow	non-Rad	Silver	7440-22-4	µg/kg	180	--[b]	--
100-F-45_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,311	--[c]	--
100-F-45_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	54,296	--[b]	--
100-F-45_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.7	--[b]	--
100-F-45_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.32	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.96E+06	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,349	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	79,938	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	156	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	2,766	--[c]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	91	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	11,780	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,154	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	12,140	329,092	No
100-F-45_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	274	4,981	No
100-F-45_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.63E+07	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	5,644	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	254,059	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	15	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	310	3.99E+07	No
100-F-45_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	10,032	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	40,197	--[c]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	36,668	--[b]	--
100-F-45_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.11	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.82E+06	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,200	11,795	No
100-F-46_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,900	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	57,700	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.9	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.9	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.0	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	510	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,900	--[c]	--
100-F-46_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,500	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	329,092	No
100-F-46_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
100-F-46_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	10	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.52E+07	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,500	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	245,000	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	860	3.99E+07	No
100-F-46_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,000	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	380	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	34,200	--[c]	--
100-F-46_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	30,600	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-46_Shallow_Focused	Rad	Tritium	10028-17-8	pCi/g	34	1,660	No
100-F-47_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.28E+06	--[b]	--
100-F-47_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	390	11,795	No
100-F-47_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.2	--[b]	--
100-F-47_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	21	--[b]	--
100-F-47_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,711	--[b]	--
100-F-47_Shallow	non-Rad	Barium	7440-39-3	µg/kg	51,357	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	62	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	100	--[b]	--
100-F-47_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	81	--[b]	--
100-F-47_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-47_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,833	--[c]	--
100-F-47_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	93	--[b]	--
100-F-47_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,781	--[b]	--
100-F-47_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	72	--[b]	--
100-F-47_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,086	--[b]	--
100-F-47_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,960	329,092	No
100-F-47_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	97	--[b]	--
100-F-47_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	46	--[b]	--
100-F-47_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.58E+07	--[b]	--
100-F-47_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,383	--[b]	--
100-F-47_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	259,094	--[b]	--
100-F-47_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	907	--[b]	--
100-F-47_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	450	3.99E+07	No
100-F-47_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,083	--[b]	--
100-F-47_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	84	--[b]	--
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	19,258	--[c]	--
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	37,638	--[c]	--
100-F-47_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	37,121	--[c]	--
100-F-47_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,988	--[b]	--
100-F-48_Overburden	non-Rad	2-Butanone	78-93-3	µg/kg	2.5	2.07E+07	No
100-F-48_Overburden	non-Rad	Acetone	67-64-1	µg/kg	16	2.97E+07	No
100-F-48_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.88E+06	--[b]	--
100-F-48_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	79	--[b]	--
100-F-48_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,350	--[b]	--
100-F-48_Overburden	non-Rad	Barium	7440-39-3	µg/kg	63,354	--[b]	--
100-F-48_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	221	--[b]	--
100-F-48_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
100-F-48_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,283	--[c]	--
100-F-48_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	83	--[b]	--
100-F-48_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	10,921	--[b]	--
100-F-48_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	5,677	--[b]	--
100-F-48_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,682	329,092	No
100-F-48_Overburden	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	2,322	No
100-F-48_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.48E+07	--[b]	--
100-F-48_Overburden	non-Rad	Lead	7439-92-1	µg/kg	7,551	--[b]	--
100-F-48_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	257,998	--[b]	--
100-F-48_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	7.1	--[b]	--
100-F-48_Overburden	non-Rad	Methoxychlor	72-43-5	µg/kg	1.2	--[b]	--
100-F-48_Overburden	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	208	No
100-F-48_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	440	3.99E+07	No
100-F-48_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,836	--[b]	--
100-F-48_Overburden	non-Rad	Phenol	108-95-2	µg/kg	22	546,982	No
100-F-48_Overburden	non-Rad	Toluene	108-88-3	µg/kg	1.0	142,520	No
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,551	--[c]	--
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,008	--[c]	--
100-F-48_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	38,122	--[c]	--
100-F-48_Overburden	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.1	--[c]	--
100-F-48_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	31,504	--[b]	--
100-F-48_Overburden_Focused	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	4.5	10	No
100-F-48_Overburden_Focused	non-Rad	2-Butanone	78-93-3	µg/kg	6.8	2.07E+07	No
100-F-48_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.89	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	39	2.97E+07	No
100-F-48_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.76E+06	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,300	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,500	--[c]	--
100-F-48_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	91	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,900	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-48_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,500	329,092	No
100-F-48_Overburden_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	2,322	No
100-F-48_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.77E+07	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,500	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	289,000	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	8.9	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	3.7	208	No
100-F-48_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,400	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	38	546,982	No
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	4,000	--[c]	--
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,100	--[c]	--
100-F-48_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,600	--[c]	--
100-F-48_Overburden_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.0	--[c]	--
100-F-48_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,600	--[b]	--
100-F-48_Shallow_1	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	1.3	10	No
100-F-48_Shallow_1	non-Rad	2-Butanone	78-93-3	µg/kg	8.5	2.07E+07	No
100-F-48_Shallow_1	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	21	218,655	No
100-F-48_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.4	--[b]	--
100-F-48_Shallow_1	non-Rad	Acetone	67-64-1	µg/kg	64	2.97E+07	No
100-F-48_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	7.52E+06	--[b]	--
100-F-48_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	520	11,795	No
100-F-48_Shallow_1	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.1	--[b]	--
100-F-48_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	93	--[b]	--
100-F-48_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	2,517	--[b]	--
100-F-48_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	74,696	--[b]	--
100-F-48_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	145	--[b]	--
100-F-48_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	4,367	--[c]	--
100-F-48_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
100-F-48_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	12,289	--[b]	--
100-F-48_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	52	--[b]	--
100-F-48_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,291	--[b]	--
100-F-48_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	13,785	329,092	No
100-F-48_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	2.3	--[b]	--
100-F-48_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	32	1.70E+06	No
100-F-48_Shallow_1	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	2,322	No
100-F-48_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.54E+07	--[b]	--
100-F-48_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	8,470	--[b]	--
100-F-48_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	267,107	--[b]	--
100-F-48_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	151	--[b]	--
100-F-48_Shallow_1	non-Rad	Methoxychlor	72-43-5	µg/kg	13	--[b]	--
100-F-48_Shallow_1	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	208	No
100-F-48_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	250	3.99E+07	No
100-F-48_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	11,481	--[b]	--
100-F-48_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	660	546,982	No
100-F-48_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	37	--[b]	--
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	20,868	--[c]	--
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	86,681	--[c]	--
100-F-48_Shallow_1	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	664	930,263[d]	No
100-F-48_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	37,729	--[c]	--
100-F-48_Shallow_1	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	--[c]	--
100-F-48_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	43,368	--[b]	--
100-F-48_Shallow_1	Rad	Uranium-234	13966-29-5	pCi/g	0.26	--[e]	--
100-F-48_Shallow_1	Rad	Uranium-238	U-238	pCi/g	0.17	--[e]	--
100-F-48_Shallow_2	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	2.07E+07	No
100-F-48_Shallow_2	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	24	218,655	No
100-F-48_Shallow_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	12	--[b]	--
100-F-48_Shallow_2	non-Rad	Acetone	67-64-1	µg/kg	49	2.97E+07	No
100-F-48_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	6.66E+06	--[b]	--
100-F-48_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
100-F-48_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,306	--[b]	--
100-F-48_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	62,416	--[b]	--
100-F-48_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
100-F-48_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	139	--[b]	--
100-F-48_Shallow_2	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	78	--[b]	--
100-F-48_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	2,442	--[c]	--
100-F-48_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	94	--[b]	--
100-F-48_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	10,945	--[b]	--
100-F-48_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,853	--[b]	--
100-F-48_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,261	329,092	No
100-F-48_Shallow_2	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.56	68	No
100-F-48_Shallow_2	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	2,322	No
100-F-48_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	36	--[b]	--
100-F-48_Shallow_2	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	4.0	--[b]	--
100-F-48_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.49E+07	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-48_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	4,949	--[b]	--
100-F-48_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	244,867	--[b]	--
100-F-48_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	17	--[b]	--
100-F-48_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,086	--[b]	--
100-F-48_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	36	--[b]	--
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	12,909	--[c]	--
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,139	--[c]	--
100-F-48_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	36,873	--[c]	--
100-F-48_Shallow_2	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	--[c]	--
100-F-48_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	40,871	--[b]	--
100-F-49_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.81	--[b]	--
100-F-49_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.60	--[b]	--
100-F-49_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.9	--[b]	--
100-F-49_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.95E+06	--[b]	--
100-F-49_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	8.6	--[b]	--
100-F-49_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	634	11,795	No
100-F-49_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	20	--[b]	--
100-F-49_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.2	--[b]	--
100-F-49_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,301	--[b]	--
100-F-49_Shallow	non-Rad	Barium	7440-39-3	µg/kg	74,059	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	16	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	37	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	43	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--[b]	--
100-F-49_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	76	--[b]	--
100-F-49_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,083	--[c]	--
100-F-49_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	111	--[b]	--
100-F-49_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.1	--[b]	--
100-F-49_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,187	--[b]	--
100-F-49_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	36	--[b]	--
100-F-49_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,309	--[b]	--
100-F-49_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,295	329,092	No
100-F-49_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	3.1	--[b]	--
100-F-49_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	77	--[b]	--
100-F-49_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	26	--[b]	--
100-F-49_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.62E+07	--[b]	--
100-F-49_Shallow	non-Rad	Lead	7439-92-1	µg/kg	7,067	--[b]	--
100-F-49_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	252,487	--[b]	--
100-F-49_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	11	--[b]	--
100-F-49_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	400	3.99E+07	No
100-F-49_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,656	--[b]	--
100-F-49_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	67	--[b]	--
100-F-49_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,200	14,066	No
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,845	--[c]	--
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,241	--[c]	--
100-F-49_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	41,195	--[c]	--
100-F-49_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	39,904	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.43	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.00E+06	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	11,795	No
100-F-49_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	42,800	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	530	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	68	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.65	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600	329,092	No
100-F-49_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	236,000	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,000	--[c]	--
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	11,000	--[c]	--
100-F-49_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,400	--[c]	--
100-F-49_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	33,200	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.80	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.98E+06	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	840	11,795	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	105,000	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.7	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.9	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	34	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	4,100	--[c]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	1.0	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,100	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	10	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,900	329,092	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.87E+07	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,900	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	326,000	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	16	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	16,500	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	19	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	23,000	--[c]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	53,000	--[c]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,700	--[c]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,000	--[b]	--
100-F-50_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.4	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.62E+06	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	61,800	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	810	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,500	--[c]	--
100-F-50_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,600	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,800	329,092	No
100-F-50_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.13E+07	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,900	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	310,000	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,700	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	53,100	--[c]	--
100-F-50_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,400	--[b]	--
100-F-50_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.19	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	16	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	40	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	73,200	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.8	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	150	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	--[c]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	20,900	329,092	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,600	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	270,000	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	75	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,600	--[c]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	7,900	--[c]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	476	930,263[d]	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,600	--[c]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	52,500	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	Rad	Carbon-14	14762-75-5	pCi/g	0.46	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	Rad	Uranium-234	13966-29-5	pCi/g	0.16	--[e]	--
100-F-51 and 100-F-63_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.16	--[e]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.5	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,797	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,933	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.9	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	11	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	130	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,283	--[c]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	81	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,966	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	9.6	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,629	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,379	329,092	No
100-F-51 and 100-F-63_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	15	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.59E+07	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Lead	7439-92-1	µg/kg	19,021	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	248,671	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,470	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	13	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,120	--[c]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	5,627	--[c]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	587	930,263[d]	No
100-F-51 and 100-F-63_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	39,841	--[c]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,147	--[b]	--
100-F-51 and 100-F-63_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	0.67	--[b]	--
100-F-51 and 100-F-63_Shallow	Rad	Uranium-234	13966-29-5	pCi/g	0.21	--[e]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-51 and 100-F-63_Shallow	Rad	Uranium-238	U-238	pCi/g	0.22	--[e]	--
100-F-52_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.02E+06	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,600	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	490	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	240	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	--[c]	--
100-F-52_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,000	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,800	329,092	No
100-F-52_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	31	1.70E+06	No
100-F-52_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	4,981	No
100-F-52_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.48E+07	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,200	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	270,000	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	10	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,605	930,263[d]	No
100-F-52_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	35,100	--[c]	--
100-F-52_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,100	--[b]	--
100-F-52_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.55	--[e]	--
100-F-52_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.88	--[e]	--
100-F-53_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.00E+06	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,010	11,795	No
100-F-53_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,610	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	75,200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	370	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000	--[c]	--
100-F-53_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,790	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,400	329,092	No
100-F-53_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.94E+07	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	21,200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	413,000	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	380	3.99E+07	No
100-F-53_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,673	930,263[d]	No
100-F-53_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,600	--[c]	--
100-F-53_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,900	--[b]	--
100-F-53_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.80	--[e]	--
100-F-53_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.56	--[e]	--
100-F-54_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.45	--[b]	--
100-F-54_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.60	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	12	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	11	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	16	2.29E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	9.0	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	9.14E+06	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	8.5	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	3,302	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	103,747	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	44	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	42	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	286	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	353	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	2,179	--[c]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	133	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chlordane	57-74-9	µg/kg	8.6	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	12,368	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	46	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,919	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	16,925	329,092	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	12	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	67	1.70E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	150	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	17	4.89E+06	No

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-55 and 100-F-62_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	36	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	65,065	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	325,163	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	25	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	260	3.99E+07	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	12,018	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	25	546,982	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	177	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	42,866	--[c]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	53,696	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.03E+06	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	17	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1248	12672-29-6	µg/kg	240	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	15	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	3,053	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	85,283	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	45	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	146	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,158	--[c]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,540	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	71	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	6,397	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,411	329,092	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	23	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	9.6	4.89E+06	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	39	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.59E+07	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	5,536	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	256,619	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	6,786	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	250	3.99E+07	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	12,732	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Phenol	108-95-2	µg/kg	35	546,982	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	142	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	39,226	--[c]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	49,926	--[b]	--
100-F-55 and 100-F-62_Shallow_2	Rad	Cesium-137	10045-97-3	pCi/g	0.051	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.36E+06	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	660	11,795	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	4.9	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	48,600	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.4	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.7	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.3	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	38	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	--[c]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	76	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,800	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.7	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,900	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,000	329,092	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.74E+07	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	286,000	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,400	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,000	--[c]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.81	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1248	12672-29-6	µg/kg	25	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	19	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	22	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,900	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	157,000	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	110	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	86	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	62	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	330	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	8,300	--[c]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.91	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,900	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	100	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,200	329,092	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	3.0	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluorene	86-73-7	µg/kg	16	4.89E+06	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	749	4,981	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	49	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,500	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	340,000	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	690	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	390	3.99E+07	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	15,000	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Phenol	108-95-2	µg/kg	80	546,982	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	160	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Silver	7440-22-4	µg/kg	970	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,600	--[c]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	74,800	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.14	--[b]	--
100-F-56:1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.95E+06	--[b]	--
100-F-56:1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.2	--[b]	--
100-F-56:1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,037	--[b]	--
100-F-56:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,818	--[b]	--
100-F-56:1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	174	--[b]	--
100-F-56:1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,317	--[c]	--
100-F-56:1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	78	--[b]	--
100-F-56:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,361	--[b]	--
100-F-56:1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,840	--[b]	--
100-F-56:1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,275	329,092	No
100-F-56:1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	--[b]	--
100-F-56:1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,270	--[b]	--
100-F-56:1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	276,638	--[b]	--
100-F-56:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,771	--[b]	--
100-F-56:1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	251	3.99E+07	No
100-F-56:1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,713	--[b]	--
100-F-56:1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	48,417	--[c]	--
100-F-56:1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,948	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.02E+06	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	18	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	91,000	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	420	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,600	--[c]	--
100-F-56:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	58,600	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,800	329,092	No
100-F-56:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,560	4,981	No
100-F-56:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,500	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	296,000	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	21	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	450	3.99E+07	No
100-F-56:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,300	--[c]	--
100-F-56:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,300	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.22E+06	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,000	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	200	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,300	--[c]	--
100-F-60_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	45	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,900	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	329,092	No
100-F-60_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.52E+07	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	26,000	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	248,000	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.9	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,600	--[c]	--
100-F-60_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	37,000	--[b]	--
100-F-61_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.62E+06	--[b]	--
100-F-61_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	61	--[b]	--
100-F-61_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--[b]	--
100-F-61_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,668	--[b]	--
100-F-61_Shallow	non-Rad	Barium	7440-39-3	µg/kg	66,908	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	362	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	197	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	135	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	79	--[b]	--
100-F-61_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	397	--[b]	--
100-F-61_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42	--[b]	--
100-F-61_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,403	--[c]	--
100-F-61_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	106	--[b]	--
100-F-61_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,835	--[b]	--
100-F-61_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	224	--[b]	--
100-F-61_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,254	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-61_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,346	329,092	No
100-F-61_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	35	--[b]	--
100-F-61_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	511	--[b]	--
100-F-61_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	100	4.89E+06	No
100-F-61_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	99	--[b]	--
100-F-61_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	--[b]	--
100-F-61_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,243	--[b]	--
100-F-61_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	298,817	--[b]	--
100-F-61_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	640	--[b]	--
100-F-61_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	3.99E+07	No
100-F-61_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,237	--[b]	--
100-F-61_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	554	--[b]	--
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	22,371	--[c]	--
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,222	--[c]	--
100-F-61_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,351	--[c]	--
100-F-61_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	39,326	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.10E+06	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,500	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	344	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	--[c]	--
100-F-7_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	123	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,900	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,800	329,092	No
100-F-7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.72E+07	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,300	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	262,000	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	131	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	299	3.99E+07	No
100-F-7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,400	--[c]	--
100-F-7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,800	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.81E+06	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	42,300	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	220	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,300	--[c]	--
100-F-9_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	60	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,900	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600	329,092	No
100-F-9_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	273,000	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	410	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	170	3.99E+07	No
100-F-9_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,200	--[c]	--
100-F-9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,300	--[b]	--
116-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	11,119	--[b]	--
116-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,955	--[b]	--
116-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	828	4,981	No
116-F-1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--[b]	--
116-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.17	--[b]	--
116-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
116-F-10_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,600	--[b]	--
116-F-10_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,051	930,263[d]	No
116-F-10_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.5	--[b]	--
116-F-10_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.14	--[b]	--
116-F-10_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
116-F-10_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.54	--[e]	--
116-F-10_Shallow	Rad	Uranium-238	U-238	pCi/g	0.69	--[e]	--
116-F-11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,600	--[b]	--
116-F-11_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.27	--[b]	--
116-F-11_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.4	--[b]	--
116-F-14_Deep	non-Rad	Chromium	7440-47-3	µg/kg	106,551	--[b]	--
116-F-14_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	5,896	--[b]	--
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	4,981	Yes
116-F-14_Deep	Rad	Carbon-14	14762-75-5	pCi/g	9.8	--[b]	--
116-F-14_Deep	Rad	Cesium-137	10045-97-3	pCi/g	7.9	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
116-F-14_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	12	--[b]	--
116-F-14_Deep	Rad	Europium-152	14683-23-9	pCi/g	185	--[b]	--
116-F-14_Deep	Rad	Europium-154	15585-10-1	pCi/g	23	--[b]	--
116-F-14_Deep	Rad	Nickel-63	13981-37-8	pCi/g	686	--[b]	--
116-F-14_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.2	24,600	No
116-F-14_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,661	--[b]	--
116-F-14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	24,156	--[b]	--
116-F-14_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,011	--[b]	--
116-F-14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,485	4,981	No
116-F-14_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.75	--[b]	--
116-F-14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.090	--[b]	--
116-F-14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.1	--[b]	--
116-F-14_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.24	--[b]	--
116-F-14_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	20	--[b]	--
116-F-14_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.32	24,600	No
116-F-15_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.45E+06	--[b]	--
116-F-15_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	16	--[b]	--
116-F-15_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
116-F-15_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,810	--[b]	--
116-F-15_Shallow	non-Rad	Barium	7440-39-3	µg/kg	90,808	--[b]	--
116-F-15_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	145	--[b]	--
116-F-15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,562	--[c]	--
116-F-15_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
116-F-15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,311	--[b]	--
116-F-15_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,556	--[b]	--
116-F-15_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,130	329,092	No
116-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	680	4,981	No
116-F-15_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.55E+07	--[b]	--
116-F-15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	15,865	--[b]	--
116-F-15_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	244,514	--[b]	--
116-F-15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	179	--[b]	--
116-F-15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	715	3.99E+07	No
116-F-15_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,522	--[b]	--
116-F-15_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,691	930,263[d]	No
116-F-15_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,303	--[c]	--
116-F-15_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	38,914	--[b]	--
116-F-15_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.15	--[b]	--
116-F-15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.070	--[b]	--
116-F-15_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.60	--[e]	--
116-F-15_Shallow	Rad	Uranium-238	U-238	pCi/g	0.57	--[e]	--
116-F-16_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	230	4,981	No
116-F-16_Overburden	non-Rad	Lead	7439-92-1	µg/kg	3,200	--[b]	--
116-F-16_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	4,981	No
116-F-16_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,300	--[b]	--
116-F-2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,400	4,981	No
116-F-2_Deep	Rad	Carbon-14	14762-75-5	pCi/g	6.6	--[b]	--
116-F-2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	44	--[b]	--
116-F-2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	1.6	--[b]	--
116-F-2_Deep	Rad	Europium-152	14683-23-9	pCi/g	54	--[b]	--
116-F-2_Deep	Rad	Europium-154	15585-10-1	pCi/g	5.6	--[b]	--
116-F-2_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	4,981	No
116-F-2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.12	--[b]	--
116-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,123	4,981	No
116-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.31	--[b]	--
116-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	1.0	--[b]	--
116-F-3_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	736	4,981	No
116-F-3_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.36	--[b]	--
116-F-4_Deep_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	71,000	--[b]	--
116-F-4_Deep_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,698	930,263[d]	No
116-F-4_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.8	--[b]	--
116-F-4_Deep_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.074	--[b]	--
116-F-4_Deep_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.65	--[e]	--
116-F-4_Deep_Focused	Rad	Uranium-235	15117-96-1	pCi/g	0.066	--[e]	--
116-F-4_Deep_Focused	Rad	Uranium-238	U-238	pCi/g	0.56	--[e]	--
116-F-4_Overburden_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	54,600	--[b]	--
116-F-4_Overburden_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	11,700	398,601	No
116-F-4_Overburden_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,637	930,263[d]	No
116-F-4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	3.5	--[b]	--
116-F-4_Overburden_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.080	--[b]	--
116-F-4_Overburden_Focused	Rad	Strontium-90	10098-97-2	pCi/g	1.6	24,600	No
116-F-4_Overburden_Focused	Rad	Technetium-99	14133-76-7	pCi/g	1.5	36	No
116-F-4_Overburden_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.72	--[e]	--
116-F-4_Overburden_Focused	Rad	Uranium-235	15117-96-1	pCi/g	0.075	--[e]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
116-F-4_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.55	--[e]	--
116-F-4_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	6,500	--[b]	--
116-F-4_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,607	930,263[d]	No
116-F-4_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.45	--[e]	--
116-F-4_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.54	--[e]	--
116-F-5_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.84E+06	--[b]	--
116-F-5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	--[b]	--
116-F-5_Shallow	non-Rad	Barium	7440-39-3	µg/kg	85,000	--[b]	--
116-F-5_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	550	--[b]	--
116-F-5_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,200	--[b]	--
116-F-5_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,600	--[b]	--
116-F-5_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,400	329,092	No
116-F-5_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.01E+07	--[b]	--
116-F-5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,600	--[b]	--
116-F-5_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	325,000	--[b]	--
116-F-5_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,400	--[b]	--
116-F-5_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,488	930,263[d]	No
116-F-5_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	45,600	--[c]	--
116-F-5_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	43,200	--[b]	--
116-F-5_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.22	--[b]	--
116-F-5_Shallow	Rad	Uranium-238	U-238	pCi/g	0.50	--[e]	--
116-F-6_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,700	4,981	No
116-F-6_Deep	Rad	Cesium-137	10045-97-3	pCi/g	12	--[b]	--
116-F-6_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.51	--[b]	--
116-F-6_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--[b]	--
116-F-6_Deep	Rad	Europium-154	15585-10-1	pCi/g	0.86	--[b]	--
116-F-6_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	32	24,600	No
116-F-6_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	498	4,981	No
116-F-6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.53	--[b]	--
116-F-6_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.083	--[b]	--
116-F-6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.28	--[b]	--
116-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.4	24,600	No
116-F-7_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.25E+06	--[b]	--
116-F-7_Deep_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
116-F-7_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[b]	--
116-F-7_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	54,600	--[b]	--
116-F-7_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316	--[b]	--
116-F-7_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	147	--[b]	--
116-F-7_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,300	--[c]	--
116-F-7_Deep_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	115	--[b]	--
116-F-7_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	36,700	--[b]	--
116-F-7_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	--[b]	--
116-F-7_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,800	329,092	No
116-F-7_Deep_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	1.70E+06	No
116-F-7_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	742	4,981	No
116-F-7_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.95E+07	--[b]	--
116-F-7_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900	--[b]	--
116-F-7_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	242,000	--[b]	--
116-F-7_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	145	--[b]	--
116-F-7_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	449	3.99E+07	No
116-F-7_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	40,900	--[b]	--
116-F-7_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,300	--[c]	--
116-F-7_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,000	--[b]	--
116-F-7_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.046	--[b]	--
116-F-8_Deep	Rad	Cesium-137	10045-97-3	pCi/g	0.27	--[b]	--
116-F-8_Deep	Rad	Europium-152	14683-23-9	pCi/g	2.1	--[b]	--
116-F-8_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	250	4,981	No
116-F-8_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	350	4,981	No
116-F-9_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,200	4,981	No
116-F-9_Deep	Rad	Carbon-14	14762-75-5	pCi/g	8.5	--[b]	--
116-F-9_Deep	Rad	Cesium-137	10045-97-3	pCi/g	2.1	--[b]	--
116-F-9_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	2.3	--[b]	--
116-F-9_Deep	Rad	Europium-152	14683-23-9	pCi/g	6.4	--[b]	--
116-F-9_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.3	--[b]	--
116-F-9_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	9.5	24,600	No
116-F-9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	24,600	No
118-F-1_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	7.03E+06	--[b]	--
118-F-1_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,400	11,795	No
118-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,529	--[b]	--
118-F-1_Overburden	non-Rad	Barium	7440-39-3	µg/kg	79,630	--[b]	--
118-F-1_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	419	--[b]	--
118-F-1_Overburden	non-Rad	Boron	7440-42-8	µg/kg	3,490	--[c]	--
118-F-1_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,573	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
118-F-1_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	8,356	--[b]	--
118-F-1_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,817	329,092	No
118-F-1_Overburden	non-Rad	Iron	7439-89-6	µg/kg	2.15E+07	--[b]	--
118-F-1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	11,569	--[b]	--
118-F-1_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	339,100	--[b]	--
118-F-1_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	673	3.99E+07	No
118-F-1_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,966	--[b]	--
118-F-1_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,412	14,066	No
118-F-1_Overburden	non-Rad	Silver	7440-22-4	µg/kg	4,300	--[b]	--
118-F-1_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,433	930,263[d]	No
118-F-1_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	57,388	--[c]	--
118-F-1_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	45,106	--[b]	--
118-F-1_Overburden	Rad	Americium-241	14596-10-2	pCi/g	0.60	--[b]	--
118-F-1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.049	--[b]	--
118-F-1_Overburden	Rad	Curium-244	13981-15-2	pCi/g	0.041	--[b]	--
118-F-1_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.51	--[e]	--
118-F-1_Overburden	Rad	Uranium-234	13966-29-5	pCi/g	0.13	--[e]	--
118-F-1_Overburden	Rad	Uranium-238	U-238	pCi/g	0.48	--[e]	--
118-F-1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.04E+06	--[b]	--
118-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	11,795	No
118-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,459	--[b]	--
118-F-1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	51,867	--[b]	--
118-F-1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	220	--[b]	--
118-F-1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,429	--[c]	--
118-F-1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
118-F-1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,367	--[b]	--
118-F-1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,339	--[b]	--
118-F-1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,107	329,092	No
118-F-1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07	--[b]	--
118-F-1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,380	--[b]	--
118-F-1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	275,054	--[b]	--
118-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	463	3.99E+07	No
118-F-1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,394	--[b]	--
118-F-1_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,780	930,263[d]	No
118-F-1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	45,765	--[c]	--
118-F-1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,708	--[b]	--
118-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.24	--[b]	--
118-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.13	--[b]	--
118-F-1_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	6.8	--[b]	--
118-F-1_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.24	--[b]	--
118-F-1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.66	24,600	No
118-F-1_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.54	--[e]	--
118-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.057	--[e]	--
118-F-1_Shallow	Rad	Uranium-238	U-238	pCi/g	0.60	--[e]	--
118-F-1_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.09E+06	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,600	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	76,779	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	286	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,200	--[c]	--
118-F-1_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	10,607	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,167	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	13,189	329,092	No
118-F-1_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	33,300	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	320,989	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	690	3.99E+07	No
118-F-1_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Silver	7440-22-4	µg/kg	880	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,931	930,263[d]	No
118-F-1_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	43,457	--[c]	--
118-F-1_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	40,550	--[b]	--
118-F-1_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.74	--[b]	--
118-F-1_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	--[b]	--
118-F-1_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.21	--[b]	--
118-F-1_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	14	--[b]	--
118-F-1_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.34	24,600	No
118-F-1_Staging Pile Area	Rad	Uranium-233/234	U-233/234	pCi/g	0.62	--[e]	--
118-F-1_Staging Pile Area	Rad	Uranium-238	U-238	pCi/g	0.65	--[e]	--
118-F-2_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.80E+06	--[b]	--
118-F-2_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
118-F-2_Overburden	non-Rad	Barium	7440-39-3	µg/kg	86,800	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
118-F-2_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	520	--[b]	--
118-F-2_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,400	--[c]	--
118-F-2_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	230	--[b]	--
118-F-2_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,400	--[b]	--
118-F-2_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	8,900	--[b]	--
118-F-2_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,800	329,092	No
118-F-2_Overburden	non-Rad	Iron	7439-89-6	µg/kg	2.51E+07	--[b]	--
118-F-2_Overburden	non-Rad	Lead	7439-92-1	µg/kg	4,800	--[b]	--
118-F-2_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	395,000	--[b]	--
118-F-2_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	450	3.99E+07	No
118-F-2_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	13,300	--[b]	--
118-F-2_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,400	14,066	No
118-F-2_Overburden	non-Rad	Silver	7440-22-4	µg/kg	290	--[b]	--
118-F-2_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,363	930,263[d]	No
118-F-2_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	63,000	--[c]	--
118-F-2_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	52,100	--[b]	--
118-F-2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.11	--[b]	--
118-F-2_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.59	--[e]	--
118-F-2_Overburden	Rad	Uranium-238	U-238	pCi/g	0.46	--[e]	--
118-F-2_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	--[b]	--
118-F-2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	--[b]	--
118-F-2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	93,000	--[b]	--
118-F-2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	370	--[b]	--
118-F-2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	160	--[b]	--
118-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,000	--[b]	--
118-F-2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,100	--[b]	--
118-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	17,000	329,092	No
118-F-2_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.98E+07	--[b]	--
118-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,800	--[b]	--
118-F-2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	347,000	--[b]	--
118-F-2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	15,100	--[b]	--
118-F-2_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,498	930,263[d]	No
118-F-2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	41,300	--[c]	--
118-F-2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	47,400	--[b]	--
118-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.093	--[b]	--
118-F-2_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.31	--[b]	--
118-F-2_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.68	--[e]	--
118-F-2_Shallow	Rad	Uranium-238	U-238	pCi/g	0.84	--[e]	--
118-F-2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.07E+06	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	780	11,795	No
118-F-2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,500	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,800	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	49	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	370	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	--[c]	--
118-F-2_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	23	93,961	No
118-F-2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	220	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,600	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	61	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,400	329,092	No
118-F-2_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	50	1.70E+06	No
118-F-2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	79	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,800	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	3.99E+07	No
118-F-2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	73	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,289	930,263[d]	No
118-F-2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	56,800	--[c]	--
118-F-2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,900	--[b]	--
118-F-2_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.062	--[b]	--
118-F-2_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.14	--[b]	--
118-F-2_Shallow_Focused	Rad	Nickel-63	13981-37-8	pCi/g	5.1	--[b]	--
118-F-2_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.52	--[e]	--
118-F-2_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.43	--[e]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
118-F-2_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	5.83E+06	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	79,300	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	400	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,400	--[c]	--
118-F-2_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	8,400	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,000	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	12,600	329,092	No
118-F-2_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	4,700	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	337,000	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	900	3.99E+07	No
118-F-2_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Selenium	7782-49-2	µg/kg	1,400	14,066	No
118-F-2_Staging Pile Area	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,557	930,263[d]	No
118-F-2_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	42,000	--[c]	--
118-F-2_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	40,300	--[b]	--
118-F-2_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.62	--[b]	--
118-F-2_Staging Pile Area	Rad	Plutonium-238	13981-16-3	pCi/g	1.0	--[b]	--
118-F-2_Staging Pile Area	Rad	Uranium-233/234	U-233/234	pCi/g	0.74	--[e]	--
118-F-2_Staging Pile Area	Rad	Uranium-238	U-238	pCi/g	0.52	--[e]	--
118-F-3_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	5.70E+06	--[b]	--
118-F-3_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	--[b]	--
118-F-3_Overburden	non-Rad	Barium	7440-39-3	µg/kg	73,200	--[b]	--
118-F-3_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	280	--[b]	--
118-F-3_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,600	--[c]	--
118-F-3_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,900	--[b]	--
118-F-3_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,500	--[b]	--
118-F-3_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,800	329,092	No
118-F-3_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07	--[b]	--
118-F-3_Overburden	non-Rad	Lead	7439-92-1	µg/kg	4,900	--[b]	--
118-F-3_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	302,000	--[b]	--
118-F-3_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	12,300	--[b]	--
118-F-3_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	39,300	--[c]	--
118-F-3_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	36,400	--[b]	--
118-F-3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.05E+06	--[b]	--
118-F-3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[b]	--
118-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	116,000	--[b]	--
118-F-3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	240	--[b]	--
118-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	12,700	--[c]	--
118-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,300	--[b]	--
118-F-3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,600	--[b]	--
118-F-3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,000	329,092	No
118-F-3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.47E+07	--[b]	--
118-F-3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,500	--[b]	--
118-F-3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	264,000	--[b]	--
118-F-3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,800	--[b]	--
118-F-3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,000	--[c]	--
118-F-3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,300	--[b]	--
118-F-3_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.16	--[b]	--
118-F-3_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	--[b]	--
118-F-3_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	24	--[b]	--
118-F-3_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.28	24,600	No
118-F-3_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	4.85E+06	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	1,900	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	98,300	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	250	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	6,600	--[c]	--
118-F-3_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	7,400	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,500	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	12,800	329,092	No
118-F-3_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.39E+07	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	5,600	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	261,000	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	8,900	--[b]	--
118-F-3_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	32,200	--[c]	--
118-F-3_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	36,700	--[b]	--
118-F-3_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.22	--[b]	--
118-F-3_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	--[b]	--
118-F-3_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.11	--[b]	--
118-F-3_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	15	--[b]	--
118-F-5_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.026	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
118-F-5_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.65	24,600	No
118-F-5_Shallow_1	Rad	Tritium	10028-17-8	pCi/g	4.8	1,660	No
118-F-6_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.048	--[b]	--
118-F-6_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.3	24,600	No
118-F-6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.32	--[b]	--
118-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	4.1	24,600	No
118-F-6_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42,000	--[b]	--
118-F-6_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,164	930,263[d]	No
118-F-6_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.6	--[b]	--
118-F-6_Shallow_Focused	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.46	24,600	No
118-F-6_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.40	--[e]	--
118-F-6_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.39	--[e]	--
118-F-7_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	4.56E+06	--[b]	--
118-F-7_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
118-F-7_Overburden	non-Rad	Barium	7440-39-3	µg/kg	49,400	--[b]	--
118-F-7_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	550	--[b]	--
118-F-7_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,400	--[c]	--
118-F-7_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,600	--[b]	--
118-F-7_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	4,900	--[b]	--
118-F-7_Overburden	non-Rad	Copper	7440-50-8	µg/kg	11,500	329,092	No
118-F-7_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	--[b]	--
118-F-7_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,300	--[b]	--
118-F-7_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	256,000	--[b]	--
118-F-7_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,600	--[b]	--
118-F-7_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	31,400	--[c]	--
118-F-7_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	32,000	--[b]	--
118-F-7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.15E+06	--[b]	--
118-F-7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,900	--[b]	--
118-F-7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	65,000	--[b]	--
118-F-7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	390	--[b]	--
118-F-7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,800	--[c]	--
118-F-7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,300	--[b]	--
118-F-7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	--[b]	--
118-F-7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,500	329,092	No
118-F-7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.50E+07	--[b]	--
118-F-7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,800	--[b]	--
118-F-7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	259,000	--[b]	--
118-F-7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	2,400	3.99E+07	No
118-F-7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,500	--[b]	--
118-F-7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,800	--[c]	--
118-F-7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,300	--[b]	--
118-F-7_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.40	--[b]	--
118-F-7_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.25	24,600	No
118-F-7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.25E+06	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,000	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	350	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900	--[c]	--
118-F-7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,300	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,000	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,300	329,092	No
118-F-7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.20E+07	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	63,800	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	254,000	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,500	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,100	--[c]	--
118-F-7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,400	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	4.71E+06	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	8,600	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	83,200	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	810	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	3,900	--[c]	--
118-F-7_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	13,700	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000	329,092	Yes
118-F-7_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.72E+07	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	31,100	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	279,000	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	10	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	3.99E+07	No
118-F-7_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	13,200	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	45,100	--[c]	--
118-F-7_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	43,500	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
118-F-7_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.23	--[b]	--
118-F-7_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.39	--[b]	--
118-F-7_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.82	24,600	No
118-F-8:1_Deep	non-Rad	Aroclor-1248	12672-29-6	µg/kg	35	--[b]	--
118-F-8:1_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	62,000	--[b]	--
118-F-8:1_Deep	non-Rad	Chromium	7440-47-3	µg/kg	12,247	--[b]	--
118-F-8:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	923	4,981	No
118-F-8:1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
118-F-8:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	137,000	--[b]	--
118-F-8:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	38,777	--[b]	--
118-F-8:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	752	4,981	No
118-F-8:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
118-F-8:1_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,753	930,263[d]	No
118-F-8:1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.62	--[b]	--
118-F-8:1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.59	--[b]	--
118-F-8:1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.094	--[b]	--
118-F-8:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.20	24,600	No
118-F-8:1_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.65	--[e]	--
118-F-8:1_Shallow	Rad	Uranium-238	U-238	pCi/g	0.59	--[e]	--
118-F-8:3_Deep	non-Rad	Aroclor-1254	11097-69-1	µg/kg	97	--[b]	--
118-F-8:3_Deep	non-Rad	Barium	7440-39-3	µg/kg	41,588	--[b]	--
118-F-8:3_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	932	4,981	No
118-F-8:3_Deep	non-Rad	Lead	7439-92-1	µg/kg	4,469	--[b]	--
118-F-8:3_Deep	non-Rad	Mercury	7439-97-6	µg/kg	125	--[b]	--
118-F-8:3_Deep	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,233	930,263[d]	No
118-F-8:3_Deep	Rad	Americium-241	14596-10-2	pCi/g	2.2	--[b]	--
118-F-8:3_Deep	Rad	Carbon-14	14762-75-5	pCi/g	22	--[b]	--
118-F-8:3_Deep	Rad	Cesium-137	10045-97-3	pCi/g	319	--[b]	--
118-F-8:3_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	18	--[b]	--
118-F-8:3_Deep	Rad	Europium-152	14683-23-9	pCi/g	183	--[b]	--
118-F-8:3_Deep	Rad	Europium-154	15585-10-1	pCi/g	7.7	--[b]	--
118-F-8:3_Deep	Rad	Nickel-63	13981-37-8	pCi/g	617	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-238	13981-16-3	pCi/g	0.62	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	4.2	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	13	--[b]	--
118-F-8:3_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	103	24,600	No
118-F-8:3_Deep	Rad	Tritium	10028-17-8	pCi/g	0.69	1,660	No
118-F-8:3_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.40	--[e]	--
118-F-8:3_Deep	Rad	Uranium-238	U-238	pCi/g	0.42	--[e]	--
118-F-8:4_Deep	non-Rad	Aluminum	7429-90-5	µg/kg	4.73E+06	--[b]	--
118-F-8:4_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	49	--[b]	--
118-F-8:4_Deep	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[b]	--
118-F-8:4_Deep	non-Rad	Barium	7440-39-3	µg/kg	57,100	--[b]	--
118-F-8:4_Deep	non-Rad	Beryllium	7440-41-7	µg/kg	140	--[b]	--
118-F-8:4_Deep	non-Rad	Boron	7440-42-8	µg/kg	1,500	--[c]	--
118-F-8:4_Deep	non-Rad	Chromium	7440-47-3	µg/kg	12,800	--[b]	--
118-F-8:4_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	--[b]	--
118-F-8:4_Deep	non-Rad	Copper	7440-50-8	µg/kg	12,500	329,092	No
118-F-8:4_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	4,981	No
118-F-8:4_Deep	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	--[b]	--
118-F-8:4_Deep	non-Rad	Lead	7439-92-1	µg/kg	5,800	--[b]	--
118-F-8:4_Deep	non-Rad	Manganese	7439-96-5	µg/kg	252,000	--[b]	--
118-F-8:4_Deep	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
118-F-8:4_Deep	non-Rad	Molybdenum	7439-98-7	µg/kg	510	3.99E+07	No
118-F-8:4_Deep	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
118-F-8:4_Deep	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,015	930,263[d]	No
118-F-8:4_Deep	non-Rad	Vanadium	7440-62-2	µg/kg	30,300	--[c]	--
118-F-8:4_Deep	non-Rad	Zinc	7440-66-6	µg/kg	34,000	--[b]	--
118-F-8:4_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.11	--[b]	--
118-F-8:4_Deep	Rad	Cesium-137	10045-97-3	pCi/g	6.6	--[b]	--
118-F-8:4_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.27	--[b]	--
118-F-8:4_Deep	Rad	Europium-152	14683-23-9	pCi/g	4.4	--[b]	--
118-F-8:4_Deep	Rad	Nickel-63	13981-37-8	pCi/g	26	--[b]	--
118-F-8:4_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.75	--[b]	--
118-F-8:4_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.2	24,600	No
118-F-8:4_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.56	--[e]	--
118-F-8:4_Deep	Rad	Uranium-238	U-238	pCi/g	0.68	--[e]	--
118-F-8:4_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.01E+06	--[b]	--
118-F-8:4_Overburden	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--[b]	--
118-F-8:4_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,820	--[b]	--
118-F-8:4_Overburden	non-Rad	Barium	7440-39-3	µg/kg	67,998	--[b]	--
118-F-8:4_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	690	--[b]	--
118-F-8:4_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,006	--[c]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
118-F-8:4_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	275	--[b]	--
118-F-8:4_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,304	--[b]	--
118-F-8:4_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,232	--[b]	--
118-F-8:4_Overburden	non-Rad	Copper	7440-50-8	µg/kg	13,996	329,092	No
118-F-8:4_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	288	4,981	No
118-F-8:4_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.73E+07	--[b]	--
118-F-8:4_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,499	--[b]	--
118-F-8:4_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	318,045	--[b]	--
118-F-8:4_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	127	--[b]	--
118-F-8:4_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	623	3.99E+07	No
118-F-8:4_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,490	--[b]	--
118-F-8:4_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,617	930,263[d]	No
118-F-8:4_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	41,120	--[c]	--
118-F-8:4_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	38,251	--[b]	--
118-F-8:4_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.29	--[b]	--
118-F-8:4_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.020	--[b]	--
118-F-8:4_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.44	--[b]	--
118-F-8:4_Overburden	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.97	--[b]	--
118-F-8:4_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.50	--[e]	--
118-F-8:4_Overburden	Rad	Uranium-235	15117-96-1	pCi/g	0.029	--[e]	--
118-F-8:4_Overburden	Rad	Uranium-238	U-238	pCi/g	0.54	--[e]	--
118-F-8:4_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.13E+06	--[b]	--
118-F-8:4_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
118-F-8:4_Shallow	non-Rad	Barium	7440-39-3	µg/kg	74,300	--[b]	--
118-F-8:4_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	460	--[b]	--
118-F-8:4_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,500	--[c]	--
118-F-8:4_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	280	--[b]	--
118-F-8:4_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,100	--[b]	--
118-F-8:4_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	--[b]	--
118-F-8:4_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,800	329,092	No
118-F-8:4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	4,981	No
118-F-8:4_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.60E+07	--[b]	--
118-F-8:4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,300	--[b]	--
118-F-8:4_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	285,000	--[b]	--
118-F-8:4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	530	--[b]	--
118-F-8:4_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,700	--[b]	--
118-F-8:4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,500	14,066	No
118-F-8:4_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,551	930,263[d]	No
118-F-8:4_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	37,500	--[c]	--
118-F-8:4_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,100	--[b]	--
118-F-8:4_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.32	--[b]	--
118-F-8:4_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.19	--[b]	--
118-F-8:4_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.58	--[e]	--
118-F-8:4_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.034	--[e]	--
118-F-8:4_Shallow	Rad	Uranium-238	U-238	pCi/g	0.52	--[e]	--
120-F-1_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--[b]	--
120-F-1_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1	--[b]	--
120-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	8.8	--[b]	--
120-F-1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.95E+06	--[b]	--
120-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	910	11,795	No
120-F-1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--[b]	--
120-F-1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.8	--[b]	--
120-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,615	--[b]	--
120-F-1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	56,732	--[b]	--
120-F-1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	505	--[b]	--
120-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	94	--[b]	--
120-F-1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,457	--[c]	--
120-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	8.7	--[b]	--
120-F-1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,781	--[b]	--
120-F-1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,270	--[b]	--
120-F-1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,167	329,092	No
120-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	1.70E+06	No
120-F-1_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.8	68	No
120-F-1_Shallow	non-Rad	Fluoride	16984-48-8	µg/kg	3,900	--[b]	--
120-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	300	4,981	No
120-F-1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.82E+07	--[b]	--
120-F-1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,896	--[b]	--
120-F-1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	286,696	--[b]	--
120-F-1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	102	--[b]	--
120-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	850	3.99E+07	No
120-F-1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,814	--[b]	--
120-F-1_Shallow	non-Rad	Nitrate	14797-55-8	µg/kg	8,849	1.79E+06	No
120-F-1_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,800	14,066	No

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
120-F-1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,878	--[c]	--
120-F-1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,425	--[b]	--
126-F-1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.10	--[b]	--
126-F-1_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.081	--[b]	--
126-F-1_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.38	--[b]	--
126-F-1_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	109	930,263[d]	No
126-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.51	--[b]	--
126-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.20	--[b]	--
126-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.3	--[b]	--
126-F-1_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.46	--[b]	--
126-F-1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.032	--[b]	--
126-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.24	--[e]	--
126-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	173	2.29E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.29E+06	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	412	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	478	11,795	No
126-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	74	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,400	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	758	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	696	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	555	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	758	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	299	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	407	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,600	--[c]	--
126-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	842	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,400	329,092	No
126-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	203	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	1,804	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	211	4.89E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	256	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	17,200	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	389	3.99E+07	No
126-F-2_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,300	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1,754	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06	--[c]	--
126-F-2_Staging pile area_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,265	930,263[d]	No
126-F-2_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,600	--[c]	--
126-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	76,900	--[b]	--
126-F-2_Staging pile area_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.071	--[b]	--
126-F-2_Staging pile area_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.53	--[e]	--
126-F-2_Staging pile area_Focused	Rad	Uranium-238	U-238	pCi/g	0.76	--[e]	--
128-F-1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,400	--[b]	--
128-F-1_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.8	11	No
128-F-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	21	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,100	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	4,400	--[c]	--
128-F-2_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	3.0	--[b]	--
128-F-2_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.6	--[b]	--
128-F-2_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	34	--[b]	--
128-F-2_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	63	2.29E+06	No
128-F-2_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	1.7	--[b]	--
128-F-2_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	3.7	--[b]	--
128-F-2_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.93E+06	--[b]	--
128-F-2_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	120	--[b]	--
128-F-2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	11,795	No
128-F-2_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	44	--[b]	--
128-F-2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,866	--[b]	--
128-F-2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	77,043	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	264	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	263	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	198	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	263	--[b]	--
128-F-2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	322	--[b]	--
128-F-2_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	8.8	11	No

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
128-F-2_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	105	--[b]	--
128-F-2_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,955	--[c]	--
128-F-2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	148	--[b]	--
128-F-2_Shallow	non-Rad	Carbazole	86-74-8	µg/kg	62	--[c]	--
128-F-2_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.6	--[b]	--
128-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	21,554	--[b]	--
128-F-2_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	290	--[b]	--
128-F-2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,012	--[b]	--
128-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	40,037	329,092	No
128-F-2_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	99	--[b]	--
128-F-2_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	21	12,976	No
128-F-2_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	35	1.70E+06	No
128-F-2_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	4.0	68	No
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22	16	Yes
128-F-2_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--[b]	--
128-F-2_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	46	4.89E+06	No
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3	1.7	Yes
128-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	4,981	No
128-F-2_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	157	--[b]	--
128-F-2_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	--[b]	--
128-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,776	--[b]	--
128-F-2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	281,593	--[b]	--
128-F-2_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	35	--[b]	--
128-F-2_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	440	3.99E+07	No
128-F-2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	14,310	--[b]	--
128-F-2_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	239	--[b]	--
128-F-2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	35,140	--[c]	--
128-F-2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,403	--[b]	--
128-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.22	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.2	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	6.6	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	27	2.29E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.98E+06	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	60	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,500	11,795	No
128-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,200	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,200	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	320	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	280	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	210	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	230	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Carbazole	86-74-8	µg/kg	30	--[c]	--
128-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,200	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	370	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,300	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	23,900	329,092	No
128-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	77	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	71	1.70E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	670	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	19	4.89E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	730	4,981	No
128-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	150	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,800	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	277,000	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	3.99E+07	No
128-F-2_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,700	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	790	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Selenium	7782-49-2	µg/kg	950	14,066	No
128-F-2_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,700	--[c]	--
128-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	124,000	--[b]	--
128-F-3_Shallow	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	2.07E+07	No
128-F-3_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	8.0	163,452	No
128-F-3_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.3	--[b]	--
128-F-3_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.3	--[b]	--
128-F-3_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.6	--[b]	--
128-F-3_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	8.0	2.83E+06	No
128-F-3_Shallow	non-Rad	Acetone	67-64-1	µg/kg	9.0	2.97E+07	No
128-F-3_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.56	--[b]	--
128-F-3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.8	--[b]	--
128-F-3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.94E+06	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
128-F-3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,588	--[b]	--
128-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	209,520	--[b]	--
128-F-3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	485	--[b]	--
128-F-3_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	5.4	11	No
128-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	17,002	--[c]	--
128-F-3_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	260	--[b]	--
128-F-3_Shallow	non-Rad	Chlorobenzene	108-90-7	µg/kg	4.2	20,361	No
128-F-3_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.8	386	No
128-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	42,093	--[b]	--
128-F-3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,229	--[b]	--
128-F-3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	20,447	329,092	No
128-F-3_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.3	68	No
128-F-3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	2,322	No
128-F-3_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	1.3	14	No
128-F-3_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.55	--[b]	--
128-F-3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.54E+07	--[b]	--
128-F-3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,453	--[b]	--
128-F-3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	295,905	--[b]	--
128-F-3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
128-F-3_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	9.8	--[b]	--
128-F-3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	21	208	No
128-F-3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,844	--[b]	--
128-F-3_Shallow	non-Rad	Silver	7440-22-4	µg/kg	280	--[b]	--
128-F-3_Shallow	non-Rad	Styrene	100-42-5	µg/kg	4.0	2.15E+07	No
128-F-3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	1.0	71	No
128-F-3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,225	--[c]	--
128-F-3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	7.0	--[c]	--
128-F-3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,793	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.1	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.76	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.93E+06	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	141,000	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	580	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,500	--[c]	--
128-F-3_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	3.0	20,361	No
128-F-3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	3.0	386	No
128-F-3_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,800	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,600	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,600	329,092	No
128-F-3_Staging pile area_Focused	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.88	68	No
128-F-3_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,300	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	331,000	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	22	208	No
128-F-3_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,200	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,400	--[c]	--
128-F-3_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,800	--[b]	--
132-F-1_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	171	218,655	No
132-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	75	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	88	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	74	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	98	--[b]	--
132-F-1_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.8	11	No
132-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	90	--[b]	--
132-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.4	--[b]	--
132-F-1_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	104	--[b]	--
132-F-1_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	44	12,976	No
132-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	43	1.70E+06	No
132-F-1_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	102	--[b]	--
132-F-1_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	43	--[b]	--
132-F-1_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	245	3.33E+06	No
132-F-1_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	124	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.7	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	269	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	535	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1,114	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	841	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	780	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	57	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2,137	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	256	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	169	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
132-F-1_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	620	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	273	--[b]	--
141-C_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.39E+06	--[b]	--
141-C_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	65	--[b]	--
141-C_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,743	--[b]	--
141-C_Shallow	non-Rad	Barium	7440-39-3	µg/kg	93,191	--[b]	--
141-C_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	125	--[b]	--
141-C_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	65	--[b]	--
141-C_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	41	--[b]	--
141-C_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	76	--[b]	--
141-C_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	346	--[b]	--
141-C_Shallow	non-Rad	Boron	7440-42-8	µg/kg	5,336	--[c]	--
141-C_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,938	--[b]	--
141-C_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	63	--[b]	--
141-C_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,059	--[b]	--
141-C_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,899	329,092	No
141-C_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	15	--[b]	--
141-C_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	176	--[b]	--
141-C_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	30	4.89E+06	No
141-C_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	671	4,981	No
141-C_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	45	--[b]	--
141-C_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.70E+07	--[b]	--
141-C_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,208	--[b]	--
141-C_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	315,353	--[b]	--
141-C_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	--[b]	--
141-C_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,995	--[b]	--
141-C_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	163	--[b]	--
141-C_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,368	--[c]	--
141-C_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	46,969	--[b]	--
141-C_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.059	--[b]	--
141-C_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.7	24,600	No
141-C_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	2.29E+06	No
141-C_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.17E+06	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	7.6	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	81,700	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	46	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	302	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700	--[c]	--
141-C_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,000	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	197	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900	329,092	No
141-C_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	88	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.42E+07	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,300	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	285,000	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,600	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	82	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	33,400	--[c]	--
141-C_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	37,500	--[b]	--
141-C_Staging Pile Area_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.041	--[b]	--
1607-F2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.19	--[b]	--
1607-F2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.51	--[b]	--
1607-F3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.0	--[b]	--
1607-F3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.51E+06	--[b]	--
1607-F3_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.5	--[b]	--
1607-F3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,552	--[b]	--
1607-F3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	73,139	--[b]	--
1607-F3_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	33	--[b]	--
1607-F3_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--[b]	--
1607-F3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	253	--[b]	--
1607-F3_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--[b]	--
1607-F3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	451	--[c]	--
1607-F3_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	460	--[b]	--
1607-F3_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--[b]	--
1607-F3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,725	--[b]	--
1607-F3_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	22	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
1607-F3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,991	--[b]	--
1607-F3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,229	329,092	No
1607-F3_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	1.70E+06	No
1607-F3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	2,322	No
1607-F3_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--
1607-F3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	--[b]	--
1607-F3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	24,146	--[b]	--
1607-F3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	273,899	--[b]	--
1607-F3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	--[b]	--
1607-F3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	26	208	No
1607-F3_Shallow	non-Rad	m-Xylene	108-38-3	µg/kg	4.0	--[c]	--
1607-F3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,246	--[b]	--
1607-F3_Shallow	non-Rad	o-Xylene	95-47-6	µg/kg	2.0	--[c]	--
1607-F3_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	4,200	14,066	No
1607-F3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	2.0	71	No
1607-F3_Shallow	non-Rad	Toluene	108-88-3	µg/kg	1.0	142,520	No
1607-F3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,149	--[c]	--
1607-F3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	4.7	--[c]	--
1607-F3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,536	--[b]	--
1607-F3_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.49	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.35	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Acetone	67-64-1	µg/kg	5.0	2.97E+07	No
1607-F3_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.46E+06	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.4	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	12,100	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	60,200	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	20	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	82	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	--[c]	--
1607-F3_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.83	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	386	No
1607-F3_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,400	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,500	329,092	No
1607-F3_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	1.70E+06	No
1607-F3_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	54,900	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	255,000	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.0	208	No
1607-F3_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,600	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	28,200	--[c]	--
1607-F3_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,400	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.70E+06	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	125,000	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	430	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	140	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	--[c]	--
1607-F4_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600	329,092	No
1607-F4_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	24	1.70E+06	No
1607-F4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
1607-F4_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.04E+07	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,700	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	334,000	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	47,900	--[c]	--
1607-F4_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,300	--[b]	--
1607-F4_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.1	--[b]	--
1607-F4_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.8	--[b]	--
1607-F4_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.6	--[b]	--
1607-F4_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.26E+06	--[b]	--
1607-F4_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,010	11,795	No
1607-F4_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	46	--[b]	--
1607-F4_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	6.7	--[b]	--
1607-F4_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,198	--[b]	--
1607-F4_Shallow	non-Rad	Barium	7440-39-3	µg/kg	70,070	--[b]	--
1607-F4_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--[b]	--
1607-F4_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	18	--[b]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
1607-F4_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	333	--[b]	--
1607-F4_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	91	--[b]	--
1607-F4_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,876	--[c]	--
1607-F4_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	380	--[b]	--
1607-F4_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.5	--[b]	--
1607-F4_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	14,407	--[b]	--
1607-F4_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--[b]	--
1607-F4_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,530	--[b]	--
1607-F4_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,304	329,092	No
1607-F4_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	33	1.70E+06	No
1607-F4_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	44	--[b]	--
1607-F4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	210	4,981	No
1607-F4_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	--[b]	--
1607-F4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,758	--[b]	--
1607-F4_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	297,305	--[b]	--
1607-F4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	--[b]	--
1607-F4_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	580	3.99E+07	No
1607-F4_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,942	--[b]	--
1607-F4_Shallow	non-Rad	Phenol	108-95-2	µg/kg	28	546,982	No
1607-F4_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	38	--[b]	--
1607-F4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,602	14,066	No
1607-F4_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,330	--[c]	--
1607-F4_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	50,618	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.49E+06	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	36,100	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	270	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	190	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,000	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,500	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600	329,092	No
1607-F4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	41	1.70E+06	No
1607-F4_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.18E+07	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,400	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	218,000	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	490	3.99E+07	No
1607-F4_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,500	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,363	930,263[d]	No
1607-F4_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,300	--[c]	--
1607-F4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	30,800	--[b]	--
1607-F4_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.49	--[e]	--
1607-F4_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.46	--[e]	--
1607-F5_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.26E+06	--[b]	--
1607-F5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,763	--[b]	--
1607-F5_Shallow	non-Rad	Barium	7440-39-3	µg/kg	45,328	--[b]	--
1607-F5_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	199	--[b]	--
1607-F5_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	172	--[b]	--
1607-F5_Shallow	non-Rad	Boron	7440-42-8	µg/kg	474	--[c]	--
1607-F5_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,606	--[b]	--
1607-F5_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,642	--[b]	--
1607-F5_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,290	329,092	No
1607-F5_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	93	1.70E+06	No
1607-F5_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.23E+07	--[b]	--
1607-F5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,655	--[b]	--
1607-F5_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	216,602	--[b]	--
1607-F5_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	530	3.99E+07	No
1607-F5_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,084	--[b]	--
1607-F5_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	27,297	--[c]	--
1607-F5_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	29,602	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.45E+06	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	69,700	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	90	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.6	11	No
1607-F5_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	75	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,000	--[c]	--
1607-F5_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	330	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,600	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600	329,092	No

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
1607-F5_Staging pile area_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	0.60	68	No
1607-F5_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.27E+07	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,900	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	239,000	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	310	3.99E+07	No
1607-F5_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,300	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	29,000	--[c]	--
1607-F5_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,300	--[b]	--
1607-F6_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
1607-F6_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,796	--[b]	--
1607-F6_Overburden	non-Rad	Diethylphthalate	84-66-2	µg/kg	130	1.42E+06	No
1607-F6_Overburden	non-Rad	Lead	7439-92-1	µg/kg	2,736	--[b]	--
1607-F6_Overburden	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,587	930,263[d]	No
1607-F6_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.47	--[e]	--
1607-F6_Overburden	Rad	Uranium-234	13966-29-5	pCi/g	0.63	--[e]	--
1607-F6_Overburden	Rad	Uranium-238	U-238	pCi/g	0.53	--[e]	--
1607-F6_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	342	--[b]	--
1607-F6_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	60	--[b]	--
1607-F6_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,300	--[b]	--
1607-F6_Shallow	non-Rad	Diethylphthalate	84-66-2	µg/kg	24	1.42E+06	No
1607-F6_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	1.70E+06	No
1607-F6_Shallow	non-Rad	Lead	7439-92-1	µg/kg	13,247	--[b]	--
1607-F6_Shallow	non-Rad	Phenol	108-95-2	µg/kg	84	546,982	No
1607-F6_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	22	--[b]	--
1607-F6_Shallow	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,284	930,263[d]	No
1607-F6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.089	--[b]	--
1607-F6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.065	--[b]	--
1607-F6_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.50	--[e]	--
1607-F6_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.19	--[e]	--
1607-F6_Shallow	Rad	Uranium-238	U-238	pCi/g	0.75	--[e]	--
1607-F7_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	2.7	163,452	No
1607-F7_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	134	218,655	No
1607-F7_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6	--[b]	--
1607-F7_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	5.3	--[b]	--
1607-F7_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	3.0	2.83E+06	No
1607-F7_Shallow	non-Rad	Acetone	67-64-1	µg/kg	15	2.97E+07	No
1607-F7_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.42	--[b]	--
1607-F7_Shallow	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.1	2.5	No
1607-F7_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.2	--[b]	--
1607-F7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.46E+06	--[b]	--
1607-F7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	530	11,795	No
1607-F7_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.4	--[b]	--
1607-F7_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.0	--[b]	--
1607-F7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,720	--[b]	--
1607-F7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	99,249	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	46	--[b]	--
1607-F7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	396	--[b]	--
1607-F7_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.7	11	No
1607-F7_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--[b]	--
1607-F7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	3,219	--[c]	--
1607-F7_Shallow	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	37	93,961	No
1607-F7_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	216	--[b]	--
1607-F7_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	1.1	--[b]	--
1607-F7_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.4	386	No
1607-F7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,376	--[b]	--
1607-F7_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	76	--[b]	--
1607-F7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,635	--[b]	--
1607-F7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,715	329,092	No
1607-F7_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	30	12,976	No
1607-F7_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	40	1.70E+06	No
1607-F7_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.54	68	No
1607-F7_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--[b]	--
1607-F7_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	0.92	14	No
1607-F7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	4,981	No
1607-F7_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--[b]	--
1607-F7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.40E+07	--[b]	--
1607-F7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,177	--[b]	--
1607-F7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	279,444	--[b]	--
1607-F7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
1607-F7_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.4	--[b]	--
1607-F7_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	14	208	No

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
1607-F7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	477	3.99E+07	No
1607-F7_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	96	3.33E+06	No
1607-F7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,902	--[b]	--
1607-F7_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	71	--[b]	--
1607-F7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	31,959	--[c]	--
1607-F7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	50,531	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	1,4-Dichlorobenzene	106-46-7	µg/kg	46	8,441	No
1607-F7_Staging pile area_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	110	218,655	No
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.2	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	58	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	46	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.5	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.10E+06	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,400	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	147,000	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	32	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.4	11	No
1607-F7_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	35	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	7,700	--[c]	--
1607-F7_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	220	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	3.7	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	1.0	20,361	No
1607-F7_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	386	No
1607-F7_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,200	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	850	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,400	329,092	No
1607-F7_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Dibenzofuran	132-64-9	µg/kg	27	12,976	No
1607-F7_Staging pile area_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	23	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	1.70E+06	No
1607-F7_Staging pile area_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	2,322	No
1607-F7_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	37	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15	1.7	Yes
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.89	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	27	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	300,000	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	13	208	No
1607-F7_Staging pile area_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	72	3.33E+06	No
1607-F7_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,300	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	51	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Styrene	100-42-5	µg/kg	3.0	2.15E+07	No
1607-F7_Staging pile area_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	142,520	No
1607-F7_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	40,200	--[c]	--
1607-F7_Staging pile area_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	6.0	--[c]	--
1607-F7_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	72,000	--[b]	--
182-F_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.90E+06	--[b]	--
182-F_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	500	11,795	No
182-F_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	36	--[b]	--
182-F_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
182-F_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	6,400	--[b]	--
182-F_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	79,000	--[b]	--
182-F_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	490	--[b]	--
182-F_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,200	--[c]	--
182-F_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	780	--[b]	--
182-F_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,600	--[b]	--
182-F_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	--[b]	--
182-F_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,700	329,092	No
182-F_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
182-F_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.05E+07	--[b]	--
182-F_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	58,700	--[b]	--
182-F_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	312,000	--[b]	--
182-F_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
182-F_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	560	3.99E+07	No
182-F_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	16,800	--[b]	--
182-F_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,100	--[c]	--

Table A-2. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
182-F_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	139,000	--[b]	--
182-F_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.11	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1016	12674-11-2	µg/kg	20	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	110	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--[b]	--
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300	52,953	No
600-351_Shallow_Focused	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	27	614,005	No
600-351_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07	--[b]	--
600-351_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	900	11,795	No
600-351_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	250,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	97,100	--[b]	--
600-351_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300	--[b]	--
600-351_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	--[c]	--
600-351_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	340	--[b]	--
600-351_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,400	--[b]	--
600-351_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,400	--[b]	--
600-351_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,300	329,092	No
600-351_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.22E+07	--[b]	--
600-351_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	805,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	8.0	--[b]	--
600-351_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	500	3.99E+07	No
600-351_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,500	--[b]	--
600-351_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	920	14,066	No
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,000	--[c]	--
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,000	--[c]	--
600-351_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,800	--[c]	--
600-351_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	51,200	--[b]	--
UPR-100-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14	--[b]	--
UPR-100-F-2_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.086	--[b]	--
UPR-100-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
UPR-100-F-2_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.20	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g. An exception to this convention is strontium-90, which is calculated based on a 100:0 source distribution because of data that indicated strontium-90 distributed throughout the vadose zone at some locations in this operable unit.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. A soil screening level is not calculated because a surface water cleanup level or surface water standard is not available for the analyte.

d. The soil screening level for Total_U_Isotopes is the same as the value calculated for total uranium (CAS # 7440-61-1).

e. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.

-- = Not applicable or no value.

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-11_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,600	18,500	No
100-F-12_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.67E+06	1.18E+07	No
100-F-12_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	55	--	--
100-F-12_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	6,470	No
100-F-12_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,700	132,000	No
100-F-12_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	436	1,510	No
100-F-12_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	995	3,890	No
100-F-12_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	110	563	No
100-F-12_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	18,500	No
100-F-12_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	15,700	No
100-F-12_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	22,000	No
100-F-12_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.97E+07	3.26E+07	No
100-F-12_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,500	10,200	No
100-F-12_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	318,000	512,000	No
100-F-12_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	13	Yes
100-F-12_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	216	470	No
100-F-12_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,200	19,100	No
100-F-12_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	89	167	No
100-F-12_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,500	85,100	No
100-F-12_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,100	67,800	No
100-F-14_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.4	--	--
100-F-14_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.49E+06	1.18E+07	No
100-F-14_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,900	6,470	No
100-F-14_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,500	132,000	No
100-F-14_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	463	1,510	No
100-F-14_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	25	--	--
100-F-14_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	3,890	No
100-F-14_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,100	18,500	No
100-F-14_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500	15,700	No
100-F-14_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,400	22,000	No
100-F-14_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	--	--
100-F-14_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.24E+07	3.26E+07	No
100-F-14_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,600	10,200	No
100-F-14_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	311,000	512,000	No
100-F-14_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	84	13	Yes
100-F-14_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	19	--	--
100-F-14_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	458	470	No
100-F-14_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,400	19,100	No
100-F-14_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	59,700	85,100	No
100-F-14_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,400	67,800	No
100-F-14_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.017	1.1	No
100-F-15_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	13,800	18,500	No
100-F-15_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,300	--	--
100-F-15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	15,600	18,500	No
100-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	450	--	--
100-F-16_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,100	18,500	No
100-F-16_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	510	--	--
100-F-16_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.032	0.025	Yes
100-F-18_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.43E+06	1.18E+07	No
100-F-18_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,700	6,470	No
100-F-18_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	38,000	132,000	No
100-F-18_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	269	1,510	No
100-F-18_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	20	--	--
100-F-18_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	619	3,890	No
100-F-18_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,500	18,500	No
100-F-18_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,700	15,700	No
100-F-18_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,700	22,000	Yes
100-F-18_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	--	--
100-F-18_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.33E+07	3.26E+07	No
100-F-18_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900	10,200	No
100-F-18_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	217,000	512,000	No
100-F-18_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	89	13	Yes
100-F-18_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.7	--	--
100-F-18_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	250	470	No
100-F-18_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,500	19,100	No
100-F-18_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,600	85,100	No
100-F-18_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500	67,800	No
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600	--	--
100-F-19:1_Deep	Rad	Cesium-137	10045-97-3	pCi/g	21	1.1	Yes
100-F-19:1_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	13	0.0084	Yes
100-F-19:1_Deep	Rad	Europium-152	14683-23-9	pCi/g	325	--	--
100-F-19:1_Deep	Rad	Europium-154	15585-10-1	pCi/g	25	0.033	Yes
100-F-19:1_Deep	Rad	Nickel-63	13981-37-8	pCi/g	351	--	--
100-F-19:1_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.1	0.18	Yes
100-F-19:1_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	740	--	--
100-F-19:1_Overburden	Rad	Carbon-14	14762-75-5	pCi/g	5.0	--	--
100-F-19:1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.043	1.1	No
100-F-19:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	624	--	--
100-F-19:1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	4.1	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-19:1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.10	1.1	No
100-F-19:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.33	0.18	Yes
100-F-19:2_Deep	non-Rad	Barium	7440-39-3	µg/kg	66,100	132,000	No
100-F-19:2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,140	--	--
100-F-19:2_Deep	non-Rad	Lead	7439-92-1	µg/kg	4,100	10,200	No
100-F-19:2_Deep	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,762	3,210	No
100-F-19:2_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.049	--	--
100-F-19:2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	3.9	1.1	Yes
100-F-19:2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.67	0.0084	Yes
100-F-19:2_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--	--
100-F-19:2_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.7	0.033	Yes
100-F-19:2_Deep	Rad	Nickel-63	13981-37-8	pCi/g	340	--	--
100-F-19:2_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	23	--	--
100-F-19:2_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	0.18	Yes
100-F-19:2_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.50	1.1	No
100-F-19:2_Deep	Rad	Uranium-238	U-238	pCi/g	0.59	1.1	No
100-F-19:2_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	690	--	--
100-F-19:2_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.1	1.1	Yes
100-F-19:2_Deep_Focused	Rad	Cobalt-60	10198-40-0	pCi/g	0.36	0.0084	Yes
100-F-19:2_Deep_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.5	--	--
100-F-19:2_Overburden	non-Rad	Barium	7440-39-3	µg/kg	51,200	132,000	No
100-F-19:2_Overburden	non-Rad	Lead	7439-92-1	µg/kg	8,000	10,200	No
100-F-19:2_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	410	13	Yes
100-F-19:2_Overburden	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,671	3,210	No
100-F-19:2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.20	1.1	No
100-F-19:2_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	0.0084	Yes
100-F-19:2_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.37	--	--
100-F-19:2_Overburden	Rad	Europium-154	15585-10-1	pCi/g	0.18	0.033	Yes
100-F-19:2_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	4.9	--	--
100-F-19:2_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.42	0.18	Yes
100-F-19:2_Overburden	Rad	Tritium	10028-17-8	pCi/g	0.81	--	--
100-F-19:2_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.52	1.1	No
100-F-19:2_Overburden	Rad	Uranium-238	U-238	pCi/g	0.57	1.1	No
100-F-19:2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	122,000	132,000	No
100-F-19:2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,800	10,200	No
100-F-19:2_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,916	3,210	No
100-F-19:2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14	1.1	No
100-F-19:2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.35	--	--
100-F-19:2_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	7.0	--	--
100-F-19:2_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.59	1.1	No
100-F-19:2_Shallow	Rad	Uranium-238	U-238	pCi/g	0.64	1.1	No
100-F-19:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	--	--
100-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.35	1.1	No
100-F-20_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,200	10,200	Yes
100-F-20_Staging pile area	non-Rad	Aluminum	7429-90-5	µg/kg	5.35E+06	1.18E+07	No
100-F-20_Staging pile area	non-Rad	Arsenic	7440-38-2	µg/kg	3,400	6,470	No
100-F-20_Staging pile area	non-Rad	Barium	7440-39-3	µg/kg	77,800	132,000	No
100-F-20_Staging pile area	non-Rad	Beryllium	7440-41-7	µg/kg	530	1,510	No
100-F-20_Staging pile area	non-Rad	Boron	7440-42-8	µg/kg	2,600	3,890	No
100-F-20_Staging pile area	non-Rad	Cadmium	7440-43-9	µg/kg	140	563	No
100-F-20_Staging pile area	non-Rad	Chromium	7440-47-3	µg/kg	9,200	18,500	No
100-F-20_Staging pile area	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	15,700	No
100-F-20_Staging pile area	non-Rad	Copper	7440-50-8	µg/kg	23,700	22,000	Yes
100-F-20_Staging pile area	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07	3.26E+07	No
100-F-20_Staging pile area	non-Rad	Lead	7439-92-1	µg/kg	18,500	10,200	Yes
100-F-20_Staging pile area	non-Rad	Manganese	7439-96-5	µg/kg	328,000	512,000	No
100-F-20_Staging pile area	non-Rad	Mercury	7439-97-6	µg/kg	50	13	Yes
100-F-20_Staging pile area	non-Rad	Molybdenum	7439-98-7	µg/kg	850	470	Yes
100-F-20_Staging pile area	non-Rad	Nickel	7440-02-0	µg/kg	9,900	19,100	No
100-F-20_Staging pile area	non-Rad	Vanadium	7440-62-2	µg/kg	42,900	85,100	No
100-F-20_Staging pile area	non-Rad	Zinc	7440-66-6	µg/kg	87,600	67,800	Yes
100-F-20_Staging pile area	Rad	Cesium-137	10045-97-3	pCi/g	0.044	1.1	No
100-F-24_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.053	1.1	No
100-F-25_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	140	13	Yes
100-F-25_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.071	1.1	No
100-F-25_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.13	--	--
100-F-25_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	4.6	--	--
100-F-26:1_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.18E+06	1.18E+07	No
100-F-26:1_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	280	130	Yes
100-F-26:1_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--	--
100-F-26:1_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	6,470	No
100-F-26:1_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	53,500	132,000	No
100-F-26:1_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	520	1,510	No
100-F-26:1_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	3,890	No
100-F-26:1_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,700	18,500	No
100-F-26:1_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,300	15,700	No
100-F-26:1_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	22,000	No
100-F-26:1_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	3.26E+07	No
100-F-26:1_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	181,000	10,200	Yes

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:1_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	256,000	512,000	No
100-F-26:1_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,380	13	Yes
100-F-26:1_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	621	470	Yes
100-F-26:1_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	19,100	No
100-F-26:1_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	35,100	85,100	No
100-F-26:1_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,300	67,800	No
100-F-26:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.50E+06	1.18E+07	No
100-F-26:1_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	263	130	Yes
100-F-26:1_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--	--
100-F-26:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,600	6,470	No
100-F-26:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,700	132,000	No
100-F-26:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400	1,510	No
100-F-26:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,800	3,890	No
100-F-26:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	157	563	No
100-F-26:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,900	18,500	No
100-F-26:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	15,700	No
100-F-26:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,200	22,000	No
100-F-26:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	--	--
100-F-26:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.08E+07	3.26E+07	No
100-F-26:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,900	10,200	No
100-F-26:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	352,000	512,000	No
100-F-26:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	93	13	Yes
100-F-26:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	373	470	No
100-F-26:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600	19,100	No
100-F-26:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,800	85,100	No
100-F-26:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,200	67,800	No
100-F-26:10_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	1.18E+07	No
100-F-26:10_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	880	130	Yes
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	7.9	--	--
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	10	--	--
100-F-26:10_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,700	6,470	No
100-F-26:10_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	117,000	132,000	No
100-F-26:10_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	25	--	--
100-F-26:10_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	280	1,510	No
100-F-26:10_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	250	--	--
100-F-26:10_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	3,890	Yes
100-F-26:10_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,700	18,500	No
100-F-26:10_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	23	--	--
100-F-26:10_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	15,700	No
100-F-26:10_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,800	22,000	No
100-F-26:10_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	--	--
100-F-26:10_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--	--
100-F-26:10_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	270	--	--
100-F-26:10_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.65E+07	3.26E+07	No
100-F-26:10_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,700	10,200	Yes
100-F-26:10_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	291,000	512,000	No
100-F-26:10_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,300	19,100	No
100-F-26:10_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	35	--	--
100-F-26:10_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,800	780	Yes
100-F-26:10_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,500	85,100	No
100-F-26:10_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	51,900	67,800	No
100-F-26:10_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.35E+06	1.18E+07	No
100-F-26:10_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	130	Yes
100-F-26:10_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	54	--	--
100-F-26:10_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	54	--	--
100-F-26:10_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,105	6,470	No
100-F-26:10_Shallow	non-Rad	Barium	7440-39-3	µg/kg	69,412	132,000	No
100-F-26:10_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	41	--	--
100-F-26:10_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	39	--	--
100-F-26:10_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--	--
100-F-26:10_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	48	--	--
100-F-26:10_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	310	1,510	No
100-F-26:10_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	93	--	--
100-F-26:10_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,790	3,890	No
100-F-26:10_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,640	18,500	No
100-F-26:10_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	60	--	--
100-F-26:10_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,034	15,700	No
100-F-26:10_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,269	22,000	No
100-F-26:10_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	4.9	--	--
100-F-26:10_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	--	--
100-F-26:10_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	120	--	--
100-F-26:10_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	268	--	--
100-F-26:10_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--	--
100-F-26:10_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.51E+07	3.26E+07	No
100-F-26:10_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,969	10,200	No
100-F-26:10_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	286,118	512,000	No
100-F-26:10_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	10	13	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:10_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.7	--	--
100-F-26:10_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	640	470	Yes
100-F-26:10_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,726	19,100	No
100-F-26:10_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	110	--	--
100-F-26:10_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,369	780	Yes
100-F-26:10_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,054	85,100	No
100-F-26:10_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,294	67,800	No
100-F-26:10_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--	--
100-F-26:10_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.80E+06	1.18E+07	No
100-F-26:10_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,500	6,470	Yes
100-F-26:10_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	54,100	132,000	No
100-F-26:10_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	290	1,510	No
100-F-26:10_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	860	--	--
100-F-26:10_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,600	3,890	No
100-F-26:10_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	563	No
100-F-26:10_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,800	18,500	No
100-F-26:10_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200	15,700	No
100-F-26:10_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	22,000	No
100-F-26:10_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	39	--	--
100-F-26:10_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	--	--
100-F-26:10_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.23E+07	3.26E+07	No
100-F-26:10_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,900	10,200	Yes
100-F-26:10_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	257,000	512,000	No
100-F-26:10_Shallow_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	3.0	--	--
100-F-26:10_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	470	470	No
100-F-26:10_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500	19,100	No
100-F-26:10_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,700	85,100	No
100-F-26:10_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,500	67,800	No
100-F-26:11_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.19E+06	1.18E+07	No
100-F-26:11_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	6,470	No
100-F-26:11_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	63,200	132,000	No
100-F-26:11_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	20	--	--
100-F-26:11_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--	--
100-F-26:11_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400	3,890	No
100-F-26:11_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160	563	No
100-F-26:11_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400	18,500	No
100-F-26:11_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,700	15,700	No
100-F-26:11_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,200	22,000	No
100-F-26:11_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	38	--	--
100-F-26:11_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	--	--
100-F-26:11_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.85E+07	3.26E+07	No
100-F-26:11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	23,600	10,200	Yes
100-F-26:11_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	294,000	512,000	No
100-F-26:11_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	13	Yes
100-F-26:11_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	240	470	No
100-F-26:11_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100	19,100	No
100-F-26:11_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,900	85,100	No
100-F-26:11_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	56,700	67,800	No
100-F-26:12_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	5.61E+06	1.18E+07	No
100-F-26:12_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,882	6,470	No
100-F-26:12_Overburden	non-Rad	Barium	7440-39-3	µg/kg	57,538	132,000	No
100-F-26:12_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	262	1,510	No
100-F-26:12_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,421	3,890	No
100-F-26:12_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	158	563	No
100-F-26:12_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,743	18,500	No
100-F-26:12_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	4,943	15,700	No
100-F-26:12_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,210	22,000	No
100-F-26:12_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	293	--	--
100-F-26:12_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.34E+07	3.26E+07	No
100-F-26:12_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,695	10,200	No
100-F-26:12_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	240,610	512,000	No
100-F-26:12_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	60	13	Yes
100-F-26:12_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	620	470	Yes
100-F-26:12_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,811	19,100	No
100-F-26:12_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	31,558	85,100	No
100-F-26:12_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	32,061	67,800	No
100-F-26:12_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.056	1.1	No
100-F-26:12_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.081	--	--
100-F-26:12_Overburden	Rad	Tritium	10028-17-8	pCi/g	5.9	--	--
100-F-26:12_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.13E+06	1.18E+07	No
100-F-26:12_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	130	Yes
100-F-26:12_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,797	6,470	No
100-F-26:12_Shallow	non-Rad	Barium	7440-39-3	µg/kg	54,294	132,000	No
100-F-26:12_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	186	1,510	No
100-F-26:12_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,013	3,890	No
100-F-26:12_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	7,949	18,500	No
100-F-26:12_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,004	15,700	No
100-F-26:12_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,109	22,000	No
100-F-26:12_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:12_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.20E+07	3.26E+07	No
100-F-26:12_Shallow	non-Rad	Lead	7439-92-1	µg/kg	9,282	10,200	No
100-F-26:12_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	225,939	512,000	No
100-F-26:12_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	28	13	Yes
100-F-26:12_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	480	470	Yes
100-F-26:12_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,312	19,100	No
100-F-26:12_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	28,449	85,100	No
100-F-26:12_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	32,386	67,800	No
100-F-26:12_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.63E+06	1.18E+07	No
100-F-26:12_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	3,626	6,470	No
100-F-26:12_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	73,949	132,000	No
100-F-26:12_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	160	1,510	No
100-F-26:12_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,972	3,890	No
100-F-26:12_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	190	563	No
100-F-26:12_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	11,246	18,500	No
100-F-26:12_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,238	15,700	No
100-F-26:12_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	13,599	22,000	No
100-F-26:12_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	307	--	--
100-F-26:12_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.70E+07	3.26E+07	No
100-F-26:12_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	7,611	10,200	No
100-F-26:12_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	264,980	512,000	No
100-F-26:12_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	56	13	Yes
100-F-26:12_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	534	470	Yes
100-F-26:12_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,946	19,100	No
100-F-26:12_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	38,910	85,100	No
100-F-26:12_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	44,863	67,800	No
100-F-26:12_Staging Pile Area	Rad	Carbon-14	14762-75-5	pCi/g	5.1	--	--
100-F-26:12_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.064	1.1	No
100-F-26:12_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.56	0.18	Yes
100-F-26:13_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.76E+06	1.18E+07	No
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	38	--	--
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--	--
100-F-26:13_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	9,600	6,470	Yes
100-F-26:13_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	92,800	132,000	No
100-F-26:13_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400	1,510	No
100-F-26:13_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	6,100	3,890	Yes
100-F-26:13_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,600	18,500	No
100-F-26:13_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	15,700	No
100-F-26:13_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100	22,000	No
100-F-26:13_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	3.26E+07	No
100-F-26:13_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	29,600	10,200	Yes
100-F-26:13_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	295,000	512,000	No
100-F-26:13_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	520	470	Yes
100-F-26:13_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	19,100	No
100-F-26:13_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,000	85,100	No
100-F-26:13_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,900	67,800	No
100-F-26:13_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.13	1.1	No
100-F-26:13_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.35E+06	1.18E+07	No
100-F-26:13_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.1	--	--
100-F-26:13_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.6	--	--
100-F-26:13_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,402	6,470	No
100-F-26:13_Shallow	non-Rad	Barium	7440-39-3	µg/kg	52,589	132,000	No
100-F-26:13_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	337	1,510	No
100-F-26:13_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,500	3,890	No
100-F-26:13_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,231	18,500	No
100-F-26:13_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,264	15,700	No
100-F-26:13_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,289	22,000	No
100-F-26:13_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.44E+07	3.26E+07	No
100-F-26:13_Shallow	non-Rad	Lead	7439-92-1	µg/kg	14,012	10,200	Yes
100-F-26:13_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	237,795	512,000	No
100-F-26:13_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	554	470	Yes
100-F-26:13_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,195	19,100	No
100-F-26:13_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,581	3,210	No
100-F-26:13_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,034	85,100	No
100-F-26:13_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,774	67,800	No
100-F-26:13_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	13	--	--
100-F-26:13_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.055	1.1	No
100-F-26:13_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	2.0	0.18	Yes
100-F-26:13_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.66	1.1	No
100-F-26:13_Shallow	Rad	Uranium-238	U-238	pCi/g	0.53	1.1	No
100-F-26:13_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	3.66E+06	1.18E+07	No
100-F-26:13_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	44,500	132,000	No
100-F-26:13_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160	1,510	No
100-F-26:13_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400	3,890	No
100-F-26:13_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,900	18,500	No
100-F-26:13_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,300	15,700	No
100-F-26:13_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,300	22,000	No
100-F-26:13_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	9.76E+06	3.26E+07	No
100-F-26:13_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,400	10,200	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:13_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	201,000	512,000	No
100-F-26:13_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	470	Yes
100-F-26:13_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,300	19,100	No
100-F-26:13_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	22,300	85,100	No
100-F-26:13_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	26,700	67,800	No
100-F-26:14_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.75E+06	1.18E+07	No
100-F-26:14_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	6,470	No
100-F-26:14_Overburden	non-Rad	Barium	7440-39-3	µg/kg	105,000	132,000	No
100-F-26:14_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	210	1,510	No
100-F-26:14_Overburden	non-Rad	Boron	7440-42-8	µg/kg	13,500	3,890	Yes
100-F-26:14_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	190	563	No
100-F-26:14_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,700	18,500	No
100-F-26:14_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	15,700	No
100-F-26:14_Overburden	non-Rad	Copper	7440-50-8	µg/kg	15,300	22,000	No
100-F-26:14_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	3.26E+07	No
100-F-26:14_Overburden	non-Rad	Lead	7439-92-1	µg/kg	20,400	10,200	Yes
100-F-26:14_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	298,000	512,000	No
100-F-26:14_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	70	13	Yes
100-F-26:14_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	560	470	Yes
100-F-26:14_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,400	19,100	No
100-F-26:14_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	42,400	85,100	No
100-F-26:14_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	38,900	67,800	No
100-F-26:14_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	2.0	1.1	Yes
100-F-26:14_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.25	0.0084	Yes
100-F-26:14_Overburden	Rad	Europium-152	14683-23-9	pCi/g	1.4	--	--
100-F-26:14_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	9.6	--	--
100-F-26:14_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.37	0.18	Yes
100-F-26:14_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	1.18E+07	No
100-F-26:14_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	830	130	Yes
100-F-26:14_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	6,470	No
100-F-26:14_Shallow	non-Rad	Barium	7440-39-3	µg/kg	216,000	132,000	Yes
100-F-26:14_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	330	1,510	No
100-F-26:14_Shallow	non-Rad	Boron	7440-42-8	µg/kg	31,600	3,890	Yes
100-F-26:14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,500	18,500	No
100-F-26:14_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,600	15,700	No
100-F-26:14_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,200	22,000	No
100-F-26:14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	--	--
100-F-26:14_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.67E+07	3.26E+07	No
100-F-26:14_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,900	10,200	No
100-F-26:14_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	291,000	512,000	No
100-F-26:14_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	13	Yes
100-F-26:14_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	510	470	Yes
100-F-26:14_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,000	19,100	No
100-F-26:14_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,200	85,100	No
100-F-26:14_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,900	67,800	No
100-F-26:14_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.26	1.1	No
100-F-26:14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.089	0.0084	Yes
100-F-26:14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.53	--	--
100-F-26:15_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.77E+06	1.18E+07	No
100-F-26:15_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	6,470	No
100-F-26:15_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	66,900	132,000	No
100-F-26:15_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	290	1,510	No
100-F-26:15_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900	3,890	No
100-F-26:15_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,500	18,500	No
100-F-26:15_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,900	15,700	No
100-F-26:15_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,300	22,000	No
100-F-26:15_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.56E+07	3.26E+07	No
100-F-26:15_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,000	10,200	No
100-F-26:15_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	277,000	512,000	No
100-F-26:15_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,700	19,100	No
100-F-26:15_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,700	85,100	No
100-F-26:15_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,800	67,800	No
100-F-26:15_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.10	1.1	No
100-F-26:15_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.31	--	--
100-F-26:15_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.49E+06	1.18E+07	No
100-F-26:15_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	850	130	Yes
100-F-26:15_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,314	6,470	No
100-F-26:15_Shallow	non-Rad	Barium	7440-39-3	µg/kg	79,390	132,000	No
100-F-26:15_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	248	1,510	No
100-F-26:15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,162	3,890	Yes
100-F-26:15_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	170	563	No
100-F-26:15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,578	18,500	No
100-F-26:15_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,851	15,700	No
100-F-26:15_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,718	22,000	No
100-F-26:15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	262	--	--
100-F-26:15_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.47E+07	3.26E+07	No
100-F-26:15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,125	10,200	No
100-F-26:15_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	280,532	512,000	No
100-F-26:15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	130	13	Yes

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	661	470	Yes
100-F-26:15_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,579	19,100	No
100-F-26:15_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,310	85,100	No
100-F-26:15_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	33,378	67,800	No
100-F-26:15_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.099	1.1	No
100-F-26:15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.22	--	--
100-F-26:15_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.72E+06	1.18E+07	No
100-F-26:15_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	6,470	No
100-F-26:15_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	40,100	132,000	No
100-F-26:15_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	170	1,510	No
100-F-26:15_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,400	3,890	No
100-F-26:15_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	563	No
100-F-26:15_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,200	18,500	No
100-F-26:15_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100	15,700	No
100-F-26:15_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,700	22,000	No
100-F-26:15_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.32E+07	3.26E+07	No
100-F-26:15_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,200	10,200	No
100-F-26:15_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	235,000	512,000	No
100-F-26:15_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,400	19,100	No
100-F-26:15_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,300	85,100	No
100-F-26:15_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	28,300	67,800	No
100-F-26:15_Shallow_Focused	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--	--
100-F-26:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.96E+06	1.18E+07	No
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--	--
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--	--
100-F-26:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	6,470	No
100-F-26:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	74,300	132,000	No
100-F-26:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	190	1,510	No
100-F-26:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	3,890	No
100-F-26:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70	563	No
100-F-26:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,700	18,500	No
100-F-26:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,600	15,700	No
100-F-26:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,100	22,000	No
100-F-26:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	--	--
100-F-26:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07	3.26E+07	No
100-F-26:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,400	10,200	No
100-F-26:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	303,000	512,000	No
100-F-26:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	420	470	No
100-F-26:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,700	19,100	No
100-F-26:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,900	85,100	No
100-F-26:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,300	67,800	No
100-F-26:4_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.59E+06	1.18E+07	No
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--	--
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.3	--	--
100-F-26:4_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100	6,470	No
100-F-26:4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	260,000	132,000	Yes
100-F-26:4_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	420	1,510	No
100-F-26:4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	32,300	3,890	Yes
100-F-26:4_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	201	563	No
100-F-26:4_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400	18,500	No
100-F-26:4_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000	15,700	No
100-F-26:4_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,300	22,000	No
100-F-26:4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	--	--
100-F-26:4_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.68E+07	3.26E+07	No
100-F-26:4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	20,000	10,200	Yes
100-F-26:4_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	297,000	512,000	No
100-F-26:4_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	13	Yes
100-F-26:4_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	470	Yes
100-F-26:4_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,900	19,100	No
100-F-26:4_Overburden_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	141,000	--	--
100-F-26:4_Overburden_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,453	3,210	No
100-F-26:4_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,500	85,100	No
100-F-26:4_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	56,600	67,800	No
100-F-26:4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.062	1.1	No
100-F-26:4_Overburden_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.46	1.1	No
100-F-26:4_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.49	1.1	No
100-F-26:4_Overburden_Focused_3	non-Rad	Aluminum	7429-90-5	µg/kg	8.53E+06	1.18E+07	No
100-F-26:4_Overburden_Focused_3	non-Rad	Arsenic	7440-38-2	µg/kg	6,500	6,470	Yes
100-F-26:4_Overburden_Focused_3	non-Rad	Barium	7440-39-3	µg/kg	109,000	132,000	No
100-F-26:4_Overburden_Focused_3	non-Rad	Beryllium	7440-41-7	µg/kg	230	1,510	No
100-F-26:4_Overburden_Focused_3	non-Rad	Boron	7440-42-8	µg/kg	5,100	3,890	Yes
100-F-26:4_Overburden_Focused_3	non-Rad	Cadmium	7440-43-9	µg/kg	99	563	No
100-F-26:4_Overburden_Focused_3	non-Rad	Chromium	7440-47-3	µg/kg	11,000	18,500	No
100-F-26:4_Overburden_Focused_3	non-Rad	Cobalt	7440-48-4	µg/kg	6,500	15,700	No
100-F-26:4_Overburden_Focused_3	non-Rad	Copper	7440-50-8	µg/kg	15,000	22,000	No
100-F-26:4_Overburden_Focused_3	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	3.26E+07	No
100-F-26:4_Overburden_Focused_3	non-Rad	Lead	7439-92-1	µg/kg	16,000	10,200	Yes
100-F-26:4_Overburden_Focused_3	non-Rad	Manganese	7439-96-5	µg/kg	299,000	512,000	No
100-F-26:4_Overburden_Focused_3	non-Rad	Mercury	7439-97-6	µg/kg	8.3	13	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:4_Overburden_Focused_3	non-Rad	Molybdenum	7439-98-7	µg/kg	300	470	No
100-F-26:4_Overburden_Focused_3	non-Rad	Nickel	7440-02-0	µg/kg	11,200	19,100	No
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,700	--	--
100-F-26:4_Overburden_Focused_3	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	10,000	--	--
100-F-26:4_Overburden_Focused_3	non-Rad	Vanadium	7440-62-2	µg/kg	47,200	85,100	No
100-F-26:4_Overburden_Focused_3	non-Rad	Zinc	7440-66-6	µg/kg	41,900	67,800	No
100-F-26:4_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	4.66E+06	1.18E+07	No
100-F-26:4_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	718	130	Yes
100-F-26:4_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	1,950	6,470	No
100-F-26:4_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	75,842	132,000	No
100-F-26:4_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	210	1,510	No
100-F-26:4_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	5,760	3,890	Yes
100-F-26:4_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	8,347	18,500	No
100-F-26:4_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	4,973	15,700	No
100-F-26:4_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	11,577	22,000	No
100-F-26:4_Shallow_1	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	546	--	--
100-F-26:4_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.19E+07	3.26E+07	No
100-F-26:4_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	5,817	10,200	No
100-F-26:4_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	232,660	512,000	No
100-F-26:4_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	60	13	Yes
100-F-26:4_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	890	470	Yes
100-F-26:4_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	9,380	19,100	No
100-F-26:4_Shallow_1	non-Rad	Selenium	7782-49-2	µg/kg	2,700	780	Yes
100-F-26:4_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	27,956	85,100	No
100-F-26:4_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	34,707	67,800	No
100-F-26:4_Shallow_1	Rad	Cesium-137	10045-97-3	pCi/g	0.26	1.1	No
100-F-26:4_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	1.18E+07	No
100-F-26:4_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--	--
100-F-26:4_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,827	6,470	No
100-F-26:4_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	92,173	132,000	No
100-F-26:4_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	209	1,510	No
100-F-26:4_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,903	3,890	Yes
100-F-26:4_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	89	563	No
100-F-26:4_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,066	18,500	No
100-F-26:4_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	6,033	15,700	No
100-F-26:4_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,975	22,000	No
100-F-26:4_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07	3.26E+07	No
100-F-26:4_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	9,654	10,200	No
100-F-26:4_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	275,252	512,000	No
100-F-26:4_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	12	13	No
100-F-26:4_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	316	470	No
100-F-26:4_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,596	19,100	No
100-F-26:4_Shallow_2	non-Rad	Selenium	7782-49-2	µg/kg	930	780	Yes
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	6,371	--	--
100-F-26:4_Shallow_2	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	25,575	--	--
100-F-26:4_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	43,748	85,100	No
100-F-26:4_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	37,849	67,800	No
100-F-26:4_Shallow_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	26	--	--
100-F-26:4_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.02E+06	1.18E+07	No
100-F-26:4_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	381	130	Yes
100-F-26:4_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,600	6,470	No
100-F-26:4_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200	132,000	No
100-F-26:4_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--	--
100-F-26:4_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	611	1,510	No
100-F-26:4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	241	--	--
100-F-26:4_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700	3,890	No
100-F-26:4_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	669	563	Yes
100-F-26:4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700	18,500	No
100-F-26:4_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--	--
100-F-26:4_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,100	15,700	No
100-F-26:4_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,900	22,000	No
100-F-26:4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	226	--	--
100-F-26:4_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--	--
100-F-26:4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	370	--	--
100-F-26:4_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07	3.26E+07	No
100-F-26:4_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,600	10,200	No
100-F-26:4_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	310,000	512,000	No
100-F-26:4_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	13	Yes
100-F-26:4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	314	470	No
100-F-26:4_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	39	--	--
100-F-26:4_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,100	19,100	No
100-F-26:4_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	33	--	--
100-F-26:4_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	591	780	No
100-F-26:4_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	219	167	Yes
100-F-26:4_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,100	85,100	No
100-F-26:4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,100	67,800	Yes
100-F-26:4_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.58	1.1	No
100-F-26:4_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.23	--	--
100-F-26:5_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.26E+06	1.18E+07	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:5_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	662	130	Yes
100-F-26:5_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	35	--	--
100-F-26:5_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000	6,470	No
100-F-26:5_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	37,100	132,000	No
100-F-26:5_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	396	1,510	No
100-F-26:5_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	3,890	No
100-F-26:5_Deep_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	292	563	No
100-F-26:5_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,400	18,500	No
100-F-26:5_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,100	15,700	No
100-F-26:5_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,600	22,000	No
100-F-26:5_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	875	--	--
100-F-26:5_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.16E+07	3.26E+07	No
100-F-26:5_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,600	10,200	No
100-F-26:5_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	206,000	512,000	No
100-F-26:5_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	98	13	Yes
100-F-26:5_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	436	470	No
100-F-26:5_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,900	19,100	No
100-F-26:5_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	28,300	85,100	No
100-F-26:5_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	64,200	67,800	No
100-F-26:5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.72E+06	1.18E+07	No
100-F-26:5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300	6,470	No
100-F-26:5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	50,400	132,000	No
100-F-26:5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	3,890	No
100-F-26:5_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	280	563	No
100-F-26:5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,300	18,500	No
100-F-26:5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,800	15,700	No
100-F-26:5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500	22,000	No
100-F-26:5_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	--	--
100-F-26:5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.39E+07	3.26E+07	No
100-F-26:5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,600	10,200	No
100-F-26:5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	231,000	512,000	No
100-F-26:5_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	320	470	No
100-F-26:5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500	19,100	No
100-F-26:5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	33,500	85,100	No
100-F-26:5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,200	67,800	No
100-F-26:7_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.66E+06	1.18E+07	No
100-F-26:7_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	680	130	Yes
100-F-26:7_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	6,470	No
100-F-26:7_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	153,000	132,000	Yes
100-F-26:7_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	120	1,510	No
100-F-26:7_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	10,600	3,890	Yes
100-F-26:7_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130	563	No
100-F-26:7_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,700	18,500	No
100-F-26:7_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	15,700	No
100-F-26:7_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,400	22,000	No
100-F-26:7_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	3.26E+07	No
100-F-26:7_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,900	10,200	No
100-F-26:7_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	319,000	512,000	No
100-F-26:7_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	66	13	Yes
100-F-26:7_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,500	19,100	No
100-F-26:7_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	47,600	85,100	No
100-F-26:7_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,400	67,800	No
100-F-26:7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.14E+06	1.18E+07	No
100-F-26:7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	684	130	Yes
100-F-26:7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	1,957	6,470	No
100-F-26:7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	103,545	132,000	No
100-F-26:7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	65	1,510	No
100-F-26:7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	8,960	3,890	Yes
100-F-26:7_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	108	563	No
100-F-26:7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,159	18,500	No
100-F-26:7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,949	15,700	No
100-F-26:7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,070	22,000	No
100-F-26:7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	346	--	--
100-F-26:7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.78E+07	3.26E+07	No
100-F-26:7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,875	10,200	No
100-F-26:7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	282,226	512,000	No
100-F-26:7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	18	13	Yes
100-F-26:7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	410	470	No
100-F-26:7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,497	19,100	No
100-F-26:7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	47,555	85,100	No
100-F-26:7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,672	67,800	No
100-F-26:7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	1.18E+07	No
100-F-26:7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,300	6,470	No
100-F-26:7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200	132,000	No
100-F-26:7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	64	1,510	No
100-F-26:7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	3,890	No
100-F-26:7_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130	563	No
100-F-26:7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,000	18,500	No
100-F-26:7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	15,700	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,400	22,000	No
100-F-26:7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.84E+07	3.26E+07	No
100-F-26:7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,700	10,200	No
100-F-26:7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	321,000	512,000	No
100-F-26:7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.8	13	No
100-F-26:7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,700	19,100	No
100-F-26:7_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	167	Yes
100-F-26:7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,700	85,100	No
100-F-26:7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,500	67,800	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.46E+06	1.18E+07	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	731	130	Yes
100-F-26:7_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	1,716	6,470	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	106,026	132,000	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	5,756	3,890	Yes
100-F-26:7_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	99	563	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	9,634	18,500	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,118	15,700	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	12,164	22,000	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	3.26E+07	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	3,804	10,200	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	276,272	512,000	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	6.7	13	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	366	470	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	9,792	19,100	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	960	780	Yes
100-F-26:7_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	52,232	85,100	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	37,192	67,800	No
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.9	--	--
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.4	--	--
100-F-26:8_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	1.18E+07	No
100-F-26:8_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,900	6,470	No
100-F-26:8_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,200	132,000	No
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	38	--	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	23	--	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	30	--	--
100-F-26:8_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	450	1,510	No
100-F-26:8_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	62	--	--
100-F-26:8_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,600	3,890	No
100-F-26:8_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	18,500	No
100-F-26:8_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	37	--	--
100-F-26:8_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	15,700	No
100-F-26:8_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	22,000	No
100-F-26:8_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	--	--
100-F-26:8_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--	--
100-F-26:8_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	220	--	--
100-F-26:8_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--	--
100-F-26:8_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07	3.26E+07	No
100-F-26:8_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	11,500	10,200	Yes
100-F-26:8_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	332,000	512,000	No
100-F-26:8_Overburden_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	1.8	--	--
100-F-26:8_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	19,100	No
100-F-26:8_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	57	--	--
100-F-26:8_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,900	85,100	No
100-F-26:8_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	54,000	67,800	No
100-F-26:8_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	1.2	--	--
100-F-26:8_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.1	--	--
100-F-26:8_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.0	--	--
100-F-26:8_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	4.2	--	--
100-F-26:8_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.25E+06	1.18E+07	No
100-F-26:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,100	130	Yes

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:8_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,206	6,470	No
100-F-26:8_Shallow	non-Rad	Barium	7440-39-3	µg/kg	63,964	132,000	No
100-F-26:8_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	300	1,510	No
100-F-26:8_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	0.60	--	--
100-F-26:8_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	178	--	--
100-F-26:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,100	3,890	No
100-F-26:8_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.5	--	--
100-F-26:8_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	12,660	18,500	No
100-F-26:8_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,604	15,700	No
100-F-26:8_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,206	22,000	No
100-F-26:8_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	29	--	--
100-F-26:8_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.53	--	--
100-F-26:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--	--
100-F-26:8_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.60	--	--
100-F-26:8_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.44E+07	3.26E+07	No
100-F-26:8_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,311	10,200	No
100-F-26:8_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	263,616	512,000	No
100-F-26:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	160	13	Yes
100-F-26:8_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.0	--	--
100-F-26:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	470	Yes
100-F-26:8_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,851	19,100	No
100-F-26:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	29	--	--
100-F-26:8_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,335	780	Yes
100-F-26:8_Shallow	non-Rad	Silver	7440-22-4	µg/kg	510	167	Yes
100-F-26:8_Shallow	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	253,000	--	--
100-F-26:8_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,413	85,100	No
100-F-26:8_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,472	67,800	No
100-F-26:8_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.83E+06	1.18E+07	No
100-F-26:8_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	6,470	No
100-F-26:8_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	85,200	132,000	No
100-F-26:8_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	460	1,510	No
100-F-26:8_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	84	--	--
100-F-26:8_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,600	18,500	No
100-F-26:8_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	15,700	No
100-F-26:8_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	22,000	No
100-F-26:8_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	--	--
100-F-26:8_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07	3.26E+07	No
100-F-26:8_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,100	10,200	No
100-F-26:8_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000	512,000	No
100-F-26:8_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,300	19,100	No
100-F-26:8_Shallow_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,238	3,210	No
100-F-26:8_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	39,800	85,100	No
100-F-26:8_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	47,400	67,800	No
100-F-26:8_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.60	1.1	No
100-F-26:8_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.42	1.1	No
100-F-26:9_Overburden	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	27	--	--
100-F-26:9_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.48E+06	1.18E+07	No
100-F-26:9_Overburden	non-Rad	Anthracene	120-12-7	µg/kg	22	--	--
100-F-26:9_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,000	130	Yes
100-F-26:9_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	180	--	--
100-F-26:9_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,859	6,470	No
100-F-26:9_Overburden	non-Rad	Barium	7440-39-3	µg/kg	266,416	132,000	Yes
100-F-26:9_Overburden	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	100	--	--
100-F-26:9_Overburden	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	110	--	--
100-F-26:9_Overburden	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	89	--	--
100-F-26:9_Overburden	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	97	--	--
100-F-26:9_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	317	1,510	No
100-F-26:9_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	243	--	--
100-F-26:9_Overburden	non-Rad	Boron	7440-42-8	µg/kg	15,662	3,890	Yes
100-F-26:9_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,384	18,500	No
100-F-26:9_Overburden	non-Rad	Chrysene	218-01-9	µg/kg	140	--	--
100-F-26:9_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,286	15,700	No
100-F-26:9_Overburden	non-Rad	Copper	7440-50-8	µg/kg	17,179	22,000	No
100-F-26:9_Overburden	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	22	--	--
100-F-26:9_Overburden	non-Rad	Fluoranthene	206-44-0	µg/kg	220	--	--
100-F-26:9_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	319	--	--
100-F-26:9_Overburden	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	71	--	--
100-F-26:9_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	3.26E+07	No
100-F-26:9_Overburden	non-Rad	Lead	7439-92-1	µg/kg	6,965	10,200	No
100-F-26:9_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	277,999	512,000	No
100-F-26:9_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	100	13	Yes
100-F-26:9_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	470	Yes
100-F-26:9_Overburden	non-Rad	Naphthalene	91-20-3	µg/kg	18	--	--
100-F-26:9_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,648	19,100	No
100-F-26:9_Overburden	non-Rad	Pyrene	129-00-0	µg/kg	260	--	--
100-F-26:9_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	40,062	85,100	No
100-F-26:9_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	44,529	67,800	No
100-F-26:9_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.044	1.1	No
100-F-26:9_Overburden_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	23	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:9_Overburden_Focused	non-Rad	4-Nitroaniline	100-01-6	µg/kg	37	--	--
100-F-26:9_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.35E+06	1.18E+07	No
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	72	--	--
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	77	--	--
100-F-26:9_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	6,470	No
100-F-26:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	659,000	132,000	Yes
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	21	--	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--	--
100-F-26:9_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	860	1,510	No
100-F-26:9_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	450	--	--
100-F-26:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	61,700	3,890	Yes
100-F-26:9_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160	563	No
100-F-26:9_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,500	18,500	No
100-F-26:9_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	44	--	--
100-F-26:9_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,600	15,700	No
100-F-26:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	183,000	22,000	Yes
100-F-26:9_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	32	--	--
100-F-26:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	--	--
100-F-26:9_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07	3.26E+07	No
100-F-26:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	81,700	10,200	Yes
100-F-26:9_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	254,000	512,000	No
100-F-26:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	13	Yes
100-F-26:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	470	Yes
100-F-26:9_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	30	--	--
100-F-26:9_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,200	19,100	No
100-F-26:9_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	59	--	--
100-F-26:9_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,300	85,100	No
100-F-26:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,800	67,800	Yes
100-F-26:9_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.52E+06	1.18E+07	No
100-F-26:9_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	26	--	--
100-F-26:9_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--	--
100-F-26:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--	--
100-F-26:9_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,650	6,470	No
100-F-26:9_Shallow	non-Rad	Barium	7440-39-3	µg/kg	117,460	132,000	No
100-F-26:9_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	108	--	--
100-F-26:9_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	120	--	--
100-F-26:9_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	85	--	--
100-F-26:9_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	100	--	--
100-F-26:9_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	271	1,510	No
100-F-26:9_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	152	--	--
100-F-26:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	14,334	3,890	Yes
100-F-26:9_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	174	563	No
100-F-26:9_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,462	18,500	No
100-F-26:9_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	134	--	--
100-F-26:9_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,363	15,700	No
100-F-26:9_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,904	22,000	No
100-F-26:9_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	39	--	--
100-F-26:9_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	235	--	--
100-F-26:9_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	284	--	--
100-F-26:9_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--	--
100-F-26:9_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.74E+07	3.26E+07	No
100-F-26:9_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,799	10,200	No
100-F-26:9_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	285,355	512,000	No
100-F-26:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	278	13	Yes
100-F-26:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	910	470	Yes
100-F-26:9_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,157	19,100	No
100-F-26:9_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	227	--	--
100-F-26:9_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	42,960	85,100	No
100-F-26:9_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,180	67,800	No
100-F-26:9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.19E+07	1.18E+07	Yes
100-F-26:9_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	20	--	--
100-F-26:9_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,600	130	Yes
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--	--
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--	--
100-F-26:9_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	6,470	No
100-F-26:9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	329,000	132,000	Yes
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	90	--	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	71	--	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	49	--	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	68	--	--
100-F-26:9_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	596	1,510	No
100-F-26:9_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	690	--	--
100-F-26:9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	28,600	3,890	Yes
100-F-26:9_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	49	--	--
100-F-26:9_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	340	563	No
100-F-26:9_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,000	18,500	No
100-F-26:9_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	120	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-26:9_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	15,700	No
100-F-26:9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,500	22,000	Yes
100-F-26:9_Shallow_Focused	non-Rad	Diethylphthalate	84-66-2	µg/kg	34	--	--
100-F-26:9_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	136	--	--
100-F-26:9_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	130	--	--
100-F-26:9_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	360	--	--
100-F-26:9_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	47	--	--
100-F-26:9_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.52E+07	3.26E+07	No
100-F-26:9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	16,900	10,200	Yes
100-F-26:9_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000	512,000	No
100-F-26:9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	810	13	Yes
100-F-26:9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	470	Yes
100-F-26:9_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	23	--	--
100-F-26:9_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	19,100	No
100-F-26:9_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	310	--	--
100-F-26:9_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,300	780	Yes
100-F-26:9_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,200	167	Yes
100-F-26:9_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,300	85,100	No
100-F-26:9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	67,800	Yes
100-F-26:9_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.29	1.1	No
100-F-26:9_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.9	--	--
100-F-26:9_Staging Pile Area	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--	--
100-F-26:9_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.39E+06	1.18E+07	No
100-F-26:9_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	26	--	--
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--	--
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--	--
100-F-26:9_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,014	6,470	Yes
100-F-26:9_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	59,167	132,000	No
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	120	--	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	140	--	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	75	--	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	120	--	--
100-F-26:9_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	462	1,510	No
100-F-26:9_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.9	--	--
100-F-26:9_Staging Pile Area	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	333	--	--
100-F-26:9_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,604	3,890	No
100-F-26:9_Staging Pile Area	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--	--
100-F-26:9_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	10,408	18,500	No
100-F-26:9_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	160	--	--
100-F-26:9_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,815	15,700	No
100-F-26:9_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	15,482	22,000	No
100-F-26:9_Staging Pile Area	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	--	--
100-F-26:9_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--	--
100-F-26:9_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	281	--	--
100-F-26:9_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--	--
100-F-26:9_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	3.26E+07	No
100-F-26:9_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	35,063	10,200	Yes
100-F-26:9_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	263,395	512,000	No
100-F-26:9_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	120	13	Yes
100-F-26:9_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	750	470	Yes
100-F-26:9_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	11,185	19,100	No
100-F-26:9_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	260	--	--
100-F-26:9_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	30,622	85,100	No
100-F-26:9_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	36,533	67,800	No
100-F-31_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.07E+06	1.18E+07	No
100-F-31_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	490	130	Yes
100-F-31_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	17	--	--
100-F-31_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,822	6,470	No
100-F-31_Shallow	non-Rad	Barium	7440-39-3	µg/kg	75,963	132,000	No
100-F-31_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	45	--	--
100-F-31_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	41	--	--
100-F-31_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--	--
100-F-31_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	39	--	--
100-F-31_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	166	1,510	No
100-F-31_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	59	--	--
100-F-31_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,890	3,890	No
100-F-31_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	685	563	Yes
100-F-31_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,321	18,500	No
100-F-31_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	52	--	--
100-F-31_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,614	15,700	No
100-F-31_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,914	22,000	No
100-F-31_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	--	--
100-F-31_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	69	--	--
100-F-31_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	363	--	--
100-F-31_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	25	--	--
100-F-31_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.51E+07	3.26E+07	No
100-F-31_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,680	10,200	No
100-F-31_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	230,196	512,000	No
100-F-31_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	13	Yes

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-31_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,916	19,100	No
100-F-31_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	89	--	--
100-F-31_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,376	85,100	No
100-F-31_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,652	67,800	No
100-F-33_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	31	--	--
100-F-33_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--	--
100-F-33_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,355	6,470	No
100-F-33_Shallow	non-Rad	Barium	7440-39-3	µg/kg	68,146	132,000	No
100-F-33_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	40	1,510	No
100-F-33_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	64	--	--
100-F-33_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,514	3,890	No
100-F-33_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100	563	No
100-F-33_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,437	18,500	No
100-F-33_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,528	15,700	No
100-F-33_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,662	22,000	No
100-F-33_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	--	--
100-F-33_Shallow	non-Rad	Lead	7439-92-1	µg/kg	9,061	10,200	No
100-F-33_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	256,825	512,000	No
100-F-33_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	47	13	Yes
100-F-33_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	255	470	No
100-F-33_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	22	--	--
100-F-33_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,321	19,100	No
100-F-33_Shallow	non-Rad	Phenol	108-95-2	µg/kg	19	--	--
100-F-33_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,010	85,100	No
100-F-33_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	71,718	67,800	Yes
100-F-33_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.64E+06	1.18E+07	No
100-F-33_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	347	130	Yes
100-F-33_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	94	--	--
100-F-33_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	6,470	No
100-F-33_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,200	132,000	No
100-F-33_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	408	1,510	No
100-F-33_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700	3,890	No
100-F-33_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	171	563	No
100-F-33_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,400	18,500	No
100-F-33_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,500	15,700	No
100-F-33_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	44,200	22,000	Yes
100-F-33_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	--	--
100-F-33_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--	--
100-F-33_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.05E+07	3.26E+07	No
100-F-33_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,700	10,200	Yes
100-F-33_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	312,000	512,000	No
100-F-33_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	266	470	No
100-F-33_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,800	19,100	No
100-F-33_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,400	85,100	No
100-F-33_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	58,200	67,800	No
100-F-33_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.19	1.1	No
100-F-33_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.095	--	--
100-F-33_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--	--
100-F-33_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	77,400	132,000	No
100-F-33_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	52	--	--
100-F-33_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000	3,890	No
100-F-33_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,400	18,500	No
100-F-33_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	15,700	No
100-F-33_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500	22,000	No
100-F-33_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	--	--
100-F-33_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,300	10,200	No
100-F-33_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	250,000	512,000	No
100-F-33_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	381	13	Yes
100-F-33_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	280	470	No
100-F-33_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,900	19,100	No
100-F-33_Staging pile area_Focused	non-Rad	Silver	7440-22-4	µg/kg	174	167	Yes
100-F-33_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	36,100	85,100	No
100-F-33_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	49,000	67,800	No
100-F-35_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	520	--	--
100-F-35_Shallow	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	2,399	3,210	No
100-F-35_Shallow	Rad	Americium-241	14596-10-2	pCi/g	1.8	--	--
100-F-35_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	2.6	1.1	Yes
100-F-35_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	1.7	0.025	Yes
100-F-35_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.64	0.18	Yes
100-F-35_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.91	1.1	No
100-F-35_Shallow	Rad	Uranium-238	U-238	pCi/g	0.81	1.1	No
100-F-36_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	3.66E+06	1.18E+07	No
100-F-36_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	1,800	6,470	No
100-F-36_Shallow	non-Rad	Barium	7440-39-3	µg/kg	33,500	132,000	No
100-F-36_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	190	1,510	No
100-F-36_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	6,900	18,500	No
100-F-36_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	3,800	15,700	No
100-F-36_Shallow	non-Rad	Copper	7440-50-8	µg/kg	10,200	22,000	No
100-F-36_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	325	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-36_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.08E+07	3.26E+07	No
100-F-36_Shallow	non-Rad	Lead	7439-92-1	µg/kg	2,100	10,200	No
100-F-36_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	195,000	512,000	No
100-F-36_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,100	19,100	No
100-F-36_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	3,007	3,210	No
100-F-36_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	27,700	85,100	No
100-F-36_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	25,300	67,800	No
100-F-36_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.69	1.1	No
100-F-36_Shallow	Rad	Uranium-238	U-238	pCi/g	1.0	1.1	No
100-F-36_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.05E+06	1.18E+07	No
100-F-36_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	6,470	No
100-F-36_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,100	132,000	No
100-F-36_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	350	1,510	No
100-F-36_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	3,890	No
100-F-36_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,800	18,500	No
100-F-36_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	15,700	No
100-F-36_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100	22,000	No
100-F-36_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	866	--	--
100-F-36_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	3.26E+07	No
100-F-36_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,500	10,200	No
100-F-36_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	356,000	512,000	No
100-F-36_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,000	19,100	No
100-F-36_Shallow_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	2,131	3,210	No
100-F-36_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,800	85,100	No
100-F-36_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,000	67,800	No
100-F-36_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.57	1.1	No
100-F-36_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.72	1.1	No
100-F-37_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	6,470	Yes
100-F-37_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	508,000	132,000	Yes
100-F-37_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	340	--	--
100-F-37_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	710	563	Yes
100-F-37_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,100	18,500	No
100-F-37_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	214,000	10,200	Yes
100-F-37_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	70	13	Yes
100-F-38_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.77E+06	1.18E+07	No
100-F-38_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--	--
100-F-38_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	6,470	No
100-F-38_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	388,000	132,000	Yes
100-F-38_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	434	1,510	No
100-F-38_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	513	--	--
100-F-38_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	23,500	3,890	Yes
100-F-38_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	117	563	No
100-F-38_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,500	18,500	No
100-F-38_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,300	15,700	No
100-F-38_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,000	22,000	No
100-F-38_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	47	--	--
100-F-38_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,900	--	--
100-F-38_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07	3.26E+07	No
100-F-38_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	38,400	10,200	Yes
100-F-38_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	291,000	512,000	No
100-F-38_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	510	470	Yes
100-F-38_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	19,100	No
100-F-38_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,100	85,100	No
100-F-38_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,400	67,800	No
100-F-4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,100	18,500	No
100-F-4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	3,200	--	--
100-F-4_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.052	0.025	Yes
100-F-44:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.19E+06	1.18E+07	No
100-F-44:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	6,470	No
100-F-44:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	51,800	132,000	No
100-F-44:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	140	1,510	No
100-F-44:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,800	3,890	No
100-F-44:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70	563	No
100-F-44:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,200	18,500	No
100-F-44:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,800	15,700	No
100-F-44:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,800	22,000	No
100-F-44:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	--	--
100-F-44:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	3.26E+07	No
100-F-44:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,200	10,200	No
100-F-44:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	235,000	512,000	No
100-F-44:2_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	13	Yes
100-F-44:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	19,100	No
100-F-44:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	31,600	85,100	No
100-F-44:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	90,700	67,800	Yes
100-F-44:5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.86E+06	1.18E+07	No
100-F-44:5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300	6,470	No
100-F-44:5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	46,400	132,000	No
100-F-44:5_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	340	1,510	No
100-F-44:5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100	3,890	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-44:5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,900	18,500	No
100-F-44:5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	15,700	No
100-F-44:5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,500	22,000	No
100-F-44:5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.29E+07	3.26E+07	No
100-F-44:5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100	10,200	No
100-F-44:5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	250,000	512,000	No
100-F-44:5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,200	19,100	No
100-F-44:5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	30,600	85,100	No
100-F-44:5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	29,100	67,800	No
100-F-44:8_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.97E+06	1.18E+07	No
100-F-44:8_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	9.1	--	--
100-F-44:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	360	130	Yes
100-F-44:8_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	84	--	--
100-F-44:8_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	59	--	--
100-F-44:8_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,416	6,470	No
100-F-44:8_Shallow	non-Rad	Barium	7440-39-3	µg/kg	125,676	132,000	No
100-F-44:8_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--	--
100-F-44:8_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	36	--	--
100-F-44:8_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	18	--	--
100-F-44:8_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.8	--	--
100-F-44:8_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	143	1,510	No
100-F-44:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,762	3,890	Yes
100-F-44:8_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	95	563	No
100-F-44:8_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,810	18,500	No
100-F-44:8_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	23	--	--
100-F-44:8_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,982	15,700	No
100-F-44:8_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,533	22,000	No
100-F-44:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--	--
100-F-44:8_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--	--
100-F-44:8_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07	3.26E+07	No
100-F-44:8_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,741	10,200	No
100-F-44:8_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	289,822	512,000	No
100-F-44:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	106	13	Yes
100-F-44:8_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	--	--
100-F-44:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	386	470	No
100-F-44:8_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,934	19,100	No
100-F-44:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	39	--	--
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	47,322	--	--
100-F-44:8_Shallow	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEX1	µg/kg	105,648	--	--
100-F-44:8_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	49,287	85,100	No
100-F-44:8_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	47,891	67,800	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.46E+06	1.18E+07	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	26	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	29	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,392	6,470	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	69,258	132,000	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	31	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	31	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.7	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	99	1,510	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,433	3,890	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	96	563	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	8,432	18,500	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	24	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,348	15,700	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	13,669	22,000	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	50	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	3.26E+07	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	5,664	10,200	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-44:8_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	271,082	512,000	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	53	13	Yes
100-F-44:8_Staging Pile Area Footprint	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	10,454	19,100	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	56	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	13,238	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	110,000	--	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	50,796	85,100	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	43,092	67,800	No
100-F-44:9_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.52E+06	1.18E+07	No
100-F-44:9_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	130	Yes
100-F-44:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	31	--	--
100-F-44:9_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,000	6,470	No
100-F-44:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,300	132,000	No
100-F-44:9_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	88	1,510	No
100-F-44:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000	3,890	No
100-F-44:9_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	210	563	No
100-F-44:9_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,700	18,500	No
100-F-44:9_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,100	15,700	No
100-F-44:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,800	22,000	No
100-F-44:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	311	--	--
100-F-44:9_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.63E+07	3.26E+07	No
100-F-44:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,600	10,200	Yes
100-F-44:9_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	281,000	512,000	No
100-F-44:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	13	Yes
100-F-44:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	470	Yes
100-F-44:9_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	18,600	19,100	No
100-F-44:9_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	780	Yes
100-F-44:9_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,200	85,100	No
100-F-44:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	55,300	67,800	No
100-F-44:9_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.081	1.1	No
100-F-44:9_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.12	--	--
100-F-44:9_Overburden_Focused	Rad	Tritium	10028-17-8	pCi/g	0.018	--	--
100-F-44:9_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.93E+06	1.18E+07	No
100-F-44:9_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	510	130	Yes
100-F-44:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	34	--	--
100-F-44:9_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	4,733	6,470	No
100-F-44:9_Shallow	non-Rad	Barium	7440-39-3	µg/kg	59,638	132,000	No
100-F-44:9_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	173	1,510	No
100-F-44:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,450	3,890	No
100-F-44:9_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	92	563	No
100-F-44:9_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,182	18,500	No
100-F-44:9_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,559	15,700	No
100-F-44:9_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,504	22,000	No
100-F-44:9_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.84E+07	3.26E+07	No
100-F-44:9_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,400	10,200	No
100-F-44:9_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	290,704	512,000	No
100-F-44:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	13	Yes
100-F-44:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	374	470	No
100-F-44:9_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,979	19,100	No
100-F-44:9_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	42,977	85,100	No
100-F-44:9_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,535	67,800	No
100-F-44:9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.21	0.18	Yes
100-F-44:9_Shallow	Rad	Tritium	10028-17-8	pCi/g	0.015	--	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	7.90E+06	1.18E+07	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,142	6,470	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	65,552	132,000	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	134	1,510	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,980	3,890	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	86	563	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	12,509	18,500	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-44:9_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,335	15,700	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	15,113	22,000	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	178	--	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.95E+07	3.26E+07	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	4,786	10,200	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	304,989	512,000	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	34	13	Yes
100-F-44:9_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	450	470	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	11,033	19,100	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	930	780	Yes
100-F-44:9_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	430	167	Yes
100-F-44:9_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	46,865	85,100	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	40,985	67,800	No
100-F-44:9_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.18	1.1	No
100-F-44:9_Staging Pile Area Footprint	Rad	Europium-152	14683-23-9	pCi/g	1.1	--	--
100-F-44:9_Staging Pile Area Footprint	Rad	Tritium	10028-17-8	pCi/g	0.090	--	--
100-F-45_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.63E+06	1.18E+07	No
100-F-45_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	6,470	No
100-F-45_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,700	132,000	No
100-F-45_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160	1,510	No
100-F-45_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,300	3,890	No
100-F-45_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	98	563	No
100-F-45_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	20,700	18,500	Yes
100-F-45_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,300	15,700	No
100-F-45_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,500	22,000	No
100-F-45_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	231	--	--
100-F-45_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.41E+07	3.26E+07	No
100-F-45_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700	10,200	No
100-F-45_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	237,000	512,000	No
100-F-45_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	59	13	Yes
100-F-45_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	19,100	No
100-F-45_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	34,500	85,100	No
100-F-45_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500	67,800	No
100-F-45_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.067	1.1	No
100-F-45_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.92E+06	1.18E+07	No
100-F-45_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,484	6,470	No
100-F-45_Shallow	non-Rad	Barium	7440-39-3	µg/kg	72,078	132,000	No
100-F-45_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	108	1,510	No
100-F-45_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,700	3,890	No
100-F-45_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	290	563	No
100-F-45_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	34,335	18,500	Yes
100-F-45_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,959	15,700	No
100-F-45_Shallow	non-Rad	Copper	7440-50-8	µg/kg	17,272	22,000	No
100-F-45_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	960	--	--
100-F-45_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.58E+07	3.26E+07	No
100-F-45_Shallow	non-Rad	Lead	7439-92-1	µg/kg	7,617	10,200	No
100-F-45_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	274,740	512,000	No
100-F-45_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,034	13	Yes
100-F-45_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	487	470	Yes
100-F-45_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,261	19,100	No
100-F-45_Shallow	non-Rad	Silver	7440-22-4	µg/kg	180	167	Yes
100-F-45_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,311	85,100	No
100-F-45_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	54,296	67,800	No
100-F-45_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.7	1.1	Yes
100-F-45_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.32	--	--
100-F-45_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.96E+06	1.18E+07	No
100-F-45_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	2,349	6,470	No
100-F-45_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	79,938	132,000	No
100-F-45_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	156	1,510	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-45_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	2,766	3,890	No
100-F-45_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	91	563	No
100-F-45_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	11,780	18,500	No
100-F-45_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,154	15,700	No
100-F-45_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	12,140	22,000	No
100-F-45_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	274	--	--
100-F-45_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	1.63E+07	3.26E+07	No
100-F-45_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	5,644	10,200	No
100-F-45_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	254,059	512,000	No
100-F-45_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	15	13	Yes
100-F-45_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	310	470	No
100-F-45_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	10,032	19,100	No
100-F-45_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	40,197	85,100	No
100-F-45_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	36,668	67,800	No
100-F-45_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.11	1.1	No
100-F-46_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.82E+06	1.18E+07	No
100-F-46_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,200	130	Yes
100-F-46_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--	--
100-F-46_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,900	6,470	No
100-F-46_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	57,700	132,000	No
100-F-46_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.9	--	--
100-F-46_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.9	--	--
100-F-46_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.0	--	--
100-F-46_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--	--
100-F-46_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	510	1,510	No
100-F-46_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,900	3,890	Yes
100-F-46_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,500	18,500	No
100-F-46_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200	15,700	No
100-F-46_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	22,000	No
100-F-46_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	--	--
100-F-46_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	10	--	--
100-F-46_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.52E+07	3.26E+07	No
100-F-46_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,500	10,200	No
100-F-46_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	245,000	512,000	No
100-F-46_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	860	470	Yes
100-F-46_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,000	19,100	No
100-F-46_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	380	167	Yes
100-F-46_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	34,200	85,100	No
100-F-46_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	30,600	67,800	No
100-F-46_Shallow_Focused	Rad	Tritium	10028-17-8	pCi/g	34	--	--
100-F-47_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.28E+06	1.18E+07	No
100-F-47_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	390	130	Yes
100-F-47_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.2	--	--
100-F-47_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	21	--	--
100-F-47_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,711	6,470	No
100-F-47_Shallow	non-Rad	Barium	7440-39-3	µg/kg	51,357	132,000	No
100-F-47_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	62	--	--
100-F-47_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--	--
100-F-47_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	100	--	--
100-F-47_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	81	1,510	No
100-F-47_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--	--
100-F-47_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,833	3,890	No
100-F-47_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	93	563	No
100-F-47_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,781	18,500	No
100-F-47_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	72	--	--
100-F-47_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,086	15,700	No
100-F-47_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,960	22,000	No
100-F-47_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	97	--	--
100-F-47_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	46	--	--
100-F-47_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.58E+07	3.26E+07	No
100-F-47_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,383	10,200	Yes
100-F-47_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	259,094	512,000	No
100-F-47_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	907	13	Yes
100-F-47_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	450	470	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-47_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,083	19,100	No
100-F-47_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	84	--	--
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	19,258	--	--
100-F-47_Shallow	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	37,638	--	--
100-F-47_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	37,121	85,100	No
100-F-47_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,988	67,800	No
100-F-48_Overburden	non-Rad	2-Butanone	78-93-3	µg/kg	2.5	--	--
100-F-48_Overburden	non-Rad	Acetone	67-64-1	µg/kg	16	--	--
100-F-48_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.88E+06	1.18E+07	No
100-F-48_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	79	--	--
100-F-48_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,350	6,470	No
100-F-48_Overburden	non-Rad	Barium	7440-39-3	µg/kg	63,354	132,000	No
100-F-48_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	221	1,510	No
100-F-48_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--	--
100-F-48_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,283	3,890	No
100-F-48_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	83	563	No
100-F-48_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	10,921	18,500	No
100-F-48_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	5,677	15,700	No
100-F-48_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,682	22,000	No
100-F-48_Overburden	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	--	--
100-F-48_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.48E+07	3.26E+07	No
100-F-48_Overburden	non-Rad	Lead	7439-92-1	µg/kg	7,551	10,200	No
100-F-48_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	257,998	512,000	No
100-F-48_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	7.1	13	No
100-F-48_Overburden	non-Rad	Methoxychlor	72-43-5	µg/kg	1.2	--	--
100-F-48_Overburden	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	--	--
100-F-48_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	440	470	No
100-F-48_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,836	19,100	No
100-F-48_Overburden	non-Rad	Phenol	108-95-2	µg/kg	22	--	--
100-F-48_Overburden	non-Rad	Toluene	108-88-3	µg/kg	1.0	--	--
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,551	--	--
100-F-48_Overburden	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	9,008	--	--
100-F-48_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	38,122	85,100	No
100-F-48_Overburden	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.1	--	--
100-F-48_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	31,504	67,800	No
100-F-48_Overburden_Focused	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	4.5	--	--
100-F-48_Overburden_Focused	non-Rad	2-Butanone	78-93-3	µg/kg	6.8	--	--
100-F-48_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.89	--	--
100-F-48_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	39	--	--
100-F-48_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.76E+06	1.18E+07	No
100-F-48_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--	--
100-F-48_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	6,470	No
100-F-48_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,300	132,000	No
100-F-48_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210	1,510	No
100-F-48_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,500	3,890	No
100-F-48_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	91	563	No
100-F-48_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,900	18,500	No
100-F-48_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	15,700	No
100-F-48_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,500	22,000	No
100-F-48_Overburden_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	--	--
100-F-48_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.77E+07	3.26E+07	No
100-F-48_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,500	10,200	No
100-F-48_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	289,000	512,000	No
100-F-48_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	8.9	13	No
100-F-48_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	3.7	--	--
100-F-48_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,400	19,100	No
100-F-48_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	38	--	--
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	4,000	--	--
100-F-48_Overburden_Focused	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	9,100	--	--
100-F-48_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,600	85,100	No
100-F-48_Overburden_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.0	--	--
100-F-48_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,600	67,800	No
100-F-48_Shallow_1	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	1.3	--	--
100-F-48_Shallow_1	non-Rad	2-Butanone	78-93-3	µg/kg	8.5	--	--
100-F-48_Shallow_1	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	21	--	--
100-F-48_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.4	--	--
100-F-48_Shallow_1	non-Rad	Acetone	67-64-1	µg/kg	64	--	--
100-F-48_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	7.52E+06	1.18E+07	No
100-F-48_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	520	130	Yes
100-F-48_Shallow_1	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.1	--	--
100-F-48_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	93	--	--
100-F-48_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	2,517	6,470	No
100-F-48_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	74,696	132,000	No
100-F-48_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	145	1,510	No
100-F-48_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	4,367	3,890	Yes
100-F-48_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	100	563	No
100-F-48_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	12,289	18,500	No
100-F-48_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	52	--	--
100-F-48_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,291	15,700	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-48_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	13,785	22,000	No
100-F-48_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	2.3	--	--
100-F-48_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	32	--	--
100-F-48_Shallow_1	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	--	--
100-F-48_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.54E+07	3.26E+07	No
100-F-48_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	8,470	10,200	No
100-F-48_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	267,107	512,000	No
100-F-48_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	151	13	Yes
100-F-48_Shallow_1	non-Rad	Methoxychlor	72-43-5	µg/kg	13	--	--
100-F-48_Shallow_1	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	--	--
100-F-48_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	250	470	No
100-F-48_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	11,481	19,100	No
100-F-48_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	660	--	--
100-F-48_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	37	--	--
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	20,868	--	--
100-F-48_Shallow_1	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	86,681	--	--
100-F-48_Shallow_1	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	664	3,210	No
100-F-48_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	37,729	85,100	No
100-F-48_Shallow_1	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	--	--
100-F-48_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	43,368	67,800	No
100-F-48_Shallow_1	Rad	Uranium-234	13966-29-5	pCi/g	0.26	1.1	No
100-F-48_Shallow_1	Rad	Uranium-238	U-238	pCi/g	0.17	1.1	No
100-F-48_Shallow_2	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	--	--
100-F-48_Shallow_2	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	24	--	--
100-F-48_Shallow_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	12	--	--
100-F-48_Shallow_2	non-Rad	Acetone	67-64-1	µg/kg	49	--	--
100-F-48_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	6.66E+06	1.18E+07	No
100-F-48_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--	--
100-F-48_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,306	6,470	No
100-F-48_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	62,416	132,000	No
100-F-48_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--	--
100-F-48_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	139	1,510	No
100-F-48_Shallow_2	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	78	--	--
100-F-48_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	2,442	3,890	No
100-F-48_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	94	563	No
100-F-48_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	10,945	18,500	No
100-F-48_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,853	15,700	No
100-F-48_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,261	22,000	No
100-F-48_Shallow_2	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.56	--	--
100-F-48_Shallow_2	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	--	--
100-F-48_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	36	--	--
100-F-48_Shallow_2	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	4.0	--	--
100-F-48_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.49E+07	3.26E+07	No
100-F-48_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	4,949	10,200	No
100-F-48_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	244,867	512,000	No
100-F-48_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	17	13	Yes
100-F-48_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,086	19,100	No
100-F-48_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	36	--	--
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	12,909	--	--
100-F-48_Shallow_2	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	30,139	--	--
100-F-48_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	36,873	85,100	No
100-F-48_Shallow_2	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	--	--
100-F-48_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	40,871	67,800	No
100-F-49_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.81	--	--
100-F-49_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.60	--	--
100-F-49_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.9	--	--
100-F-49_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.95E+06	1.18E+07	No
100-F-49_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	8.6	--	--
100-F-49_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	634	130	Yes
100-F-49_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	20	--	--
100-F-49_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.2	--	--
100-F-49_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,301	6,470	No
100-F-49_Shallow	non-Rad	Barium	7440-39-3	µg/kg	74,059	132,000	No
100-F-49_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	16	--	--
100-F-49_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	37	--	--
100-F-49_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	43	--	--
100-F-49_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--	--
100-F-49_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	76	1,510	No
100-F-49_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--	--
100-F-49_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,083	3,890	No
100-F-49_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	111	563	No
100-F-49_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.1	--	--
100-F-49_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,187	18,500	No
100-F-49_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	36	--	--
100-F-49_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,309	15,700	No
100-F-49_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,295	22,000	No
100-F-49_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	3.1	--	--
100-F-49_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	77	--	--
100-F-49_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	26	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-49_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.62E+07	3.26E+07	No
100-F-49_Shallow	non-Rad	Lead	7439-92-1	µg/kg	7,067	10,200	No
100-F-49_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	252,487	512,000	No
100-F-49_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	11	13	No
100-F-49_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	400	470	No
100-F-49_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,656	19,100	No
100-F-49_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	67	--	--
100-F-49_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,200	780	Yes
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,845	--	--
100-F-49_Shallow	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEX1	µg/kg	30,241	--	--
100-F-49_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	41,195	85,100	No
100-F-49_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	39,904	67,800	No
100-F-49_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.43	--	--
100-F-49_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.00E+06	1.18E+07	No
100-F-49_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	130	Yes
100-F-49_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	6,470	No
100-F-49_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	42,800	132,000	No
100-F-49_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	530	1,510	No
100-F-49_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--	--
100-F-49_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	68	563	No
100-F-49_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.65	--	--
100-F-49_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	18,500	No
100-F-49_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	15,700	No
100-F-49_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600	22,000	No
100-F-49_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	3.26E+07	No
100-F-49_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100	10,200	No
100-F-49_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	236,000	512,000	No
100-F-49_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	19,100	No
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,000	--	--
100-F-49_Shallow_Focused	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEX1	µg/kg	11,000	--	--
100-F-49_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,400	85,100	No
100-F-49_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	33,200	67,800	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.80	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.98E+06	1.18E+07	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	840	130	Yes
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	6,470	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	105,000	132,000	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.7	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.9	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	34	1,510	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	4,100	3,890	Yes
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	563	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	1.0	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,100	18,500	Yes
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	10	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	15,700	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,900	22,000	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.87E+07	3.26E+07	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,900	10,200	Yes
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	326,000	512,000	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	16	13	Yes
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	16,500	19,100	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	19	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	23,000	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	53,000	--	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,700	85,100	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,000	67,800	No
100-F-50_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.4	--	--
100-F-50_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.62E+06	1.18E+07	No
100-F-50_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	6,470	No
100-F-50_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	61,800	132,000	No
100-F-50_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	810	1,510	No
100-F-50_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--	--
100-F-50_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,500	3,890	No
100-F-50_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,600	18,500	No
100-F-50_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	15,700	No
100-F-50_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,800	22,000	No
100-F-50_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--	--
100-F-50_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.13E+07	3.26E+07	No
100-F-50_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,900	10,200	No
100-F-50_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	310,000	512,000	No
100-F-50_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,700	19,100	No
100-F-50_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	53,100	85,100	No
100-F-50_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,400	67,800	No
100-F-50_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.19	1.1	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	1.18E+07	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	16	--	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	40	--	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100	6,470	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	73,200	132,000	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.8	--	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	150	1,510	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	3,890	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	563	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	18,500	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000	15,700	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	20,900	22,000	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07	3.26E+07	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,600	10,200	Yes
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	270,000	512,000	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	75	13	Yes
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	19,100	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,600	--	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	7,900	--	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	476	3,210	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,600	85,100	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	52,500	67,800	No
100-F-51 and 100-F-63_Overburden_Focused	Rad	Carbon-14	14762-75-5	pCi/g	0.46	--	--
100-F-51 and 100-F-63_Overburden_Focused	Rad	Uranium-234	13966-29-5	pCi/g	0.16	1.1	No
100-F-51 and 100-F-63_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.16	1.1	No
100-F-51 and 100-F-63_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	1.18E+07	No
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.5	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,797	6,470	No
100-F-51 and 100-F-63_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,933	132,000	No
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.9	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	11	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	130	1,510	No
100-F-51 and 100-F-63_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,283	3,890	No
100-F-51 and 100-F-63_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	81	563	No
100-F-51 and 100-F-63_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,966	18,500	No
100-F-51 and 100-F-63_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	9.6	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,629	15,700	No
100-F-51 and 100-F-63_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,379	22,000	No
100-F-51 and 100-F-63_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	15	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.59E+07	3.26E+07	No
100-F-51 and 100-F-63_Shallow	non-Rad	Lead	7439-92-1	µg/kg	19,021	10,200	Yes
100-F-51 and 100-F-63_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	248,671	512,000	No
100-F-51 and 100-F-63_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	13	Yes
100-F-51 and 100-F-63_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,470	19,100	No
100-F-51 and 100-F-63_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	13	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,120	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	5,627	--	--
100-F-51 and 100-F-63_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	587	3,210	No
100-F-51 and 100-F-63_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	39,841	85,100	No
100-F-51 and 100-F-63_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,147	67,800	No
100-F-51 and 100-F-63_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	0.67	--	--
100-F-51 and 100-F-63_Shallow	Rad	Uranium-234	13966-29-5	pCi/g	0.21	1.1	No
100-F-51 and 100-F-63_Shallow	Rad	Uranium-238	U-238	pCi/g	0.22	1.1	No
100-F-52_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.02E+06	1.18E+07	No
100-F-52_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,100	6,470	No
100-F-52_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,600	132,000	No
100-F-52_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--	--
100-F-52_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	490	1,510	No
100-F-52_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	240	--	--
100-F-52_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	3,890	No
100-F-52_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,000	18,500	No
100-F-52_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	15,700	No
100-F-52_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,800	22,000	No
100-F-52_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	31	--	--
100-F-52_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	--	--
100-F-52_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.48E+07	3.26E+07	No
100-F-52_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,200	10,200	No
100-F-52_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	270,000	512,000	No
100-F-52_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	10	13	No
100-F-52_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	19,100	No
100-F-52_Shallow_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	2,605	3,210	No
100-F-52_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	35,100	85,100	No
100-F-52_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	36,100	67,800	No
100-F-52_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.55	1.1	No
100-F-52_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.88	1.1	No
100-F-53_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.00E+06	1.18E+07	No
100-F-53_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,010	130	Yes
100-F-53_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,610	6,470	No
100-F-53_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	75,200	132,000	No
100-F-53_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	370	1,510	No
100-F-53_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	200	--	--
100-F-53_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,000	3,890	No
100-F-53_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	130	563	No
100-F-53_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,200	18,500	No
100-F-53_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,790	15,700	No
100-F-53_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,400	22,000	No
100-F-53_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.94E+07	3.26E+07	No
100-F-53_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	21,200	10,200	Yes
100-F-53_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	413,000	512,000	No
100-F-53_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	380	470	No
100-F-53_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100	19,100	No
100-F-53_Shallow_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,673	3,210	No
100-F-53_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	45,600	85,100	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-53_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,900	67,800	No
100-F-53_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.80	1.1	No
100-F-53_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.56	1.1	No
100-F-54_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.45	1.1	No
100-F-54_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.60	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	12	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	11	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	16	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	9.0	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	9.14E+06	1.18E+07	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	8.5	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	3,302	6,470	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	103,747	132,000	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	44	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	42	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	286	1,510	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	353	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	2,179	3,890	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	133	563	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chlordane	57-74-9	µg/kg	8.6	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	12,368	18,500	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	46	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,919	15,700	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	16,925	22,000	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	12	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	67	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	150	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	17	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	36	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	3.26E+07	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	65,065	10,200	Yes
100-F-55 and 100-F-62_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	325,163	512,000	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	25	13	Yes
100-F-55 and 100-F-62_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	260	470	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	12,018	19,100	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	25	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	177	--	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	42,866	85,100	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	53,696	67,800	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.03E+06	1.18E+07	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	17	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1248	12672-29-6	µg/kg	240	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	15	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	3,053	6,470	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	85,283	132,000	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	45	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	146	1,510	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,158	3,890	Yes
100-F-55 and 100-F-62_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	100	563	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,540	18,500	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	71	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	6,397	15,700	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	13,411	22,000	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	23	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	9.6	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	39	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.59E+07	3.26E+07	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	5,536	10,200	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	256,619	512,000	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	6,786	13	Yes
100-F-55 and 100-F-62_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	250	470	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	12,732	19,100	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Phenol	108-95-2	µg/kg	35	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	142	--	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	39,226	85,100	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	49,926	67,800	No
100-F-55 and 100-F-62_Shallow_2	Rad	Cesium-137	10045-97-3	pCi/g	0.051	1.1	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.36E+06	1.18E+07	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	660	130	Yes
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	4.9	--	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	6,470	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	48,600	132,000	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.4	--	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.7	--	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.3	--	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	38	1,510	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	3,890	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	76	563	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,800	18,500	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.7	--	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,900	15,700	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,000	22,000	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.74E+07	3.26E+07	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700	10,200	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	286,000	512,000	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,400	19,100	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,000	85,100	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	34,500	67,800	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.81	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	1.18E+07	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Anthracene	120-12-7	µg/kg	26	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1248	12672-29-6	µg/kg	25	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	19	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	22	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,900	6,470	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	157,000	132,000	Yes
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	110	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	86	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	62	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	330	1,510	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	8,300	3,890	Yes
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270	563	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.91	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,900	18,500	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	100	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	15,700	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,200	22,000	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	3.0	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluorene	86-73-7	µg/kg	16	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	749	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	49	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	3.26E+07	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,500	10,200	Yes
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	340,000	512,000	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	690	13	Yes
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	390	470	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	15,000	19,100	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Phenol	108-95-2	µg/kg	80	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	160	--	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Silver	7440-22-4	µg/kg	970	167	Yes
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,600	85,100	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	74,800	67,800	Yes
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.14	1.1	No
100-F-56:1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.95E+06	1.18E+07	No
100-F-56:1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.2	--	--
100-F-56:1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,037	6,470	No
100-F-56:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,818	132,000	No
100-F-56:1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	174	1,510	No
100-F-56:1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,317	3,890	No
100-F-56:1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	78	563	No
100-F-56:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,361	18,500	No
100-F-56:1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,840	15,700	No
100-F-56:1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,275	22,000	No
100-F-56:1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.89E+07	3.26E+07	No
100-F-56:1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	8,270	10,200	No
100-F-56:1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	276,638	512,000	No
100-F-56:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,771	13	Yes
100-F-56:1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	251	470	No
100-F-56:1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,713	19,100	No
100-F-56:1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	48,417	85,100	No
100-F-56:1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	35,948	67,800	No
100-F-56:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.02E+06	1.18E+07	No
100-F-56:1_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	18	--	--
100-F-56:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	6,470	No
100-F-56:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	91,000	132,000	No
100-F-56:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	420	1,510	No
100-F-56:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,600	3,890	No
100-F-56:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140	563	No
100-F-56:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	58,600	18,500	Yes
100-F-56:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500	15,700	No
100-F-56:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,800	22,000	No
100-F-56:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,560	--	--
100-F-56:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07	3.26E+07	No
100-F-56:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,500	10,200	Yes
100-F-56:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	296,000	512,000	No
100-F-56:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	21	13	Yes
100-F-56:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	450	470	No
100-F-56:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	19,100	No
100-F-56:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,300	85,100	No
100-F-56:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,300	67,800	No
100-F-60_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.22E+06	1.18E+07	No
100-F-60_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	6,470	No
100-F-60_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,000	132,000	No
100-F-60_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	200	1,510	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
100-F-60_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,300	3,890	No
100-F-60_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	45	563	No
100-F-60_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,900	18,500	No
100-F-60_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100	15,700	No
100-F-60_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	22,000	No
100-F-60_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.52E+07	3.26E+07	No
100-F-60_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	26,000	10,200	Yes
100-F-60_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	248,000	512,000	No
100-F-60_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.9	13	No
100-F-60_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,100	19,100	No
100-F-60_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,600	85,100	No
100-F-60_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	37,000	67,800	No
100-F-61_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.62E+06	1.18E+07	No
100-F-61_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	61	--	--
100-F-61_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--	--
100-F-61_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,668	6,470	No
100-F-61_Shallow	non-Rad	Barium	7440-39-3	µg/kg	66,908	132,000	No
100-F-61_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	362	--	--
100-F-61_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	197	--	--
100-F-61_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	135	--	--
100-F-61_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	79	--	--
100-F-61_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	397	1,510	No
100-F-61_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42	--	--
100-F-61_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,403	3,890	No
100-F-61_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	106	563	No
100-F-61_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,835	18,500	No
100-F-61_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	224	--	--
100-F-61_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,254	15,700	No
100-F-61_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,346	22,000	No
100-F-61_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	35	--	--
100-F-61_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	511	--	--
100-F-61_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	100	--	--
100-F-61_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	99	--	--
100-F-61_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	3.26E+07	No
100-F-61_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,243	10,200	No
100-F-61_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	298,817	512,000	No
100-F-61_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	640	13	Yes
100-F-61_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	470	Yes
100-F-61_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,237	19,100	No
100-F-61_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	554	--	--
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	22,371	--	--
100-F-61_Shallow	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	48,222	--	--
100-F-61_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,351	85,100	No
100-F-61_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	39,326	67,800	No
100-F-7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.10E+06	1.18E+07	No
100-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	6,470	No
100-F-7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,500	132,000	No
100-F-7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	344	1,510	No
100-F-7_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--	--
100-F-7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,000	3,890	No
100-F-7_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	123	563	No
100-F-7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,900	18,500	No
100-F-7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,000	15,700	No
100-F-7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,800	22,000	No
100-F-7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.72E+07	3.26E+07	No
100-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,300	10,200	No
100-F-7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	262,000	512,000	No
100-F-7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	131	13	Yes
100-F-7_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	299	470	No
100-F-7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	19,100	No
100-F-7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,400	85,100	No
100-F-7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,800	67,800	No
100-F-9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.81E+06	1.18E+07	No
100-F-9_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	6,470	No
100-F-9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	42,300	132,000	No
100-F-9_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	220	1,510	No
100-F-9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,300	3,890	No
100-F-9_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	60	563	No
100-F-9_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,900	18,500	No
100-F-9_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	15,700	No
100-F-9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600	22,000	No
100-F-9_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.90E+07	3.26E+07	No
100-F-9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,700	10,200	No
100-F-9_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	273,000	512,000	No
100-F-9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	410	13	Yes
100-F-9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	170	470	No
100-F-9_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600	19,100	No
100-F-9_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,200	85,100	No
100-F-9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,300	67,800	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
116-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	11,119	6,470	Yes
116-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,955	6,470	No
116-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	828	--	--
116-F-1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--	--
116-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.17	1.1	No
116-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--	--
116-F-10_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,600	18,500	No
116-F-10_Shallow	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	2,051	3,210	No
116-F-10_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.5	1.1	Yes
116-F-10_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.14	0.0084	Yes
116-F-10_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--	--
116-F-10_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.54	1.1	No
116-F-10_Shallow	Rad	Uranium-238	U-238	pCi/g	0.69	1.1	No
116-F-11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,600	10,200	No
116-F-11_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.27	1.1	No
116-F-11_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.4	--	--
116-F-14_Deep	non-Rad	Chromium	7440-47-3	µg/kg	106,551	18,500	Yes
116-F-14_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	5,896	15,700	No
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	--	--
116-F-14_Deep	Rad	Carbon-14	14762-75-5	pCi/g	9.8	--	--
116-F-14_Deep	Rad	Cesium-137	10045-97-3	pCi/g	7.9	1.1	Yes
116-F-14_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	12	0.0084	Yes
116-F-14_Deep	Rad	Europium-152	14683-23-9	pCi/g	185	--	--
116-F-14_Deep	Rad	Europium-154	15585-10-1	pCi/g	23	0.033	Yes
116-F-14_Deep	Rad	Nickel-63	13981-37-8	pCi/g	686	--	--
116-F-14_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.2	0.18	Yes
116-F-14_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,661	6,470	No
116-F-14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	24,156	18,500	Yes
116-F-14_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,011	15,700	No
116-F-14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,485	--	--
116-F-14_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.75	1.1	No
116-F-14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.090	0.0084	Yes
116-F-14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.1	--	--
116-F-14_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.24	0.033	Yes
116-F-14_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	20	--	--
116-F-14_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.32	0.18	Yes
116-F-15_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.45E+06	1.18E+07	No
116-F-15_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	16	--	--
116-F-15_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--	--
116-F-15_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,810	6,470	No
116-F-15_Shallow	non-Rad	Barium	7440-39-3	µg/kg	90,808	132,000	No
116-F-15_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	145	1,510	No
116-F-15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,562	3,890	Yes
116-F-15_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100	563	No
116-F-15_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,311	18,500	No
116-F-15_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,556	15,700	No
116-F-15_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,130	22,000	No
116-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	680	--	--
116-F-15_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.55E+07	3.26E+07	No
116-F-15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	15,865	10,200	Yes
116-F-15_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	244,514	512,000	No
116-F-15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	179	13	Yes
116-F-15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	715	470	Yes
116-F-15_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,522	19,100	No
116-F-15_Shallow	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	1,691	3,210	No
116-F-15_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,303	85,100	No
116-F-15_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	38,914	67,800	No
116-F-15_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.15	1.1	No
116-F-15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.070	--	--
116-F-15_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.60	1.1	No
116-F-15_Shallow	Rad	Uranium-238	U-238	pCi/g	0.57	1.1	No
116-F-16_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	230	--	--
116-F-16_Overburden	non-Rad	Lead	7439-92-1	µg/kg	3,200	10,200	No
116-F-16_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	--	--
116-F-16_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,300	10,200	No
116-F-2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,400	--	--
116-F-2_Deep	Rad	Carbon-14	14762-75-5	pCi/g	6.6	--	--
116-F-2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	44	1.1	Yes
116-F-2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	1.6	0.0084	Yes
116-F-2_Deep	Rad	Europium-152	14683-23-9	pCi/g	54	--	--
116-F-2_Deep	Rad	Europium-154	15585-10-1	pCi/g	5.6	0.033	Yes
116-F-2_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	--	--
116-F-2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.12	1.1	No
116-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,123	--	--
116-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.31	1.1	No
116-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	1.0	--	--
116-F-3_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	736	--	--
116-F-3_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.36	--	--
116-F-4_Deep_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	71,000	2,810	Yes

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
116-F-4_Deep_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,698	3,210	No
116-F-4_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.8	1.1	Yes
116-F-4_Deep_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.074	0.025	Yes
116-F-4_Deep_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.65	1.1	No
116-F-4_Deep_Focused	Rad	Uranium-235	15117-96-1	pCi/g	0.066	0.11	No
116-F-4_Deep_Focused	Rad	Uranium-238	U-238	pCi/g	0.56	1.1	No
116-F-4_Overburden_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	54,600	2,810	Yes
116-F-4_Overburden_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	11,700	--	--
116-F-4_Overburden_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,637	3,210	No
116-F-4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	3.5	1.1	Yes
116-F-4_Overburden_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.080	0.025	Yes
116-F-4_Overburden_Focused	Rad	Strontium-90	10098-97-2	pCi/g	1.6	0.18	Yes
116-F-4_Overburden_Focused	Rad	Technetium-99	14133-76-7	pCi/g	1.5	--	--
116-F-4_Overburden_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.72	1.1	No
116-F-4_Overburden_Focused	Rad	Uranium-235	15117-96-1	pCi/g	0.075	0.11	No
116-F-4_Overburden_Focused	Rad	Uranium-238	U-238	pCi/g	0.55	1.1	No
116-F-4_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	6,500	2,810	Yes
116-F-4_Shallow_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,607	3,210	No
116-F-4_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.45	1.1	No
116-F-4_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.54	1.1	No
116-F-5_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.84E+06	1.18E+07	No
116-F-5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	6,470	Yes
116-F-5_Shallow	non-Rad	Barium	7440-39-3	µg/kg	85,000	132,000	No
116-F-5_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	550	1,510	No
116-F-5_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,200	18,500	No
116-F-5_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,600	15,700	No
116-F-5_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,400	22,000	No
116-F-5_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.01E+07	3.26E+07	No
116-F-5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,600	10,200	Yes
116-F-5_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	325,000	512,000	No
116-F-5_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,400	19,100	No
116-F-5_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,488	3,210	No
116-F-5_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	45,600	85,100	No
116-F-5_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	43,200	67,800	No
116-F-5_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.22	1.1	No
116-F-5_Shallow	Rad	Uranium-238	U-238	pCi/g	0.50	1.1	No
116-F-6_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,700	--	--
116-F-6_Deep	Rad	Cesium-137	10045-97-3	pCi/g	12	1.1	Yes
116-F-6_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.51	0.0084	Yes
116-F-6_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--	--
116-F-6_Deep	Rad	Europium-154	15585-10-1	pCi/g	0.86	0.033	Yes
116-F-6_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	32	0.18	Yes
116-F-6_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	498	--	--
116-F-6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.53	1.1	No
116-F-6_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.083	0.0084	Yes
116-F-6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.28	--	--
116-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.4	0.18	Yes
116-F-7_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.25E+06	1.18E+07	No
116-F-7_Deep_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--	--
116-F-7_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	6,470	No
116-F-7_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	54,600	132,000	No
116-F-7_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316	1,510	No
116-F-7_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	147	--	--
116-F-7_Deep_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,300	3,890	No
116-F-7_Deep_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	115	563	No
116-F-7_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	36,700	18,500	Yes
116-F-7_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	15,700	No
116-F-7_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,800	22,000	No
116-F-7_Deep_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	--	--
116-F-7_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	742	--	--
116-F-7_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.95E+07	3.26E+07	No
116-F-7_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900	10,200	No
116-F-7_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	242,000	512,000	No
116-F-7_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	145	13	Yes
116-F-7_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	449	470	No
116-F-7_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	40,900	19,100	Yes
116-F-7_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,300	85,100	No
116-F-7_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,000	67,800	No
116-F-7_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.046	1.1	No
116-F-8_Deep	Rad	Cesium-137	10045-97-3	pCi/g	0.27	1.1	No
116-F-8_Deep	Rad	Europium-152	14683-23-9	pCi/g	2.1	--	--
116-F-8_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	250	--	--
116-F-8_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	350	--	--
116-F-9_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,200	--	--
116-F-9_Deep	Rad	Carbon-14	14762-75-5	pCi/g	8.5	--	--
116-F-9_Deep	Rad	Cesium-137	10045-97-3	pCi/g	2.1	1.1	Yes
116-F-9_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	2.3	0.0084	Yes
116-F-9_Deep	Rad	Europium-152	14683-23-9	pCi/g	6.4	--	--
116-F-9_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.3	0.033	Yes

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
116-F-9_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	9.5	0.18	Yes
116-F-9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	0.18	Yes
118-F-1_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	7.03E+06	1.18E+07	No
118-F-1_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,400	130	Yes
118-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,529	6,470	No
118-F-1_Overburden	non-Rad	Barium	7440-39-3	µg/kg	79,630	132,000	No
118-F-1_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	419	1,510	No
118-F-1_Overburden	non-Rad	Boron	7440-42-8	µg/kg	3,490	3,890	No
118-F-1_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,573	18,500	No
118-F-1_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	8,356	15,700	No
118-F-1_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,817	22,000	No
118-F-1_Overburden	non-Rad	Iron	7439-89-6	µg/kg	2.15E+07	3.26E+07	No
118-F-1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	11,569	10,200	Yes
118-F-1_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	339,100	512,000	No
118-F-1_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	673	470	Yes
118-F-1_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	10,966	19,100	No
118-F-1_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,412	780	Yes
118-F-1_Overburden	non-Rad	Silver	7440-22-4	µg/kg	4,300	167	Yes
118-F-1_Overburden	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,433	3,210	No
118-F-1_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	57,388	85,100	No
118-F-1_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	45,106	67,800	No
118-F-1_Overburden	Rad	Americium-241	14596-10-2	pCi/g	0.60	--	--
118-F-1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.049	1.1	No
118-F-1_Overburden	Rad	Curium-244	13981-15-2	pCi/g	0.041	--	--
118-F-1_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.51	1.1	No
118-F-1_Overburden	Rad	Uranium-234	13966-29-5	pCi/g	0.13	1.1	No
118-F-1_Overburden	Rad	Uranium-238	U-238	pCi/g	0.48	1.1	No
118-F-1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.04E+06	1.18E+07	No
118-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	130	Yes
118-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,459	6,470	No
118-F-1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	51,867	132,000	No
118-F-1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	220	1,510	No
118-F-1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,429	3,890	No
118-F-1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	100	563	No
118-F-1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,367	18,500	No
118-F-1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,339	15,700	No
118-F-1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,107	22,000	No
118-F-1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07	3.26E+07	No
118-F-1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,380	10,200	No
118-F-1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	275,054	512,000	No
118-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	463	470	No
118-F-1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,394	19,100	No
118-F-1_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,780	3,210	No
118-F-1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	45,765	85,100	No
118-F-1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,708	67,800	No
118-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.24	1.1	No
118-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.13	0.0084	Yes
118-F-1_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	6.8	--	--
118-F-1_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.24	0.025	Yes
118-F-1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.66	0.18	Yes
118-F-1_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.54	1.1	No
118-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.057	0.11	No
118-F-1_Shallow	Rad	Uranium-238	U-238	pCi/g	0.60	1.1	No
118-F-1_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	6.09E+06	1.18E+07	No
118-F-1_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,600	6,470	Yes
118-F-1_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	76,779	132,000	No
118-F-1_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	286	1,510	No
118-F-1_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,200	3,890	No
118-F-1_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	100	563	No
118-F-1_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	10,607	18,500	No
118-F-1_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,167	15,700	No
118-F-1_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	13,189	22,000	No
118-F-1_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	3.26E+07	No
118-F-1_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	33,300	10,200	Yes
118-F-1_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	320,989	512,000	No
118-F-1_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	20	13	Yes
118-F-1_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	690	470	Yes
118-F-1_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,900	19,100	No
118-F-1_Staging Pile Area	non-Rad	Silver	7440-22-4	µg/kg	880	167	Yes
118-F-1_Staging Pile Area	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,931	3,210	No
118-F-1_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	43,457	85,100	No
118-F-1_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	40,550	67,800	No
118-F-1_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.74	1.1	No
118-F-1_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	0.0084	Yes
118-F-1_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.21	--	--
118-F-1_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	14	--	--
118-F-1_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.34	0.18	Yes
118-F-1_Staging Pile Area	Rad	Uranium-233/234	U-233/234	pCi/g	0.62	1.1	No
118-F-1_Staging Pile Area	Rad	Uranium-238	U-238	pCi/g	0.65	1.1	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
118-F-2_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.80E+06	1.18E+07	No
118-F-2_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	6,470	No
118-F-2_Overburden	non-Rad	Barium	7440-39-3	µg/kg	86,800	132,000	No
118-F-2_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	520	1,510	No
118-F-2_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,400	3,890	No
118-F-2_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	230	563	No
118-F-2_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,400	18,500	No
118-F-2_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	8,900	15,700	No
118-F-2_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,800	22,000	No
118-F-2_Overburden	non-Rad	Iron	7439-89-6	µg/kg	2.51E+07	3.26E+07	No
118-F-2_Overburden	non-Rad	Lead	7439-92-1	µg/kg	4,800	10,200	No
118-F-2_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	395,000	512,000	No
118-F-2_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	450	470	No
118-F-2_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	13,300	19,100	No
118-F-2_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,400	780	Yes
118-F-2_Overburden	non-Rad	Silver	7440-22-4	µg/kg	290	167	Yes
118-F-2_Overburden	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,363	3,210	No
118-F-2_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	63,000	85,100	No
118-F-2_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	52,100	67,800	No
118-F-2_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.11	1.1	No
118-F-2_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.59	1.1	No
118-F-2_Overburden	Rad	Uranium-238	U-238	pCi/g	0.46	1.1	No
118-F-2_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.51E+06	1.18E+07	No
118-F-2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	6,470	No
118-F-2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	93,000	132,000	No
118-F-2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	370	1,510	No
118-F-2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	160	563	No
118-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,000	18,500	No
118-F-2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,100	15,700	No
118-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	17,000	22,000	No
118-F-2_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.98E+07	3.26E+07	No
118-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	6,800	10,200	No
118-F-2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	347,000	512,000	No
118-F-2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	15,100	19,100	No
118-F-2_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	2,498	3,210	No
118-F-2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	41,300	85,100	No
118-F-2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	47,400	67,800	No
118-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.093	1.1	No
118-F-2_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.31	0.025	Yes
118-F-2_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.68	1.1	No
118-F-2_Shallow	Rad	Uranium-238	U-238	pCi/g	0.84	1.1	No
118-F-2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.07E+06	1.18E+07	No
118-F-2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	780	130	Yes
118-F-2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,500	6,470	No
118-F-2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,800	132,000	No
118-F-2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--	--
118-F-2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--	--
118-F-2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--	--
118-F-2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	49	--	--
118-F-2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	370	1,510	No
118-F-2_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--	--
118-F-2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,200	3,890	No
118-F-2_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	23	--	--
118-F-2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	220	563	No
118-F-2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,600	18,500	No
118-F-2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	61	--	--
118-F-2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,800	15,700	No
118-F-2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,400	22,000	No
118-F-2_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	50	--	--
118-F-2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	79	--	--
118-F-2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--	--
118-F-2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07	3.26E+07	No
118-F-2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,800	10,200	No
118-F-2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000	512,000	No
118-F-2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	470	Yes
118-F-2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	19,100	No
118-F-2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	73	--	--
118-F-2_Shallow_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,289	3,210	No
118-F-2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	56,800	85,100	No
118-F-2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,900	67,800	No
118-F-2_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.062	1.1	No
118-F-2_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.14	--	--
118-F-2_Shallow_Focused	Rad	Nickel-63	13981-37-8	pCi/g	5.1	--	--
118-F-2_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.52	1.1	No
118-F-2_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.43	1.1	No
118-F-2_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	5.83E+06	1.18E+07	No
118-F-2_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	6,470	No
118-F-2_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	79,300	132,000	No
118-F-2_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	400	1,510	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
118-F-2_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	1,400	3,890	No
118-F-2_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	8,400	18,500	No
118-F-2_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,000	15,700	No
118-F-2_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	12,600	22,000	No
118-F-2_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.79E+07	3.26E+07	No
118-F-2_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	4,700	10,200	No
118-F-2_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	337,000	512,000	No
118-F-2_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	900	470	Yes
118-F-2_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,600	19,100	No
118-F-2_Staging Pile Area	non-Rad	Selenium	7782-49-2	µg/kg	1,400	780	Yes
118-F-2_Staging Pile Area	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	1,557	3,210	No
118-F-2_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	42,000	85,100	No
118-F-2_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	40,300	67,800	No
118-F-2_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.62	1.1	No
118-F-2_Staging Pile Area	Rad	Plutonium-238	13981-16-3	pCi/g	1.0	0.0038	Yes
118-F-2_Staging Pile Area	Rad	Uranium-233/234	U-233/234	pCi/g	0.74	1.1	No
118-F-2_Staging Pile Area	Rad	Uranium-238	U-238	pCi/g	0.52	1.1	No
118-F-3_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	5.70E+06	1.18E+07	No
118-F-3_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	6,470	No
118-F-3_Overburden	non-Rad	Barium	7440-39-3	µg/kg	73,200	132,000	No
118-F-3_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	280	1,510	No
118-F-3_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,600	3,890	No
118-F-3_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,900	18,500	No
118-F-3_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,500	15,700	No
118-F-3_Overburden	non-Rad	Copper	7440-50-8	µg/kg	12,800	22,000	No
118-F-3_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.69E+07	3.26E+07	No
118-F-3_Overburden	non-Rad	Lead	7439-92-1	µg/kg	4,900	10,200	No
118-F-3_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	302,000	512,000	No
118-F-3_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	12,300	19,100	No
118-F-3_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	39,300	85,100	No
118-F-3_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	36,400	67,800	No
118-F-3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.05E+06	1.18E+07	No
118-F-3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	6,470	No
118-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	116,000	132,000	No
118-F-3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	240	1,510	No
118-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	12,700	3,890	Yes
118-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,300	18,500	No
118-F-3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,600	15,700	No
118-F-3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,000	22,000	No
118-F-3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.47E+07	3.26E+07	No
118-F-3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,500	10,200	No
118-F-3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	264,000	512,000	No
118-F-3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	8,800	19,100	No
118-F-3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,000	85,100	No
118-F-3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,300	67,800	No
118-F-3_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.16	1.1	No
118-F-3_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	0.0084	Yes
118-F-3_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	24	--	--
118-F-3_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.28	0.18	Yes
118-F-3_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	4.85E+06	1.18E+07	No
118-F-3_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	1,900	6,470	No
118-F-3_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	98,300	132,000	No
118-F-3_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	250	1,510	No
118-F-3_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	6,600	3,890	Yes
118-F-3_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	7,400	18,500	No
118-F-3_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,500	15,700	No
118-F-3_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	12,800	22,000	No
118-F-3_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.39E+07	3.26E+07	No
118-F-3_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	5,600	10,200	No
118-F-3_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	261,000	512,000	No
118-F-3_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	8,900	19,100	No
118-F-3_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	32,200	85,100	No
118-F-3_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	36,700	67,800	No
118-F-3_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.22	1.1	No
118-F-3_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	0.0084	Yes
118-F-3_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.11	--	--
118-F-3_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	15	--	--
118-F-5_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.026	1.1	No
118-F-5_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.65	0.18	Yes
118-F-5_Shallow_1	Rad	Tritium	10028-17-8	pCi/g	4.8	--	--
118-F-6_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.048	1.1	No
118-F-6_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.3	0.18	Yes
118-F-6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.32	1.1	No
118-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	4.1	0.18	Yes
118-F-6_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42,000	--	--
118-F-6_Shallow_Focused	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	1,164	3,210	No
118-F-6_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.6	1.1	Yes
118-F-6_Shallow_Focused	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.46	0.18	Yes
118-F-6_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.40	1.1	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
118-F-6_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.39	1.1	No
118-F-7_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	4.56E+06	1.18E+07	No
118-F-7_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	6,470	No
118-F-7_Overburden	non-Rad	Barium	7440-39-3	µg/kg	49,400	132,000	No
118-F-7_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	550	1,510	No
118-F-7_Overburden	non-Rad	Boron	7440-42-8	µg/kg	1,400	3,890	No
118-F-7_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,600	18,500	No
118-F-7_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	4,900	15,700	No
118-F-7_Overburden	non-Rad	Copper	7440-50-8	µg/kg	11,500	22,000	No
118-F-7_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	3.26E+07	No
118-F-7_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,300	10,200	No
118-F-7_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	256,000	512,000	No
118-F-7_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,600	19,100	No
118-F-7_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	31,400	85,100	No
118-F-7_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	32,000	67,800	No
118-F-7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.15E+06	1.18E+07	No
118-F-7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,900	6,470	No
118-F-7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	65,000	132,000	No
118-F-7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	390	1,510	No
118-F-7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,800	3,890	Yes
118-F-7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,300	18,500	No
118-F-7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	15,700	No
118-F-7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,500	22,000	No
118-F-7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.50E+07	3.26E+07	No
118-F-7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,800	10,200	Yes
118-F-7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	259,000	512,000	No
118-F-7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	2,400	470	Yes
118-F-7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,500	19,100	No
118-F-7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,800	85,100	No
118-F-7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,300	67,800	No
118-F-7_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.40	1.1	No
118-F-7_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.25	0.18	Yes
118-F-7_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.25E+06	1.18E+07	No
118-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	6,470	Yes
118-F-7_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	58,000	132,000	No
118-F-7_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	350	1,510	No
118-F-7_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900	3,890	No
118-F-7_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,300	18,500	No
118-F-7_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,000	15,700	No
118-F-7_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,300	22,000	No
118-F-7_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.20E+07	3.26E+07	No
118-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	63,800	10,200	Yes
118-F-7_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	254,000	512,000	No
118-F-7_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,500	19,100	No
118-F-7_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,100	85,100	No
118-F-7_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,400	67,800	No
118-F-7_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	4.71E+06	1.18E+07	No
118-F-7_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	8,600	6,470	Yes
118-F-7_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	83,200	132,000	No
118-F-7_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	810	1,510	No
118-F-7_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	3,900	3,890	Yes
118-F-7_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	13,700	18,500	No
118-F-7_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	15,700	No
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000	22,000	Yes
118-F-7_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.72E+07	3.26E+07	No
118-F-7_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	31,100	10,200	Yes
118-F-7_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	279,000	512,000	No
118-F-7_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	10	13	No
118-F-7_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	470	Yes
118-F-7_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	13,200	19,100	No
118-F-7_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	45,100	85,100	No
118-F-7_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	43,500	67,800	No
118-F-7_Staging Pile Area	Rad	Cesium-137	10045-97-3	pCi/g	0.23	1.1	No
118-F-7_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.39	--	--
118-F-7_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.82	0.18	Yes
118-F-8:1_Deep	non-Rad	Aroclor-1248	12672-29-6	µg/kg	35	--	--
118-F-8:1_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	62,000	--	--
118-F-8:1_Deep	non-Rad	Chromium	7440-47-3	µg/kg	12,247	18,500	No
118-F-8:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	923	--	--
118-F-8:1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--	--
118-F-8:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	137,000	132,000	Yes
118-F-8:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	38,777	18,500	Yes
118-F-8:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	752	--	--
118-F-8:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	40	13	Yes
118-F-8:1_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,753	3,210	No
118-F-8:1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.62	1.1	No
118-F-8:1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.59	--	--
118-F-8:1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.094	0.054	Yes
118-F-8:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.20	0.18	Yes

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
118-F-8:1_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.65	1.1	No
118-F-8:1_Shallow	Rad	Uranium-238	U-238	pCi/g	0.59	1.1	No
118-F-8:3_Deep	non-Rad	Aroclor-1254	11097-69-1	µg/kg	97	--	--
118-F-8:3_Deep	non-Rad	Barium	7440-39-3	µg/kg	41,588	132,000	No
118-F-8:3_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	932	--	--
118-F-8:3_Deep	non-Rad	Lead	7439-92-1	µg/kg	4,469	10,200	No
118-F-8:3_Deep	non-Rad	Mercury	7439-97-6	µg/kg	125	13	Yes
118-F-8:3_Deep	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	1,233	3,210	No
118-F-8:3_Deep	Rad	Americium-241	14596-10-2	pCi/g	2.2	--	--
118-F-8:3_Deep	Rad	Carbon-14	14762-75-5	pCi/g	22	--	--
118-F-8:3_Deep	Rad	Cesium-137	10045-97-3	pCi/g	319	1.1	Yes
118-F-8:3_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	18	0.0084	Yes
118-F-8:3_Deep	Rad	Europium-152	14683-23-9	pCi/g	183	--	--
118-F-8:3_Deep	Rad	Europium-154	15585-10-1	pCi/g	7.7	0.033	Yes
118-F-8:3_Deep	Rad	Nickel-63	13981-37-8	pCi/g	617	--	--
118-F-8:3_Deep	Rad	Plutonium-238	13981-16-3	pCi/g	0.62	0.0038	Yes
118-F-8:3_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	4.2	0.025	Yes
118-F-8:3_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	13	--	--
118-F-8:3_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	103	0.18	Yes
118-F-8:3_Deep	Rad	Tritium	10028-17-8	pCi/g	0.69	--	--
118-F-8:3_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.40	1.1	No
118-F-8:3_Deep	Rad	Uranium-238	U-238	pCi/g	0.42	1.1	No
118-F-8:4_Deep	non-Rad	Aluminum	7429-90-5	µg/kg	4.73E+06	1.18E+07	No
118-F-8:4_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	49	--	--
118-F-8:4_Deep	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	6,470	No
118-F-8:4_Deep	non-Rad	Barium	7440-39-3	µg/kg	57,100	132,000	No
118-F-8:4_Deep	non-Rad	Beryllium	7440-41-7	µg/kg	140	1,510	No
118-F-8:4_Deep	non-Rad	Boron	7440-42-8	µg/kg	1,500	3,890	No
118-F-8:4_Deep	non-Rad	Chromium	7440-47-3	µg/kg	12,800	18,500	No
118-F-8:4_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	5,400	15,700	No
118-F-8:4_Deep	non-Rad	Copper	7440-50-8	µg/kg	12,500	22,000	No
118-F-8:4_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	--	--
118-F-8:4_Deep	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	3.26E+07	No
118-F-8:4_Deep	non-Rad	Lead	7439-92-1	µg/kg	5,800	10,200	No
118-F-8:4_Deep	non-Rad	Manganese	7439-96-5	µg/kg	252,000	512,000	No
118-F-8:4_Deep	non-Rad	Mercury	7439-97-6	µg/kg	50	13	Yes
118-F-8:4_Deep	non-Rad	Molybdenum	7439-98-7	µg/kg	510	470	Yes
118-F-8:4_Deep	non-Rad	Nickel	7440-02-0	µg/kg	10,600	19,100	No
118-F-8:4_Deep	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	2,015	3,210	No
118-F-8:4_Deep	non-Rad	Vanadium	7440-62-2	µg/kg	30,300	85,100	No
118-F-8:4_Deep	non-Rad	Zinc	7440-66-6	µg/kg	34,000	67,800	No
118-F-8:4_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.11	--	--
118-F-8:4_Deep	Rad	Cesium-137	10045-97-3	pCi/g	6.6	1.1	Yes
118-F-8:4_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.27	0.0084	Yes
118-F-8:4_Deep	Rad	Europium-152	14683-23-9	pCi/g	4.4	--	--
118-F-8:4_Deep	Rad	Nickel-63	13981-37-8	pCi/g	26	--	--
118-F-8:4_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.75	0.025	Yes
118-F-8:4_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.2	0.18	Yes
118-F-8:4_Deep	Rad	Uranium-233/234	U-233/234	pCi/g	0.56	1.1	No
118-F-8:4_Deep	Rad	Uranium-238	U-238	pCi/g	0.68	1.1	No
118-F-8:4_Overburden	non-Rad	Aluminum	7429-90-5	µg/kg	6.01E+06	1.18E+07	No
118-F-8:4_Overburden	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--	--
118-F-8:4_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	2,820	6,470	No
118-F-8:4_Overburden	non-Rad	Barium	7440-39-3	µg/kg	67,998	132,000	No
118-F-8:4_Overburden	non-Rad	Beryllium	7440-41-7	µg/kg	690	1,510	No
118-F-8:4_Overburden	non-Rad	Boron	7440-42-8	µg/kg	2,006	3,890	No
118-F-8:4_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	275	563	No
118-F-8:4_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	8,304	18,500	No
118-F-8:4_Overburden	non-Rad	Cobalt	7440-48-4	µg/kg	6,232	15,700	No
118-F-8:4_Overburden	non-Rad	Copper	7440-50-8	µg/kg	13,996	22,000	No
118-F-8:4_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	288	--	--
118-F-8:4_Overburden	non-Rad	Iron	7439-89-6	µg/kg	1.73E+07	3.26E+07	No
118-F-8:4_Overburden	non-Rad	Lead	7439-92-1	µg/kg	5,499	10,200	No
118-F-8:4_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	318,045	512,000	No
118-F-8:4_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	127	13	Yes
118-F-8:4_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	623	470	Yes
118-F-8:4_Overburden	non-Rad	Nickel	7440-02-0	µg/kg	9,490	19,100	No
118-F-8:4_Overburden	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	1,617	3,210	No
118-F-8:4_Overburden	non-Rad	Vanadium	7440-62-2	µg/kg	41,120	85,100	No
118-F-8:4_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	38,251	67,800	No
118-F-8:4_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.29	1.1	No
118-F-8:4_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.020	0.0084	Yes
118-F-8:4_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.44	--	--
118-F-8:4_Overburden	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.97	0.025	Yes
118-F-8:4_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.50	1.1	No
118-F-8:4_Overburden	Rad	Uranium-235	15117-96-1	pCi/g	0.029	0.11	No
118-F-8:4_Overburden	Rad	Uranium-238	U-238	pCi/g	0.54	1.1	No
118-F-8:4_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.13E+06	1.18E+07	No
118-F-8:4_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	6,470	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
118-F-8:4_Shallow	non-Rad	Barium	7440-39-3	µg/kg	74,300	132,000	No
118-F-8:4_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	460	1,510	No
118-F-8:4_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,500	3,890	No
118-F-8:4_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	280	563	No
118-F-8:4_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,100	18,500	No
118-F-8:4_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	15,700	No
118-F-8:4_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,800	22,000	No
118-F-8:4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	--	--
118-F-8:4_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.60E+07	3.26E+07	No
118-F-8:4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,300	10,200	Yes
118-F-8:4_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	285,000	512,000	No
118-F-8:4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	530	13	Yes
118-F-8:4_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,700	19,100	No
118-F-8:4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,500	780	Yes
118-F-8:4_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,551	3,210	No
118-F-8:4_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	37,500	85,100	No
118-F-8:4_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	37,100	67,800	No
118-F-8:4_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.32	1.1	No
118-F-8:4_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.19	--	--
118-F-8:4_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.58	1.1	No
118-F-8:4_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.034	0.11	No
118-F-8:4_Shallow	Rad	Uranium-238	U-238	pCi/g	0.52	1.1	No
120-F-1_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--	--
120-F-1_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1	--	--
120-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	8.8	--	--
120-F-1_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.95E+06	1.18E+07	No
120-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	910	130	Yes
120-F-1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--	--
120-F-1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.8	--	--
120-F-1_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,615	6,470	No
120-F-1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	56,732	132,000	No
120-F-1_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	505	1,510	No
120-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	94	--	--
120-F-1_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,457	3,890	No
120-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	8.7	--	--
120-F-1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,781	18,500	No
120-F-1_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,270	15,700	No
120-F-1_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,167	22,000	No
120-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	--	--
120-F-1_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.8	--	--
120-F-1_Shallow	non-Rad	Fluoride	16984-48-8	µg/kg	3,900	2,810	Yes
120-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	300	--	--
120-F-1_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.82E+07	3.26E+07	No
120-F-1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,896	10,200	No
120-F-1_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	286,696	512,000	No
120-F-1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	102	13	Yes
120-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	850	470	Yes
120-F-1_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,814	19,100	No
120-F-1_Shallow	non-Rad	Nitrate	14797-55-8	µg/kg	8,849	52,000	No
120-F-1_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,800	780	Yes
120-F-1_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,878	85,100	No
120-F-1_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	36,425	67,800	No
126-F-1_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	0.10	1.1	No
126-F-1_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.081	0.0084	Yes
126-F-1_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.38	--	--
126-F-1_Shallow	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	109	3,210	No
126-F-1_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.51	1.1	No
126-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.20	0.0084	Yes
126-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.3	--	--
126-F-1_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.46	0.033	Yes
126-F-1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.032	0.054	No
126-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.24	0.11	Yes
126-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	173	--	--
126-F-2_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.29E+06	1.18E+07	No
126-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	412	--	--
126-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	478	130	Yes
126-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	74	--	--
126-F-2_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	6,470	No
126-F-2_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,400	132,000	No
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	758	--	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	696	--	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	555	--	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	758	--	--
126-F-2_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	299	1,510	No
126-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	407	--	--
126-F-2_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,600	3,890	Yes
126-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	18,500	No
126-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	842	--	--
126-F-2_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	15,700	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
126-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,400	22,000	No
126-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	203	--	--
126-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	1,804	--	--
126-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	211	--	--
126-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	256	--	--
126-F-2_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	3.26E+07	No
126-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	17,200	10,200	Yes
126-F-2_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	274,000	512,000	No
126-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	389	470	No
126-F-2_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,300	19,100	No
126-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1,754	--	--
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06	--	--
126-F-2_Staging pile area_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	2,265	3,210	No
126-F-2_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,600	85,100	No
126-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	76,900	67,800	Yes
126-F-2_Staging pile area_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.071	1.1	No
126-F-2_Staging pile area_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.53	1.1	No
126-F-2_Staging pile area_Focused	Rad	Uranium-238	U-238	pCi/g	0.76	1.1	No
128-F-1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,100	6,470	No
128-F-1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,400	132,000	No
128-F-1_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.8	--	--
128-F-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	21	--	--
128-F-1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,100	18,500	No
128-F-1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,100	10,200	No
128-F-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	4,400	--	--
128-F-2_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	3.0	--	--
128-F-2_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.6	--	--
128-F-2_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	34	--	--
128-F-2_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	63	--	--
128-F-2_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	1.7	--	--
128-F-2_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	3.7	--	--
128-F-2_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.93E+06	1.18E+07	No
128-F-2_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	120	--	--
128-F-2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	130	Yes
128-F-2_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	44	--	--
128-F-2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,866	6,470	No
128-F-2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	77,043	132,000	No
128-F-2_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	264	--	--
128-F-2_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	263	--	--
128-F-2_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	198	--	--
128-F-2_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	263	--	--
128-F-2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	322	1,510	No
128-F-2_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	8.8	--	--
128-F-2_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	105	--	--
128-F-2_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,955	3,890	No
128-F-2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	148	563	No
128-F-2_Shallow	non-Rad	Carbazole	86-74-8	µg/kg	62	--	--
128-F-2_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.6	--	--
128-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	21,554	18,500	Yes
128-F-2_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	290	--	--
128-F-2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,012	15,700	No
128-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	40,037	22,000	Yes
128-F-2_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	99	--	--
128-F-2_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	21	--	--
128-F-2_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	35	--	--
128-F-2_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	4.0	--	--
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22	--	--
128-F-2_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--	--
128-F-2_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	46	--	--
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3	--	--
128-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	--	--
128-F-2_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	157	--	--
128-F-2_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	3.26E+07	No
128-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,776	10,200	Yes
128-F-2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	281,593	512,000	No
128-F-2_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	35	13	Yes
128-F-2_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	440	470	No
128-F-2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	14,310	19,100	No
128-F-2_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	239	--	--
128-F-2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	35,140	85,100	No
128-F-2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	45,403	67,800	No
128-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.22	1.1	No
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.2	--	--
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	6.6	--	--
128-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	27	--	--
128-F-2_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.98E+06	1.18E+07	No
128-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	60	--	--
128-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,500	130	Yes
128-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
128-F-2_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,200	6,470	No
128-F-2_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	68,200	132,000	No
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	320	--	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	280	--	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	210	--	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	230	--	--
128-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--	--
128-F-2_Staging pile area_Focused	non-Rad	Carbazole	86-74-8	µg/kg	30	--	--
128-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,200	18,500	Yes
128-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	370	--	--
128-F-2_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,300	15,700	No
128-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	23,900	22,000	Yes
128-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	77	--	--
128-F-2_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	71	--	--
128-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	670	--	--
128-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	19	--	--
128-F-2_Staging pile area_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	730	--	--
128-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	150	--	--
128-F-2_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.81E+07	3.26E+07	No
128-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,800	10,200	Yes
128-F-2_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	277,000	512,000	No
128-F-2_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	50	13	Yes
128-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	470	Yes
128-F-2_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,700	19,100	No
128-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	790	--	--
128-F-2_Staging pile area_Focused	non-Rad	Selenium	7782-49-2	µg/kg	950	780	Yes
128-F-2_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	42,700	85,100	No
128-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	124,000	67,800	Yes
128-F-3_Shallow	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	--	--
128-F-3_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	8.0	--	--
128-F-3_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.3	--	--
128-F-3_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.3	--	--
128-F-3_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.6	--	--
128-F-3_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	8.0	--	--
128-F-3_Shallow	non-Rad	Acetone	67-64-1	µg/kg	9.0	--	--
128-F-3_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.56	--	--
128-F-3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.8	--	--
128-F-3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.94E+06	1.18E+07	No
128-F-3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,588	6,470	No
128-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	209,520	132,000	Yes
128-F-3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	485	1,510	No
128-F-3_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	5.4	--	--
128-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	17,002	3,890	Yes
128-F-3_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	260	563	No
128-F-3_Shallow	non-Rad	Chlorobenzene	108-90-7	µg/kg	4.2	--	--
128-F-3_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.8	--	--
128-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	42,093	18,500	Yes
128-F-3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,229	15,700	No
128-F-3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	20,447	22,000	No
128-F-3_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.3	--	--
128-F-3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	--	--
128-F-3_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	1.3	--	--
128-F-3_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.55	--	--
128-F-3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.54E+07	3.26E+07	No
128-F-3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,453	10,200	No
128-F-3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	295,905	512,000	No
128-F-3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	23	13	Yes
128-F-3_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	9.8	--	--
128-F-3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	21	--	--
128-F-3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,844	19,100	No
128-F-3_Shallow	non-Rad	Silver	7440-22-4	µg/kg	280	167	Yes
128-F-3_Shallow	non-Rad	Styrene	100-42-5	µg/kg	4.0	--	--
128-F-3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	1.0	--	--
128-F-3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,225	85,100	No
128-F-3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	7.0	--	--
128-F-3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,793	67,800	No
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.1	--	--
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.76	--	--
128-F-3_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.93E+06	1.18E+07	No
128-F-3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	141,000	132,000	Yes
128-F-3_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	580	1,510	No
128-F-3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,500	3,890	Yes
128-F-3_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270	563	No
128-F-3_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	3.0	--	--
128-F-3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	3.0	--	--
128-F-3_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,800	18,500	No
128-F-3_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,600	15,700	No
128-F-3_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,600	22,000	No
128-F-3_Staging pile area_Focused	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.88	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
128-F-3_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.83E+07	3.26E+07	No
128-F-3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,300	10,200	No
128-F-3_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	331,000	512,000	No
128-F-3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	22	--	--
128-F-3_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,200	19,100	No
128-F-3_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	46,400	85,100	No
128-F-3_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,800	67,800	No
132-F-1_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	171	--	--
132-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--	--
132-F-1_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	75	--	--
132-F-1_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	88	--	--
132-F-1_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	74	--	--
132-F-1_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	98	--	--
132-F-1_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.8	--	--
132-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	90	--	--
132-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.4	--	--
132-F-1_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	104	--	--
132-F-1_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	44	--	--
132-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	43	--	--
132-F-1_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	102	--	--
132-F-1_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	43	--	--
132-F-1_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	245	--	--
132-F-1_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	124	--	--
132-F-1_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.7	--	--
132-F-1_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	269	--	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	535	--	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1,114	--	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	841	--	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	780	--	--
132-F-1_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	57	--	--
132-F-1_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2,137	--	--
132-F-1_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	256	--	--
132-F-1_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	169	--	--
132-F-1_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	620	--	--
132-F-1_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	273	--	--
141-C_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.39E+06	1.18E+07	No
141-C_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	65	--	--
141-C_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,743	6,470	No
141-C_Shallow	non-Rad	Barium	7440-39-3	µg/kg	93,191	132,000	No
141-C_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	125	--	--
141-C_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	65	--	--
141-C_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	41	--	--
141-C_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	76	--	--
141-C_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	346	1,510	No
141-C_Shallow	non-Rad	Boron	7440-42-8	µg/kg	5,336	3,890	Yes
141-C_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,938	18,500	No
141-C_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	63	--	--
141-C_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,059	15,700	No
141-C_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,899	22,000	No
141-C_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	15	--	--
141-C_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	176	--	--
141-C_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	30	--	--
141-C_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	671	--	--
141-C_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	45	--	--
141-C_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.70E+07	3.26E+07	No
141-C_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,208	10,200	Yes
141-C_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	315,353	512,000	No
141-C_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	13	Yes
141-C_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,995	19,100	No
141-C_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	163	--	--
141-C_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	38,368	85,100	No
141-C_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	46,969	67,800	No
141-C_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.059	1.1	No
141-C_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.7	0.18	Yes
141-C_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	--	--
141-C_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.17E+06	1.18E+07	No
141-C_Staging Pile Area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	7.6	--	--
141-C_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	6,470	No
141-C_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	81,700	132,000	No
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	46	--	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--	--
141-C_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	302	1,510	No
141-C_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,700	3,890	No
141-C_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,000	18,500	No
141-C_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	197	--	--
141-C_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,700	15,700	No
141-C_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900	22,000	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
141-C_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	88	--	--
141-C_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--	--
141-C_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.42E+07	3.26E+07	No
141-C_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,300	10,200	No
141-C_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	285,000	512,000	No
141-C_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,600	19,100	No
141-C_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	82	--	--
141-C_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	33,400	85,100	No
141-C_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	37,500	67,800	No
141-C_Staging Pile Area_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.041	1.1	No
1607-F2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.19	1.1	No
1607-F2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.51	--	--
1607-F3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.0	--	--
1607-F3_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.51E+06	1.18E+07	No
1607-F3_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.5	--	--
1607-F3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,552	6,470	Yes
1607-F3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	73,139	132,000	No
1607-F3_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	33	--	--
1607-F3_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--	--
1607-F3_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	253	1,510	No
1607-F3_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--	--
1607-F3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	451	3,890	No
1607-F3_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	460	563	No
1607-F3_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--	--
1607-F3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,725	18,500	No
1607-F3_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	22	--	--
1607-F3_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,991	15,700	No
1607-F3_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,229	22,000	No
1607-F3_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	--	--
1607-F3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	--	--
1607-F3_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--	--
1607-F3_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.53E+07	3.26E+07	No
1607-F3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	24,146	10,200	Yes
1607-F3_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	273,899	512,000	No
1607-F3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	13	Yes
1607-F3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	26	--	--
1607-F3_Shallow	non-Rad	m-Xylene	108-38-3	µg/kg	4.0	--	--
1607-F3_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,246	19,100	No
1607-F3_Shallow	non-Rad	o-Xylene	95-47-6	µg/kg	2.0	--	--
1607-F3_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	4,200	780	Yes
1607-F3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	2.0	--	--
1607-F3_Shallow	non-Rad	Toluene	108-88-3	µg/kg	1.0	--	--
1607-F3_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	34,149	85,100	No
1607-F3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	4.7	--	--
1607-F3_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,536	67,800	No
1607-F3_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14	1.1	No
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.49	--	--
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.35	--	--
1607-F3_Staging pile area_Focused	non-Rad	Acetone	67-64-1	µg/kg	5.0	--	--
1607-F3_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.46E+06	1.18E+07	No
1607-F3_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.4	--	--
1607-F3_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	12,100	6,470	Yes
1607-F3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	60,200	132,000	No
1607-F3_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	20	1,510	No
1607-F3_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	82	--	--
1607-F3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	3,890	No
1607-F3_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	270	563	No
1607-F3_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.83	--	--
1607-F3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	--	--
1607-F3_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,400	18,500	No
1607-F3_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,200	15,700	No
1607-F3_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,500	22,000	No
1607-F3_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	--	--
1607-F3_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.30E+07	3.26E+07	No
1607-F3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	54,900	10,200	Yes
1607-F3_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	255,000	512,000	No
1607-F3_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	13	Yes
1607-F3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.0	--	--
1607-F3_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,600	19,100	No
1607-F3_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	28,200	85,100	No
1607-F3_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,400	67,800	No
1607-F4_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.70E+06	1.18E+07	No
1607-F4_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,300	6,470	No
1607-F4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	125,000	132,000	No
1607-F4_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	430	1,510	No
1607-F4_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	140	--	--
1607-F4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	3,890	Yes
1607-F4_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	18,500	No
1607-F4_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,200	15,700	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
1607-F4_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600	22,000	No
1607-F4_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	24	--	--
1607-F4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	--	--
1607-F4_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.04E+07	3.26E+07	No
1607-F4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,700	10,200	No
1607-F4_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	334,000	512,000	No
1607-F4_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	19,100	No
1607-F4_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	47,900	85,100	No
1607-F4_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,300	67,800	No
1607-F4_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.1	--	--
1607-F4_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.8	--	--
1607-F4_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.6	--	--
1607-F4_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.26E+06	1.18E+07	No
1607-F4_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,010	130	Yes
1607-F4_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	46	--	--
1607-F4_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	6.7	--	--
1607-F4_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,198	6,470	No
1607-F4_Shallow	non-Rad	Barium	7440-39-3	µg/kg	70,070	132,000	No
1607-F4_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--	--
1607-F4_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	18	--	--
1607-F4_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	333	1,510	No
1607-F4_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	91	--	--
1607-F4_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,876	3,890	No
1607-F4_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	380	563	No
1607-F4_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.5	--	--
1607-F4_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	14,407	18,500	No
1607-F4_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--	--
1607-F4_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,530	15,700	No
1607-F4_Shallow	non-Rad	Copper	7440-50-8	µg/kg	14,304	22,000	No
1607-F4_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	33	--	--
1607-F4_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	44	--	--
1607-F4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	210	--	--
1607-F4_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	3.26E+07	No
1607-F4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,758	10,200	No
1607-F4_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	297,305	512,000	No
1607-F4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	13	Yes
1607-F4_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	580	470	Yes
1607-F4_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,942	19,100	No
1607-F4_Shallow	non-Rad	Phenol	108-95-2	µg/kg	28	--	--
1607-F4_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	38	--	--
1607-F4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,602	780	Yes
1607-F4_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	40,330	85,100	No
1607-F4_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	50,618	67,800	No
1607-F4_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.49E+06	1.18E+07	No
1607-F4_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000	6,470	No
1607-F4_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	36,100	132,000	No
1607-F4_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	270	1,510	No
1607-F4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	190	--	--
1607-F4_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,000	18,500	No
1607-F4_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,500	15,700	No
1607-F4_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,600	22,000	No
1607-F4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	41	--	--
1607-F4_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.18E+07	3.26E+07	No
1607-F4_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,400	10,200	No
1607-F4_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	218,000	512,000	No
1607-F4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	490	470	Yes
1607-F4_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,500	19,100	No
1607-F4_Shallow_Focused	non-Rad	Total_U_Isotopes	otal_U_Isotop	µg/kg	1,363	3,210	No
1607-F4_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,300	85,100	No
1607-F4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	30,800	67,800	No
1607-F4_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.49	1.1	No
1607-F4_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.46	1.1	No
1607-F5_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.26E+06	1.18E+07	No
1607-F5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,763	6,470	No
1607-F5_Shallow	non-Rad	Barium	7440-39-3	µg/kg	45,328	132,000	No
1607-F5_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	199	1,510	No
1607-F5_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	172	--	--
1607-F5_Shallow	non-Rad	Boron	7440-42-8	µg/kg	474	3,890	No
1607-F5_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,606	18,500	No
1607-F5_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,642	15,700	No
1607-F5_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,290	22,000	No
1607-F5_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	93	--	--
1607-F5_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.23E+07	3.26E+07	No
1607-F5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,655	10,200	No
1607-F5_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	216,602	512,000	No
1607-F5_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	530	470	Yes
1607-F5_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,084	19,100	No
1607-F5_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	27,297	85,100	No
1607-F5_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	29,602	67,800	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--	--
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--	--
1607-F5_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.45E+06	1.18E+07	No
1607-F5_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--	--
1607-F5_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,800	6,470	No
1607-F5_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	69,700	132,000	No
1607-F5_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	90	1,510	No
1607-F5_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.6	--	--
1607-F5_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	75	--	--
1607-F5_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,000	3,890	No
1607-F5_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	330	563	No
1607-F5_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,600	18,500	No
1607-F5_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,100	15,700	No
1607-F5_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600	22,000	No
1607-F5_Staging pile area_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	0.60	--	--
1607-F5_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.27E+07	3.26E+07	No
1607-F5_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,900	10,200	No
1607-F5_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	239,000	512,000	No
1607-F5_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	310	470	No
1607-F5_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,300	19,100	No
1607-F5_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	29,000	85,100	No
1607-F5_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	35,300	67,800	No
1607-F6_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--	--
1607-F6_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	9,796	18,500	No
1607-F6_Overburden	non-Rad	Diethylphthalate	84-66-2	µg/kg	130	--	--
1607-F6_Overburden	non-Rad	Lead	7439-92-1	µg/kg	2,736	10,200	No
1607-F6_Overburden	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	1,587	3,210	No
1607-F6_Overburden	Rad	Uranium-233/234	U-233/234	pCi/g	0.47	1.1	No
1607-F6_Overburden	Rad	Uranium-234	13966-29-5	pCi/g	0.63	1.1	No
1607-F6_Overburden	Rad	Uranium-238	U-238	pCi/g	0.53	1.1	No
1607-F6_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	342	--	--
1607-F6_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	60	--	--
1607-F6_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,300	18,500	No
1607-F6_Shallow	non-Rad	Diethylphthalate	84-66-2	µg/kg	24	--	--
1607-F6_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	--	--
1607-F6_Shallow	non-Rad	Lead	7439-92-1	µg/kg	13,247	10,200	Yes
1607-F6_Shallow	non-Rad	Phenol	108-95-2	µg/kg	84	--	--
1607-F6_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	22	--	--
1607-F6_Shallow	non-Rad	Total_U_Isotopes	tal_U_Isotop	µg/kg	2,284	3,210	No
1607-F6_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.089	1.1	No
1607-F6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.065	--	--
1607-F6_Shallow	Rad	Uranium-233/234	U-233/234	pCi/g	0.50	1.1	No
1607-F6_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.19	0.11	Yes
1607-F6_Shallow	Rad	Uranium-238	U-238	pCi/g	0.75	1.1	No
1607-F7_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	2.7	--	--
1607-F7_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	134	--	--
1607-F7_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6	--	--
1607-F7_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	5.3	--	--
1607-F7_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	3.0	--	--
1607-F7_Shallow	non-Rad	Acetone	67-64-1	µg/kg	15	--	--
1607-F7_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.42	--	--
1607-F7_Shallow	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.1	--	--
1607-F7_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.2	--	--
1607-F7_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	5.46E+06	1.18E+07	No
1607-F7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	530	130	Yes
1607-F7_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.4	--	--
1607-F7_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.0	--	--
1607-F7_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,720	6,470	No
1607-F7_Shallow	non-Rad	Barium	7440-39-3	µg/kg	99,249	132,000	No
1607-F7_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--	--
1607-F7_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--	--
1607-F7_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--	--
1607-F7_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	46	--	--
1607-F7_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	396	1,510	No
1607-F7_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.7	--	--
1607-F7_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--	--
1607-F7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	3,219	3,890	No
1607-F7_Shallow	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	37	--	--
1607-F7_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	216	563	No
1607-F7_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	1.1	--	--
1607-F7_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.4	--	--
1607-F7_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,376	18,500	No
1607-F7_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	76	--	--
1607-F7_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,635	15,700	No
1607-F7_Shallow	non-Rad	Copper	7440-50-8	µg/kg	13,715	22,000	No
1607-F7_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	30	--	--
1607-F7_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	40	--	--
1607-F7_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.54	--	--
1607-F7_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--	--

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
1607-F7_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	0.92	--	--
1607-F7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	--	--
1607-F7_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--	--
1607-F7_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.40E+07	3.26E+07	No
1607-F7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,177	10,200	Yes
1607-F7_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	279,444	512,000	No
1607-F7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	13	Yes
1607-F7_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.4	--	--
1607-F7_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	14	--	--
1607-F7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	477	470	Yes
1607-F7_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	96	--	--
1607-F7_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	9,902	19,100	No
1607-F7_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	71	--	--
1607-F7_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	31,959	85,100	No
1607-F7_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	50,531	67,800	No
1607-F7_Staging pile area_Focused	non-Rad	1,4-Dichlorobenzene	106-46-7	µg/kg	46	--	--
1607-F7_Staging pile area_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	110	--	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.2	--	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	58	--	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	46	--	--
1607-F7_Staging pile area_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.5	--	--
1607-F7_Staging pile area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.10E+06	1.18E+07	No
1607-F7_Staging pile area_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--	--
1607-F7_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,400	6,470	No
1607-F7_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	147,000	132,000	Yes
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	32	--	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--	--
1607-F7_Staging pile area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300	1,510	No
1607-F7_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.4	--	--
1607-F7_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	35	--	--
1607-F7_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	7,700	3,890	Yes
1607-F7_Staging pile area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	220	563	No
1607-F7_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	3.7	--	--
1607-F7_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	1.0	--	--
1607-F7_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	--	--
1607-F7_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,200	18,500	No
1607-F7_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	850	--	--
1607-F7_Staging pile area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,400	15,700	No
1607-F7_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,400	22,000	No
1607-F7_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--	--
1607-F7_Staging pile area_Focused	non-Rad	Dibenzofuran	132-64-9	µg/kg	27	--	--
1607-F7_Staging pile area_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	23	--	--
1607-F7_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	--	--
1607-F7_Staging pile area_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	--	--
1607-F7_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	37	--	--
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15	--	--
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.89	--	--
1607-F7_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	27	--	--
1607-F7_Staging pile area_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.75E+07	3.26E+07	No
1607-F7_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	10,200	Yes
1607-F7_Staging pile area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	300,000	512,000	No
1607-F7_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	13	Yes
1607-F7_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	13	--	--
1607-F7_Staging pile area_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	72	--	--
1607-F7_Staging pile area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,300	19,100	No
1607-F7_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	51	--	--
1607-F7_Staging pile area_Focused	non-Rad	Styrene	100-42-5	µg/kg	3.0	--	--
1607-F7_Staging pile area_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	--	--
1607-F7_Staging pile area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	40,200	85,100	No
1607-F7_Staging pile area_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	6.0	--	--
1607-F7_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	72,000	67,800	Yes
182-F_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.90E+06	1.18E+07	No
182-F_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	500	130	Yes
182-F_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	36	--	--
182-F_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--	--
182-F_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	6,400	6,470	No
182-F_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	79,000	132,000	No
182-F_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	490	1,510	No
182-F_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,200	3,890	No
182-F_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	780	563	Yes
182-F_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,600	18,500	Yes
182-F_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	15,700	No
182-F_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	18,700	22,000	No
182-F_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	--	--
182-F_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.05E+07	3.26E+07	No
182-F_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	58,700	10,200	Yes
182-F_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	312,000	512,000	No

Table A-3. Comparison of EPCs for Waste Site Decision Units in 100-F Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
182-F_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	13	Yes
182-F_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	560	470	Yes
182-F_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	16,800	19,100	No
182-F_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,100	85,100	No
182-F_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	139,000	67,800	Yes
182-F_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.11	1.1	No
182-F_Shallow_Focused	non-Rad	Aroclor-1016	12674-11-2	µg/kg	20	--	--
182-F_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	110	--	--
182-F_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--	--
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300	--	--
600-351_Shallow_Focused	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	27	--	--
600-351_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07	1.18E+07	No
600-351_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	900	130	Yes
600-351_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	250,000	6,470	Yes
600-351_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	97,100	132,000	No
600-351_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300	1,510	No
600-351_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	3,890	No
600-351_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	340	563	No
600-351_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,400	18,500	No
600-351_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,400	15,700	No
600-351_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,300	22,000	No
600-351_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.22E+07	3.26E+07	No
600-351_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	805,000	10,200	Yes
600-351_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000	512,000	No
600-351_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	8.0	13	No
600-351_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	500	470	Yes
600-351_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,500	19,100	No
600-351_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	920	780	Yes
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,000	--	--
600-351_Shallow_Focused	non-Rad	otal petroleum hydrocarbons - diesel range extended to C3	TPHDIESELEXT	µg/kg	48,000	--	--
600-351_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,800	85,100	No
600-351_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	51,200	67,800	No
UPR-100-F-2_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	0.14	1.1	No
UPR-100-F-2_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.086	0.0084	Yes
UPR-100-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--	--
UPR-100-F-2_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.20	0.033	Yes

Notes:
-- = Not applicable or no value.

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-12_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	55	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.4	14	No
100-F-14_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	25	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	1.36E+06	No
100-F-14_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	84	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	19	226	No
100-F-15_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,300	6,000[c]	No
100-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	450	6,000[c]	No
100-F-16_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	510	6,000[c]	No
100-F-16_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.032	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	20	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,700	2.34E+07	No
100-F-18_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	1.36E+06	No
100-F-18_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	89	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.7	226	No
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600	6,000[c]	No
100-F-19:1_Deep	Rad	Cesium-137	10045-97-3	pCi/g	21	--[b]	--
100-F-19:1_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	13	--[b]	--
100-F-19:1_Deep	Rad	Europium-152	14683-23-9	pCi/g	325	--[b]	--
100-F-19:1_Deep	Rad	Europium-154	15585-10-1	pCi/g	25	--[b]	--
100-F-19:1_Deep	Rad	Nickel-63	13981-37-8	pCi/g	351	--[b]	--
100-F-19:1_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.1	24,600	No
100-F-19:1_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	740	6,000[c]	No
100-F-19:1_Overburden	Rad	Carbon-14	14762-75-5	pCi/g	5.0	--[b]	--
100-F-19:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	624	6,000[c]	No
100-F-19:1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	4.1	--[b]	--
100-F-19:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.33	24,600	No
100-F-19:2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,140	6,000[c]	No
100-F-19:2_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.049	--[b]	--
100-F-19:2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	3.9	--[b]	--
100-F-19:2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.67	--[b]	--
100-F-19:2_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--[b]	--
100-F-19:2_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.7	--[b]	--
100-F-19:2_Deep	Rad	Nickel-63	13981-37-8	pCi/g	340	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-19:2_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	23	--[b]	--
100-F-19:2_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	24,600	No
100-F-19:2_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	690	6,000[c]	No
100-F-19:2_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.1	--[b]	--
100-F-19:2_Deep_Focused	Rad	Cobalt-60	10198-40-0	pCi/g	0.36	--[b]	--
100-F-19:2_Deep_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.5	--[b]	--
100-F-19:2_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	410	--[b]	--
100-F-19:2_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	--[b]	--
100-F-19:2_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.37	--[b]	--
100-F-19:2_Overburden	Rad	Europium-154	15585-10-1	pCi/g	0.18	--[b]	--
100-F-19:2_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	4.9	--[b]	--
100-F-19:2_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.42	24,600	No
100-F-19:2_Overburden	Rad	Tritium	10028-17-8	pCi/g	0.81	1,660	No
100-F-19:2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.35	--[b]	--
100-F-19:2_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	7.0	--[b]	--
100-F-19:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	6,000[c]	No
100-F-20_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,200	--[b]	--
100-F-20_Staging pile area	non-Rad	Copper	7440-50-8	µg/kg	23,700	2.34E+07	No
100-F-20_Staging pile area	non-Rad	Lead	7439-92-1	µg/kg	18,500	--[b]	--
100-F-20_Staging pile area	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
100-F-20_Staging pile area	non-Rad	Molybdenum	7439-98-7	µg/kg	850	2.47E+06	No
100-F-20_Staging pile area	non-Rad	Zinc	7440-66-6	µg/kg	87,600	--[b]	--
100-F-25_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	140	--[b]	--
100-F-25_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.13	--[b]	--
100-F-25_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	4.6	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	280	12,637	No
100-F-26:1_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	181,000	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,380	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	621	2.47E+06	No
100-F-26:1_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	263	12,637	No
100-F-26:1_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	6,000[c]	No
100-F-26:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	93	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	880	12,637	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	7.9	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	10	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	25	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	250	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	5.07E+06	No
100-F-26:10_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	23	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	1.36E+06	No
100-F-26:10_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	270	6,000[c]	No
100-F-26:10_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,700	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	35	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,800	140,663	No
100-F-26:10_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	12,637	No
100-F-26:10_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	54	--[b]	--
100-F-26:10_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	54	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	41	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	39	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	48	--[b]	--
100-F-26:10_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	93	--[b]	--
100-F-26:10_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	60	--[b]	--
100-F-26:10_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	4.9	--[b]	--
100-F-26:10_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	1.36E+06	No
100-F-26:10_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	120	--[b]	--
100-F-26:10_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	268	6,000[c]	No
100-F-26:10_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--[b]	--
100-F-26:10_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.7	--[b]	--
100-F-26:10_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	640	2.47E+06	No
100-F-26:10_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	110	--[b]	--
100-F-26:10_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,369	140,663	No
100-F-26:10_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,500	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	860	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:10_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	39	1.36E+06	No
100-F-26:10_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[c]	No
100-F-26:10_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,900	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	3.0	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	20	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	38	1.36E+06	No
100-F-26:11_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	6,000[c]	No
100-F-26:11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	23,600	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
100-F-26:12_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	293	6,000[c]	No
100-F-26:12_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	60	--[b]	--
100-F-26:12_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	620	2.47E+06	No
100-F-26:12_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.081	--[b]	--
100-F-26:12_Overburden	Rad	Tritium	10028-17-8	pCi/g	5.9	1,660	No
100-F-26:12_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	12,637	No
100-F-26:12_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[c]	No
100-F-26:12_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	28	--[b]	--
100-F-26:12_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	480	2.47E+06	No
100-F-26:12_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	307	6,000[c]	No
100-F-26:12_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	56	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	534	2.47E+06	No
100-F-26:12_Staging Pile Area	Rad	Carbon-14	14762-75-5	pCi/g	5.1	--[b]	--
100-F-26:12_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.56	24,600	No
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	38	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	9,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	6,100	5.07E+06	No
100-F-26:13_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	29,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	520	2.47E+06	No
100-F-26:13_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.1	--[b]	--
100-F-26:13_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.6	--[b]	--
100-F-26:13_Shallow	non-Rad	Lead	7439-92-1	µg/kg	14,012	--[b]	--
100-F-26:13_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	554	2.47E+06	No
100-F-26:13_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	13	--[b]	--
100-F-26:13_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	2.0	24,600	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:13_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	2.47E+06	No
100-F-26:14_Overburden	non-Rad	Boron	7440-42-8	µg/kg	13,500	5.07E+06	No
100-F-26:14_Overburden	non-Rad	Lead	7439-92-1	µg/kg	20,400	--[b]	--
100-F-26:14_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	70	--[b]	--
100-F-26:14_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	560	2.47E+06	No
100-F-26:14_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	2.0	--[b]	--
100-F-26:14_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.25	--[b]	--
100-F-26:14_Overburden	Rad	Europium-152	14683-23-9	pCi/g	1.4	--[b]	--
100-F-26:14_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	9.6	--[b]	--
100-F-26:14_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.37	24,600	No
100-F-26:14_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	830	12,637	No
100-F-26:14_Shallow	non-Rad	Barium	7440-39-3	µg/kg	216,000	--[b]	--
100-F-26:14_Shallow	non-Rad	Boron	7440-42-8	µg/kg	31,600	5.07E+06	No
100-F-26:14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	6,000[c]	No
100-F-26:14_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
100-F-26:14_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	510	2.47E+06	No
100-F-26:14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.089	--[b]	--
100-F-26:14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.53	--[b]	--
100-F-26:15_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.31	--[b]	--
100-F-26:15_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	850	12,637	No
100-F-26:15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,162	5.07E+06	No
100-F-26:15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	262	6,000[c]	No
100-F-26:15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	130	--[b]	--
100-F-26:15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	661	2.47E+06	No
100-F-26:15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.22	--[b]	--
100-F-26:15_Shallow_Focused	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	6,000[c]	No
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.3	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	260,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	32,300	5.07E+06	No
100-F-26:4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	6,000[c]	No
100-F-26:4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	20,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:4_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	2.47E+06	No
100-F-26:4_Overburden_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	141,000	1.00E+06[d]	No
100-F-26:4_Overburden_Focused_3	non-Rad	Arsenic	7440-38-2	µg/kg	6,500	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Boron	7440-42-8	µg/kg	5,100	5.07E+06	No
100-F-26:4_Overburden_Focused_3	non-Rad	Lead	7439-92-1	µg/kg	16,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,700	2.00E+06[d]	No
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	10,000	2.00E+06[d]	No
100-F-26:4_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	718	12,637	No
100-F-26:4_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	5,760	5.07E+06	No
100-F-26:4_Shallow_1	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	546	6,000[c]	No
100-F-26:4_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	60	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	890	2.47E+06	No
100-F-26:4_Shallow_1	non-Rad	Selenium	7782-49-2	µg/kg	2,700	140,663	No
100-F-26:4_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,903	5.07E+06	No
100-F-26:4_Shallow_2	non-Rad	Selenium	7782-49-2	µg/kg	930	140,663	No
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	6,371	2.00E+06[d]	No
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	25,575	2.00E+06[d]	No
100-F-26:4_Shallow_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	26	50,401	No
100-F-26:4_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	381	12,637	No
100-F-26:4_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	241	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	669	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	226	1.36E+06	No
100-F-26:4_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	370	6,000[c]	No
100-F-26:4_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	39	107,951	No
100-F-26:4_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	33	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	219	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,100	--[b]	--
100-F-26:4_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.23	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	662	12,637	No
100-F-26:5_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	35	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	875	6,000[c]	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:5_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	98	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
100-F-26:7_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	680	12,637	No
100-F-26:7_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	153,000	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	10,600	5.07E+06	No
100-F-26:7_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	66	--[b]	--
100-F-26:7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	684	12,637	No
100-F-26:7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	8,960	5.07E+06	No
100-F-26:7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	346	6,000[c]	No
100-F-26:7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	18	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	731	12,637	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	5,756	5.07E+06	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	960	140,663	No
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.9	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.4	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	38	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	23	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	30	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	62	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	37	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	1.36E+06	No
100-F-26:8_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	220	6,000[c]	No
100-F-26:8_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	11,500	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	1.8	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	57	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	1.2	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.1	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.0	--[b]	--
100-F-26:8_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	4.2	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,100	12,637	No
100-F-26:8_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	0.60	60	No
100-F-26:8_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	178	--[b]	--
100-F-26:8_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.5	--[b]	--
100-F-26:8_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	29	1.36E+06	No
100-F-26:8_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.53	115,960	No
100-F-26:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--[b]	--
100-F-26:8_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.60	--[b]	--
100-F-26:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	160	--[b]	--
100-F-26:8_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.0	--[b]	--
100-F-26:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	2.47E+06	No
100-F-26:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	29	--[b]	--
100-F-26:8_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,335	140,663	No
100-F-26:8_Shallow	non-Rad	Silver	7440-22-4	µg/kg	510	--[b]	--
100-F-26:8_Shallow	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	253,000	1.00E+06[d]	No
100-F-26:8_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	84	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	1.36E+06	No
100-F-26:9_Overburden	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	27	50,401	No
100-F-26:9_Overburden	non-Rad	Anthracene	120-12-7	µg/kg	22	--[b]	--
100-F-26:9_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,000	12,637	No
100-F-26:9_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	180	--[b]	--
100-F-26:9_Overburden	non-Rad	Barium	7440-39-3	µg/kg	266,416	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	100	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	110	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	89	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	97	--[b]	--
100-F-26:9_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	243	--[b]	--
100-F-26:9_Overburden	non-Rad	Boron	7440-42-8	µg/kg	15,662	5.07E+06	No
100-F-26:9_Overburden	non-Rad	Chrysene	218-01-9	µg/kg	140	--[b]	--
100-F-26:9_Overburden	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	22	--[b]	--
100-F-26:9_Overburden	non-Rad	Fluoranthene	206-44-0	µg/kg	220	--[b]	--
100-F-26:9_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	319	6,000[c]	No
100-F-26:9_Overburden	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	71	--[b]	--
100-F-26:9_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	100	--[b]	--
100-F-26:9_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	2.47E+06	No
100-F-26:9_Overburden	non-Rad	Naphthalene	91-20-3	µg/kg	18	107,951	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:9_Overburden	non-Rad	Pyrene	129-00-0	µg/kg	260	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	23	50,401	No
100-F-26:9_Overburden_Focused	non-Rad	4-Nitroaniline	100-01-6	µg/kg	37	330	No
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	72	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	77	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	659,000	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	21	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	450	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	61,700	5.07E+06	No
100-F-26:9_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	44	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	183,000	2.34E+07	No
100-F-26:9_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	32	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	6,000[c]	No
100-F-26:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	81,700	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	2.47E+06	No
100-F-26:9_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	30	107,951	No
100-F-26:9_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	59	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,800	--[b]	--
100-F-26:9_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-26:9_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--[b]	--
100-F-26:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	108	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	120	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	85	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	100	--[b]	--
100-F-26:9_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	152	--[b]	--
100-F-26:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	14,334	5.07E+06	No
100-F-26:9_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	134	--[b]	--
100-F-26:9_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	39	--[b]	--
100-F-26:9_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	235	--[b]	--
100-F-26:9_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	284	6,000[c]	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:9_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--[b]	--
100-F-26:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	278	--[b]	--
100-F-26:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	910	2.47E+06	No
100-F-26:9_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	227	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.19E+07	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	20	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,600	12,637	No
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	329,000	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	90	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	71	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	49	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	68	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	690	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	28,600	5.07E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	49	525,145	No
100-F-26:9_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	120	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,500	2.34E+07	No
100-F-26:9_Shallow_Focused	non-Rad	Diethylphthalate	84-66-2	µg/kg	34	1.07E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	136	1.36E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	130	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	360	6,000[c]	No
100-F-26:9_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	47	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	16,900	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	810	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	2.47E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	23	107,951	No
100-F-26:9_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	310	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,300	140,663	No
100-F-26:9_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,200	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.9	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,014	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	140	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	75	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.9	60	No
100-F-26:9_Staging Pile Area	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	333	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	160	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	1.36E+06	No
100-F-26:9_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	281	6,000[c]	No
100-F-26:9_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	35,063	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	750	2.47E+06	No
100-F-26:9_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	260	--[b]	--
100-F-31_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	490	12,637	No
100-F-31_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	17	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	45	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	41	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	39	--[b]	--
100-F-31_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	59	--[b]	--
100-F-31_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	685	--[b]	--
100-F-31_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	52	--[b]	--
100-F-31_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	1.36E+06	No
100-F-31_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	69	--[b]	--
100-F-31_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	363	6,000[c]	No
100-F-31_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	25	--[b]	--
100-F-31_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	--[b]	--
100-F-31_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	89	--[b]	--
100-F-33_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	31	50,401	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-33_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
100-F-33_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	64	--[b]	--
100-F-33_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	1.36E+06	No
100-F-33_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	47	--[b]	--
100-F-33_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	22	107,951	No
100-F-33_Shallow	non-Rad	Phenol	108-95-2	µg/kg	19	131,276	No
100-F-33_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	71,718	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	347	12,637	No
100-F-33_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	94	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	44,200	2.34E+07	No
100-F-33_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	6,000[c]	No
100-F-33_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,700	--[b]	--
100-F-33_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.095	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	52	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	1.36E+06	No
100-F-33_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	381	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Silver	7440-22-4	µg/kg	174	--[b]	--
100-F-35_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	520	6,000[c]	No
100-F-35_Shallow	Rad	Americium-241	14596-10-2	pCi/g	1.8	--[b]	--
100-F-35_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	2.6	--[b]	--
100-F-35_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	1.7	--[b]	--
100-F-35_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.64	24,600	No
100-F-36_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	325	6,000[c]	No
100-F-36_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	866	6,000[c]	No
100-F-37_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	508,000	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	340	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	710	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	214,000	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	70	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	388,000	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	513	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-38_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	23,500	5.07E+06	No
100-F-38_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	47	1.36E+06	No
100-F-38_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,900	6,000[c]	No
100-F-38_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	38,400	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	510	2.47E+06	No
100-F-4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	3,200	6,000[c]	No
100-F-4_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.052	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
100-F-44:2_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	90,700	--[b]	--
100-F-44:8_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	9.1	--[b]	--
100-F-44:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	360	12,637	No
100-F-44:8_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	84	--[b]	--
100-F-44:8_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	59	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	36	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	18	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.8	--[b]	--
100-F-44:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,762	5.07E+06	No
100-F-44:8_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	23	--[b]	--
100-F-44:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--[b]	--
100-F-44:8_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--[b]	--
100-F-44:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	106	--[b]	--
100-F-44:8_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	226	No
100-F-44:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	39	--[b]	--
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	47,322	2.00E+06[d]	No
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	105,648	2.00E+06[d]	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	26	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	29	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	31	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	31	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.7	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	24	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	50	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	53	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	226	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	56	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	13,238	2.00E+06[d]	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	110,000	2.00E+06[d]	No
100-F-44:9_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	12,637	No
100-F-44:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	31	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	311	6,000[c]	No
100-F-44:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,600	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	2.47E+06	No
100-F-44:9_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	140,663	No
100-F-44:9_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.12	--[b]	--
100-F-44:9_Overburden_Focused	Rad	Tritium	10028-17-8	pCi/g	0.018	1,660	No
100-F-44:9_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	510	12,637	No
100-F-44:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	34	--[b]	--
100-F-44:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	--[b]	--
100-F-44:9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.21	24,600	No
100-F-44:9_Shallow	Rad	Tritium	10028-17-8	pCi/g	0.015	1,660	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	178	6,000[c]	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	34	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-44:9_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	930	140,663	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	430	--[b]	--
100-F-44:9_Staging Pile Area Footprint	Rad	Europium-152	14683-23-9	pCi/g	1.1	--[b]	--
100-F-44:9_Staging Pile Area Footprint	Rad	Tritium	10028-17-8	pCi/g	0.090	1,660	No
100-F-45_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	20,700	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	231	6,000[c]	No
100-F-45_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	59	--[b]	--
100-F-45_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	34,335	--[b]	--
100-F-45_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	960	6,000[c]	No
100-F-45_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,034	--[b]	--
100-F-45_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	487	2.47E+06	No
100-F-45_Shallow	non-Rad	Silver	7440-22-4	µg/kg	180	--[b]	--
100-F-45_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.7	--[b]	--
100-F-45_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.32	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	274	6,000[c]	No
100-F-45_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	15	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,200	12,637	No
100-F-46_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.9	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.9	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.0	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,900	5.07E+06	No
100-F-46_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
100-F-46_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	10	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	860	2.47E+06	No
100-F-46_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	380	--[b]	--
100-F-46_Shallow_Focused	Rad	Tritium	10028-17-8	pCi/g	34	1,660	No
100-F-47_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	390	12,637	No
100-F-47_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.2	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-47_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	21	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	62	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	100	--[b]	--
100-F-47_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-47_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	72	--[b]	--
100-F-47_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	97	--[b]	--
100-F-47_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	46	--[b]	--
100-F-47_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,383	--[b]	--
100-F-47_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	907	--[b]	--
100-F-47_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	84	--[b]	--
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	19,258	2.00E+06[d]	No
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	37,638	2.00E+06[d]	No
100-F-48_Overburden	non-Rad	2-Butanone	78-93-3	µg/kg	2.5	202,192	No
100-F-48_Overburden	non-Rad	Acetone	67-64-1	µg/kg	16	289,264	No
100-F-48_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	79	--[b]	--
100-F-48_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
100-F-48_Overburden	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	588	No
100-F-48_Overburden	non-Rad	Methoxychlor	72-43-5	µg/kg	1.2	--[b]	--
100-F-48_Overburden	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	226	No
100-F-48_Overburden	non-Rad	Phenol	108-95-2	µg/kg	22	131,276	No
100-F-48_Overburden	non-Rad	Toluene	108-88-3	µg/kg	1.0	70,164	No
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,551	2.00E+06[d]	No
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,008	2.00E+06[d]	No
100-F-48_Overburden	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.1	258,355	No
100-F-48_Overburden_Focused	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	4.5	521	No
100-F-48_Overburden_Focused	non-Rad	2-Butanone	78-93-3	µg/kg	6.8	202,192	No
100-F-48_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.89	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	39	289,264	No
100-F-48_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	588	No
100-F-48_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	3.7	226	No
100-F-48_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	38	131,276	No
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	4,000	2.00E+06[d]	No
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,100	2.00E+06[d]	No
100-F-48_Overburden_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.0	258,355	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-48_Shallow_1	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	1.3	521	No
100-F-48_Shallow_1	non-Rad	2-Butanone	78-93-3	µg/kg	8.5	202,192	No
100-F-48_Shallow_1	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	21	50,401	No
100-F-48_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.4	--[b]	--
100-F-48_Shallow_1	non-Rad	Acetone	67-64-1	µg/kg	64	289,264	No
100-F-48_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	520	12,637	No
100-F-48_Shallow_1	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.1	--[b]	--
100-F-48_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	93	--[b]	--
100-F-48_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	4,367	5.07E+06	No
100-F-48_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	52	--[b]	--
100-F-48_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	2.3	--[b]	--
100-F-48_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	32	1.36E+06	No
100-F-48_Shallow_1	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	588	No
100-F-48_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	151	--[b]	--
100-F-48_Shallow_1	non-Rad	Methoxychlor	72-43-5	µg/kg	13	--[b]	--
100-F-48_Shallow_1	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	226	No
100-F-48_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	660	131,276	No
100-F-48_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	37	--[b]	--
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	20,868	2.00E+06[d]	No
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	86,681	2.00E+06[d]	No
100-F-48_Shallow_1	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	258,355	No
100-F-48_Shallow_2	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	202,192	No
100-F-48_Shallow_2	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	24	50,401	No
100-F-48_Shallow_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	12	--[b]	--
100-F-48_Shallow_2	non-Rad	Acetone	67-64-1	µg/kg	49	289,264	No
100-F-48_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
100-F-48_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
100-F-48_Shallow_2	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	78	--[b]	--
100-F-48_Shallow_2	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.56	115,960	No
100-F-48_Shallow_2	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	588	No
100-F-48_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	36	--[b]	--
100-F-48_Shallow_2	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	4.0	--[b]	--
100-F-48_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	17	--[b]	--
100-F-48_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	36	--[b]	--
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	12,909	2.00E+06[d]	No
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,139	2.00E+06[d]	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-48_Shallow_2	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	258,355	No
100-F-49_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.81	--[b]	--
100-F-49_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.60	--[b]	--
100-F-49_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.9	--[b]	--
100-F-49_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	8.6	--[b]	--
100-F-49_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	634	12,637	No
100-F-49_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	20	--[b]	--
100-F-49_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.2	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	16	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	37	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	43	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--[b]	--
100-F-49_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.1	--[b]	--
100-F-49_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	36	--[b]	--
100-F-49_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	3.1	--[b]	--
100-F-49_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	77	--[b]	--
100-F-49_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	26	--[b]	--
100-F-49_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	67	--[b]	--
100-F-49_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,200	140,663	No
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,845	2.00E+06[d]	No
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,241	2.00E+06[d]	No
100-F-49_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.43	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	12,637	No
100-F-49_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.65	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,000	2.00E+06[d]	No
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	11,000	2.00E+06[d]	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.80	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	840	12,637	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.7	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.9	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	4,100	5.07E+06	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	1.0	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,100	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	10	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,900	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	16	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	19	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	23,000	2.00E+06[d]	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	53,000	2.00E+06[d]	No
100-F-50_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.4	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	16	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	40	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.8	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,600	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	75	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,600	2.00E+06[d]	No
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	7,900	2.00E+06[d]	No
100-F-51 and 100-F-63_Overburden_Focused	Rad	Carbon-14	14762-75-5	pCi/g	0.46	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.5	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.9	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	11	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	9.6	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	15	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Lead	7439-92-1	µg/kg	19,021	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	13	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,120	2.00E+06[d]	No
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	5,627	2.00E+06[d]	No
100-F-51 and 100-F-63_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	0.67	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	240	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	31	1.36E+06	No
100-F-52_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	6,000[c]	No
100-F-53_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,010	12,637	No
100-F-53_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	21,200	--[b]	--
100-F-54_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.60	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	12	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	11	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-55 and 100-F-62_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	16	3.41E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	9.0	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	8.5	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	44	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	42	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	353	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chlordane	57-74-9	µg/kg	8.6	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	46	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	12	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	67	1.36E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	150	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	17	2.85E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	36	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	65,065	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	25	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	25	131,276	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	177	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	17	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1248	12672-29-6	µg/kg	240	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	15	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	45	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,158	5.07E+06	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	71	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	23	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	9.6	2.85E+06	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	39	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-55 and 100-F-62_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	6,786	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Phenol	108-95-2	µg/kg	35	131,276	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	142	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	660	12,637	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	4.9	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.4	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.7	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.3	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.7	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.81	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1248	12672-29-6	µg/kg	25	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	19	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	22	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	157,000	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	110	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	86	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	62	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	8,300	5.07E+06	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.91	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	100	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	3.0	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluorene	86-73-7	µg/kg	16	2.85E+06	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	749	6,000[c]	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	49	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,500	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	690	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Phenol	108-95-2	µg/kg	80	131,276	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	160	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Silver	7440-22-4	µg/kg	970	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	74,800	--[b]	--
100-F-56:1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.2	--[b]	--
100-F-56:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,771	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	18	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	58,600	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,560	6,000[c]	No
100-F-56:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,500	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	21	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	26,000	--[b]	--
100-F-61_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	61	--[b]	--
100-F-61_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	362	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	197	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
100-F-61_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	135	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	79	--[b]	--
100-F-61_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42	--[b]	--
100-F-61_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	224	--[b]	--
100-F-61_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	35	--[b]	--
100-F-61_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	511	--[b]	--
100-F-61_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	100	2.85E+06	No
100-F-61_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	99	--[b]	--
100-F-61_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	640	--[b]	--
100-F-61_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	2.47E+06	No
100-F-61_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	554	--[b]	--
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	22,371	2.00E+06[d]	No
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,222	2.00E+06[d]	No
100-F-7_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	131	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	410	--[b]	--
116-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	11,119	--[b]	--
116-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	828	6,000[c]	No
116-F-1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--[b]	--
116-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
116-F-10_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.5	--[b]	--
116-F-10_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.14	--[b]	--
116-F-10_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
116-F-11_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.4	--[b]	--
116-F-14_Deep	non-Rad	Chromium	7440-47-3	µg/kg	106,551	--[b]	--
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	6,000[c]	Yes
116-F-14_Deep	Rad	Carbon-14	14762-75-5	pCi/g	9.8	--[b]	--
116-F-14_Deep	Rad	Cesium-137	10045-97-3	pCi/g	7.9	--[b]	--
116-F-14_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	12	--[b]	--
116-F-14_Deep	Rad	Europium-152	14683-23-9	pCi/g	185	--[b]	--
116-F-14_Deep	Rad	Europium-154	15585-10-1	pCi/g	23	--[b]	--
116-F-14_Deep	Rad	Nickel-63	13981-37-8	pCi/g	686	--[b]	--
116-F-14_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.2	24,600	No
116-F-14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	24,156	--[b]	--
116-F-14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,485	6,000[c]	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
116-F-14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.090	--[b]	--
116-F-14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.1	--[b]	--
116-F-14_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.24	--[b]	--
116-F-14_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	20	--[b]	--
116-F-14_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.32	24,600	No
116-F-15_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	16	--[b]	--
116-F-15_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
116-F-15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,562	5.07E+06	No
116-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	680	6,000[c]	No
116-F-15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	15,865	--[b]	--
116-F-15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	179	--[b]	--
116-F-15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	715	2.47E+06	No
116-F-15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.070	--[b]	--
116-F-16_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	230	6,000[c]	No
116-F-16_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	6,000[c]	No
116-F-2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,400	6,000[c]	No
116-F-2_Deep	Rad	Carbon-14	14762-75-5	pCi/g	6.6	--[b]	--
116-F-2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	44	--[b]	--
116-F-2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	1.6	--[b]	--
116-F-2_Deep	Rad	Europium-152	14683-23-9	pCi/g	54	--[b]	--
116-F-2_Deep	Rad	Europium-154	15585-10-1	pCi/g	5.6	--[b]	--
116-F-2_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	6,000[c]	No
116-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,123	6,000[c]	No
116-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	1.0	--[b]	--
116-F-3_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	736	6,000[c]	No
116-F-3_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.36	--[b]	--
116-F-4_Deep_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	71,000	--[b]	--
116-F-4_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.8	--[b]	--
116-F-4_Deep_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.074	--[b]	--
116-F-4_Overburden_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	54,600	--[b]	--
116-F-4_Overburden_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	11,700	398,601	No
116-F-4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	3.5	--[b]	--
116-F-4_Overburden_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.080	--[b]	--
116-F-4_Overburden_Focused	Rad	Strontium-90	10098-97-2	pCi/g	1.6	24,600	No
116-F-4_Overburden_Focused	Rad	Technetium-99	14133-76-7	pCi/g	1.5	36	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
116-F-4_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	6,500	--[b]	--
116-F-5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	--[b]	--
116-F-5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,600	--[b]	--
116-F-6_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,700	6,000[c]	No
116-F-6_Deep	Rad	Cesium-137	10045-97-3	pCi/g	12	--[b]	--
116-F-6_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.51	--[b]	--
116-F-6_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--[b]	--
116-F-6_Deep	Rad	Europium-154	15585-10-1	pCi/g	0.86	--[b]	--
116-F-6_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	32	24,600	No
116-F-6_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	498	6,000[c]	No
116-F-6_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.083	--[b]	--
116-F-6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.28	--[b]	--
116-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.4	24,600	No
116-F-7_Deep_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
116-F-7_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	147	--[b]	--
116-F-7_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	36,700	--[b]	--
116-F-7_Deep_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	1.36E+06	No
116-F-7_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	742	6,000[c]	No
116-F-7_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	145	--[b]	--
116-F-7_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	40,900	--[b]	--
116-F-8_Deep	Rad	Europium-152	14683-23-9	pCi/g	2.1	--[b]	--
116-F-8_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	250	6,000[c]	No
116-F-8_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	350	6,000[c]	No
116-F-9_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,200	6,000[c]	No
116-F-9_Deep	Rad	Carbon-14	14762-75-5	pCi/g	8.5	--[b]	--
116-F-9_Deep	Rad	Cesium-137	10045-97-3	pCi/g	2.1	--[b]	--
116-F-9_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	2.3	--[b]	--
116-F-9_Deep	Rad	Europium-152	14683-23-9	pCi/g	6.4	--[b]	--
116-F-9_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.3	--[b]	--
116-F-9_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	9.5	24,600	No
116-F-9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	24,600	No
118-F-1_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,400	12,637	No
118-F-1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	11,569	--[b]	--
118-F-1_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	673	2.47E+06	No
118-F-1_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,412	140,663	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-1_Overburden	non-Rad	Silver	7440-22-4	µg/kg	4,300	--[b]	--
118-F-1_Overburden	Rad	Americium-241	14596-10-2	pCi/g	0.60	--[b]	--
118-F-1_Overburden	Rad	Curium-244	13981-15-2	pCi/g	0.041	--[b]	--
118-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	12,637	No
118-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.13	--[b]	--
118-F-1_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	6.8	--[b]	--
118-F-1_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.24	--[b]	--
118-F-1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.66	24,600	No
118-F-1_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,600	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	33,300	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	690	2.47E+06	No
118-F-1_Staging Pile Area	non-Rad	Silver	7440-22-4	µg/kg	880	--[b]	--
118-F-1_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	--[b]	--
118-F-1_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.21	--[b]	--
118-F-1_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	14	--[b]	--
118-F-1_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.34	24,600	No
118-F-2_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,400	140,663	No
118-F-2_Overburden	non-Rad	Silver	7440-22-4	µg/kg	290	--[b]	--
118-F-2_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.31	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	780	12,637	No
118-F-2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	49	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	23	525,145	No
118-F-2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	61	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	50	1.36E+06	No
118-F-2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	79	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	2.47E+06	No
118-F-2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	73	--[b]	--
118-F-2_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.14	--[b]	--
118-F-2_Shallow_Focused	Rad	Nickel-63	13981-37-8	pCi/g	5.1	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-2_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	900	2.47E+06	No
118-F-2_Staging Pile Area	non-Rad	Selenium	7782-49-2	µg/kg	1,400	140,663	No
118-F-2_Staging Pile Area	Rad	Plutonium-238	13981-16-3	pCi/g	1.0	--[b]	--
118-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	12,700	5.07E+06	No
118-F-3_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	--[b]	--
118-F-3_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	24	--[b]	--
118-F-3_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.28	24,600	No
118-F-3_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	6,600	5.07E+06	No
118-F-3_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	--[b]	--
118-F-3_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.11	--[b]	--
118-F-3_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	15	--[b]	--
118-F-5_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.65	24,600	No
118-F-5_Shallow_1	Rad	Tritium	10028-17-8	pCi/g	4.8	1,660	No
118-F-6_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.3	24,600	No
118-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	4.1	24,600	No
118-F-6_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42,000	--[b]	--
118-F-6_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.6	--[b]	--
118-F-6_Shallow_Focused	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.46	24,600	No
118-F-7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,800	5.07E+06	No
118-F-7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,800	--[b]	--
118-F-7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	2,400	2.47E+06	No
118-F-7_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.25	24,600	No
118-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	63,800	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	8,600	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	3,900	5.07E+06	No
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000	2.34E+07	No
118-F-7_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	31,100	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	2.47E+06	No
118-F-7_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.39	--[b]	--
118-F-7_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.82	24,600	No
118-F-8:1_Deep	non-Rad	Aroclor-1248	12672-29-6	µg/kg	35	--[b]	--
118-F-8:1_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	62,000	--[b]	--
118-F-8:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	923	6,000[c]	No
118-F-8:1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
118-F-8:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	137,000	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-8:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	38,777	--[b]	--
118-F-8:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	752	6,000[c]	No
118-F-8:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
118-F-8:1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.59	--[b]	--
118-F-8:1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.094	--[b]	--
118-F-8:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.20	24,600	No
118-F-8:3_Deep	non-Rad	Aroclor-1254	11097-69-1	µg/kg	97	--[b]	--
118-F-8:3_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	932	6,000[c]	No
118-F-8:3_Deep	non-Rad	Mercury	7439-97-6	µg/kg	125	--[b]	--
118-F-8:3_Deep	Rad	Americium-241	14596-10-2	pCi/g	2.2	--[b]	--
118-F-8:3_Deep	Rad	Carbon-14	14762-75-5	pCi/g	22	--[b]	--
118-F-8:3_Deep	Rad	Cesium-137	10045-97-3	pCi/g	319	--[b]	--
118-F-8:3_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	18	--[b]	--
118-F-8:3_Deep	Rad	Europium-152	14683-23-9	pCi/g	183	--[b]	--
118-F-8:3_Deep	Rad	Europium-154	15585-10-1	pCi/g	7.7	--[b]	--
118-F-8:3_Deep	Rad	Nickel-63	13981-37-8	pCi/g	617	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-238	13981-16-3	pCi/g	0.62	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	4.2	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	13	--[b]	--
118-F-8:3_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	103	24,600	No
118-F-8:3_Deep	Rad	Tritium	10028-17-8	pCi/g	0.69	1,660	No
118-F-8:4_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	49	--[b]	--
118-F-8:4_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[c]	No
118-F-8:4_Deep	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
118-F-8:4_Deep	non-Rad	Molybdenum	7439-98-7	µg/kg	510	2.47E+06	No
118-F-8:4_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.11	--[b]	--
118-F-8:4_Deep	Rad	Cesium-137	10045-97-3	pCi/g	6.6	--[b]	--
118-F-8:4_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.27	--[b]	--
118-F-8:4_Deep	Rad	Europium-152	14683-23-9	pCi/g	4.4	--[b]	--
118-F-8:4_Deep	Rad	Nickel-63	13981-37-8	pCi/g	26	--[b]	--
118-F-8:4_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.75	--[b]	--
118-F-8:4_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.2	24,600	No
118-F-8:4_Overburden	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--[b]	--
118-F-8:4_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	288	6,000[c]	No
118-F-8:4_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	127	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
118-F-8:4_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	623	2.47E+06	No
118-F-8:4_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.020	--[b]	--
118-F-8:4_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.44	--[b]	--
118-F-8:4_Overburden	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.97	--[b]	--
118-F-8:4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	6,000[c]	No
118-F-8:4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,300	--[b]	--
118-F-8:4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	530	--[b]	--
118-F-8:4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,500	140,663	No
118-F-8:4_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.19	--[b]	--
120-F-1_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--[b]	--
120-F-1_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1	--[b]	--
120-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	8.8	--[b]	--
120-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	910	12,637	No
120-F-1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--[b]	--
120-F-1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.8	--[b]	--
120-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	94	--[b]	--
120-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	8.7	--[b]	--
120-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	1.36E+06	No
120-F-1_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.8	115,960	No
120-F-1_Shallow	non-Rad	Fluoride	16984-48-8	µg/kg	3,900	--[b]	--
120-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	300	6,000[c]	No
120-F-1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	102	--[b]	--
120-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	850	2.47E+06	No
120-F-1_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,800	140,663	No
126-F-1_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.081	--[b]	--
126-F-1_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.38	--[b]	--
126-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.20	--[b]	--
126-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.3	--[b]	--
126-F-1_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.46	--[b]	--
126-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.24	--[e]	--
126-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	173	3.41E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	412	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	478	12,637	No
126-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	74	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	758	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	696	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	555	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	758	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	407	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,600	5.07E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	842	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	203	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	1,804	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	211	2.85E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	256	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	17,200	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1,754	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06	1.00E+06[d]	Yes
126-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	76,900	--[b]	--
128-F-1_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.8	60	No
128-F-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	21	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	4,400	1.00E+06[d]	No
128-F-2_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	3.0	--[b]	--
128-F-2_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.6	--[b]	--
128-F-2_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	34	--[b]	--
128-F-2_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	63	3.41E+06	No
128-F-2_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	1.7	--[b]	--
128-F-2_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	3.7	--[b]	--
128-F-2_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	120	--[b]	--
128-F-2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	12,637	No
128-F-2_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	44	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	264	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	263	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	198	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	263	--[b]	--
128-F-2_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	8.8	60	No
128-F-2_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	105	--[b]	--
128-F-2_Shallow	non-Rad	Carbazole	86-74-8	µg/kg	62	7,944	No
128-F-2_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.6	--[b]	--
128-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	21,554	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
128-F-2_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	290	--[b]	--
128-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	40,037	2.34E+07	No
128-F-2_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	99	--[b]	--
128-F-2_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	21	121,721	No
128-F-2_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	35	1.36E+06	No
128-F-2_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	4.0	115,960	No
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22	14,032	No
128-F-2_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--[b]	--
128-F-2_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	46	2.85E+06	No
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3	111	No
128-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	6,000[c]	No
128-F-2_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	157	--[b]	--
128-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,776	--[b]	--
128-F-2_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	35	--[b]	--
128-F-2_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	239	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.2	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	6.6	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	27	3.41E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	60	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,500	12,637	No
128-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	320	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	280	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	210	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	230	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Carbazole	86-74-8	µg/kg	30	7,944	No
128-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,200	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	370	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	23,900	2.34E+07	No
128-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	77	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	71	1.36E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	670	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	19	2.85E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	730	6,000[c]	No
128-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	150	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
128-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,800	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	2.47E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	790	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Selenium	7782-49-2	µg/kg	950	140,663	No
128-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	124,000	--[b]	--
128-F-3_Shallow	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	202,192	No
128-F-3_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	8.0	1,907	No
128-F-3_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.3	--[b]	--
128-F-3_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.3	--[b]	--
128-F-3_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.6	--[b]	--
128-F-3_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	8.0	29,716	No
128-F-3_Shallow	non-Rad	Acetone	67-64-1	µg/kg	9.0	289,264	No
128-F-3_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.56	--[b]	--
128-F-3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.8	--[b]	--
128-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	209,520	--[b]	--
128-F-3_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	5.4	60	No
128-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	17,002	5.07E+06	No
128-F-3_Shallow	non-Rad	Chlorobenzene	108-90-7	µg/kg	4.2	15,662	No
128-F-3_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.8	96	No
128-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	42,093	--[b]	--
128-F-3_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.3	115,960	No
128-F-3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	588	No
128-F-3_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	1.3	59	No
128-F-3_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.55	--[b]	--
128-F-3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
128-F-3_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	9.8	--[b]	--
128-F-3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	21	226	No
128-F-3_Shallow	non-Rad	Silver	7440-22-4	µg/kg	280	--[b]	--
128-F-3_Shallow	non-Rad	Styrene	100-42-5	µg/kg	4.0	56,031	No
128-F-3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	1.0	15	No
128-F-3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	7.0	258,355	No
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.1	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.76	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	141,000	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,500	5.07E+06	No
128-F-3_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	3.0	15,662	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
128-F-3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	3.0	96	No
128-F-3_Staging pile area_Focused	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.88	115,960	No
128-F-3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	22	226	No
132-F-1_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	171	50,401	No
132-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	75	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	88	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	74	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	98	--[b]	--
132-F-1_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.8	60	No
132-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	90	--[b]	--
132-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.4	--[b]	--
132-F-1_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	104	--[b]	--
132-F-1_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	44	121,721	No
132-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	43	1.36E+06	No
132-F-1_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	102	--[b]	--
132-F-1_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	43	--[b]	--
132-F-1_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	245	107,951	No
132-F-1_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	124	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.7	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	269	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	535	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1,114	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	841	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	780	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	57	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2,137	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	256	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	169	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	620	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	273	--[b]	--
141-C_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	65	--[b]	--
141-C_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	125	--[b]	--
141-C_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	65	--[b]	--
141-C_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	41	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
141-C_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	76	--[b]	--
141-C_Shallow	non-Rad	Boron	7440-42-8	µg/kg	5,336	5.07E+06	No
141-C_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	63	--[b]	--
141-C_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	15	--[b]	--
141-C_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	176	--[b]	--
141-C_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	30	2.85E+06	No
141-C_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	671	6,000[c]	No
141-C_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	45	--[b]	--
141-C_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,208	--[b]	--
141-C_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	--[b]	--
141-C_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	163	--[b]	--
141-C_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.7	24,600	No
141-C_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	3.41E+06	No
141-C_Staging Pile Area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	7.6	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	46	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	197	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	88	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	82	--[b]	--
1607-F2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.51	--[b]	--
1607-F3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.0	--[b]	--
1607-F3_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.5	--[b]	--
1607-F3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,552	--[b]	--
1607-F3_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	33	--[b]	--
1607-F3_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--[b]	--
1607-F3_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--[b]	--
1607-F3_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--[b]	--
1607-F3_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	22	--[b]	--
1607-F3_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	1.36E+06	No
1607-F3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	588	No
1607-F3_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--
1607-F3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	24,146	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
1607-F3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	--[b]	--
1607-F3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	26	226	No
1607-F3_Shallow	non-Rad	m-Xylene	108-38-3	µg/kg	4.0	236,404	No
1607-F3_Shallow	non-Rad	o-Xylene	95-47-6	µg/kg	2.0	266,606	No
1607-F3_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	4,200	140,663	No
1607-F3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	2.0	15	No
1607-F3_Shallow	non-Rad	Toluene	108-88-3	µg/kg	1.0	70,164	No
1607-F3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	4.7	258,355	No
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.49	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.35	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Acetone	67-64-1	µg/kg	5.0	289,264	No
1607-F3_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.4	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	12,100	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	82	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.83	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	96	No
1607-F3_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	1.36E+06	No
1607-F3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	54,900	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.0	226	No
1607-F4_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	140	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	5.07E+06	No
1607-F4_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	24	1.36E+06	No
1607-F4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
1607-F4_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.1	--[b]	--
1607-F4_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.8	--[b]	--
1607-F4_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.6	--[b]	--
1607-F4_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,010	12,637	No
1607-F4_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	46	--[b]	--
1607-F4_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	6.7	--[b]	--
1607-F4_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--[b]	--
1607-F4_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	18	--[b]	--
1607-F4_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	91	--[b]	--
1607-F4_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.5	--[b]	--
1607-F4_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--[b]	--
1607-F4_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	33	1.36E+06	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
1607-F4_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	44	--[b]	--
1607-F4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	210	6,000[c]	No
1607-F4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	--[b]	--
1607-F4_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	580	2.47E+06	No
1607-F4_Shallow	non-Rad	Phenol	108-95-2	µg/kg	28	131,276	No
1607-F4_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	38	--[b]	--
1607-F4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,602	140,663	No
1607-F4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	190	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	41	1.36E+06	No
1607-F4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	490	2.47E+06	No
1607-F5_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	172	--[b]	--
1607-F5_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	93	1.36E+06	No
1607-F5_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	530	2.47E+06	No
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.6	60	No
1607-F5_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	75	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	0.60	115,960	No
1607-F6_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
1607-F6_Overburden	non-Rad	Diethylphthalate	84-66-2	µg/kg	130	1.07E+06	No
1607-F6_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	342	--[b]	--
1607-F6_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	60	--[b]	--
1607-F6_Shallow	non-Rad	Diethylphthalate	84-66-2	µg/kg	24	1.07E+06	No
1607-F6_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	1.36E+06	No
1607-F6_Shallow	non-Rad	Lead	7439-92-1	µg/kg	13,247	--[b]	--
1607-F6_Shallow	non-Rad	Phenol	108-95-2	µg/kg	84	131,276	No
1607-F6_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	22	--[b]	--
1607-F6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.065	--[b]	--
1607-F6_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.19	--[e]	--
1607-F7_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	2.7	1,907	No
1607-F7_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	134	50,401	No
1607-F7_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6	--[b]	--
1607-F7_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	5.3	--[b]	--
1607-F7_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	3.0	29,716	No
1607-F7_Shallow	non-Rad	Acetone	67-64-1	µg/kg	15	289,264	No

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
1607-F7_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.42	--[b]	--
1607-F7_Shallow	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.1	14	No
1607-F7_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.2	--[b]	--
1607-F7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	530	12,637	No
1607-F7_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.4	--[b]	--
1607-F7_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.0	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	46	--[b]	--
1607-F7_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.7	60	No
1607-F7_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--[b]	--
1607-F7_Shallow	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	37	525,145	No
1607-F7_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	1.1	--[b]	--
1607-F7_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.4	96	No
1607-F7_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	76	--[b]	--
1607-F7_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	30	121,721	No
1607-F7_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	40	1.36E+06	No
1607-F7_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.54	115,960	No
1607-F7_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--[b]	--
1607-F7_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	0.92	59	No
1607-F7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	6,000[c]	No
1607-F7_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--[b]	--
1607-F7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,177	--[b]	--
1607-F7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
1607-F7_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.4	--[b]	--
1607-F7_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	14	226	No
1607-F7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	477	2.47E+06	No
1607-F7_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	96	107,951	No
1607-F7_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	71	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	1,4-Dichlorobenzene	106-46-7	µg/kg	46	3,168	No
1607-F7_Staging pile area_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	110	50,401	No
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.2	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	58	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	46	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.5	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
1607-F7_Staging pile area_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	147,000	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	32	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.4	60	No
1607-F7_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	35	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	7,700	5.07E+06	No
1607-F7_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	3.7	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	1.0	15,662	No
1607-F7_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	96	No
1607-F7_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	850	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Dibenzofuran	132-64-9	µg/kg	27	121,721	No
1607-F7_Staging pile area_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	23	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	1.36E+06	No
1607-F7_Staging pile area_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	588	No
1607-F7_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	37	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15	111	No
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.89	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	27	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	13	226	No
1607-F7_Staging pile area_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	72	107,951	No
1607-F7_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	51	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Styrene	100-42-5	µg/kg	3.0	56,031	No
1607-F7_Staging pile area_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	70,164	No
1607-F7_Staging pile area_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	6.0	258,355	No
1607-F7_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	72,000	--[b]	--
182-F_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	500	12,637	No
182-F_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	36	--[b]	--
182-F_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
182-F_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	780	--[b]	--
182-F_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,600	--[b]	--

Table A-4. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
182-F_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	6,000[c]	No
182-F_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	58,700	--[b]	--
182-F_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
182-F_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	560	2.47E+06	No
182-F_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	139,000	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1016	12674-11-2	µg/kg	20	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	110	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--[b]	--
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300	1,033	Yes
600-351_Shallow_Focused	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	27	11,973	No
600-351_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	900	12,637	No
600-351_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	250,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	805,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	500	2.47E+06	No
600-351_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	920	140,663	No
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,000	2.00E+06[d]	No
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,000	2.00E+06[d]	No
UPR-100-F-2_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.086	--[b]	--
UPR-100-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
UPR-100-F-2_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.20	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g. An exception to this convention is strontium-90, which is calculated based on a 100:0 source distribution because of data that indicated strontium-90 distributed throughout the vadose zone at some locations in this operable unit.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

d. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

e. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.
-- = Not applicable or no value.

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-12_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	55	--[b]	--
100-F-12_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.4	2.5	No
100-F-14_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	25	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	1.70E+06	No
100-F-14_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	84	--[b]	--
100-F-14_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	19	208	No
100-F-15_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,300	4,981	No
100-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	450	4,981	No
100-F-16_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	510	4,981	No
100-F-16_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.032	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	20	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,700	329,092	No
100-F-18_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	1.70E+06	No
100-F-18_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	89	--[b]	--
100-F-18_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.7	208	No
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600	4,981	Yes
100-F-19:1_Deep	Rad	Cesium-137	10045-97-3	pCi/g	21	--[b]	--
100-F-19:1_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	13	--[b]	--
100-F-19:1_Deep	Rad	Europium-152	14683-23-9	pCi/g	325	--[b]	--
100-F-19:1_Deep	Rad	Europium-154	15585-10-1	pCi/g	25	--[b]	--
100-F-19:1_Deep	Rad	Nickel-63	13981-37-8	pCi/g	351	--[b]	--
100-F-19:1_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.1	24,600	No
100-F-19:1_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	740	4,981	No
100-F-19:1_Overburden	Rad	Carbon-14	14762-75-5	pCi/g	5.0	--[b]	--
100-F-19:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	624	4,981	No
100-F-19:1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	4.1	--[b]	--
100-F-19:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.33	24,600	No
100-F-19:2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,140	4,981	No
100-F-19:2_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.049	--[b]	--
100-F-19:2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	3.9	--[b]	--
100-F-19:2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.67	--[b]	--
100-F-19:2_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--[b]	--
100-F-19:2_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.7	--[b]	--
100-F-19:2_Deep	Rad	Nickel-63	13981-37-8	pCi/g	340	--[b]	--
100-F-19:2_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	23	--[b]	--
100-F-19:2_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	24,600	No
100-F-19:2_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	690	4,981	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-19:2_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.1	--[b]	--
100-F-19:2_Deep_Focused	Rad	Cobalt-60	10198-40-0	pCi/g	0.36	--[b]	--
100-F-19:2_Deep_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.5	--[b]	--
100-F-19:2_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	410	--[b]	--
100-F-19:2_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	--[b]	--
100-F-19:2_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.37	--[b]	--
100-F-19:2_Overburden	Rad	Europium-154	15585-10-1	pCi/g	0.18	--[b]	--
100-F-19:2_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	4.9	--[b]	--
100-F-19:2_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.42	24,600	No
100-F-19:2_Overburden	Rad	Tritium	10028-17-8	pCi/g	0.81	1,660	No
100-F-19:2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.35	--[b]	--
100-F-19:2_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	7.0	--[b]	--
100-F-19:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	4,981	No
100-F-20_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,200	--[b]	--
100-F-20_Staging pile area	non-Rad	Copper	7440-50-8	µg/kg	23,700	329,092	No
100-F-20_Staging pile area	non-Rad	Lead	7439-92-1	µg/kg	18,500	--[b]	--
100-F-20_Staging pile area	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
100-F-20_Staging pile area	non-Rad	Molybdenum	7439-98-7	µg/kg	850	3.99E+07	No
100-F-20_Staging pile area	non-Rad	Zinc	7440-66-6	µg/kg	87,600	--[b]	--
100-F-25_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	140	--[b]	--
100-F-25_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.13	--[b]	--
100-F-25_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	4.6	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	280	11,795	No
100-F-26:1_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	181,000	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,380	--[b]	--
100-F-26:1_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	621	3.99E+07	No
100-F-26:1_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	263	11,795	No
100-F-26:1_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	14	--[b]	--
100-F-26:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	4,981	No
100-F-26:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	93	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	880	11,795	No
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	7.9	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	10	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	25	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	250	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:10_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	--[c]	--
100-F-26:10_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	23	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	1.70E+06	No
100-F-26:10_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	270	4,981	No
100-F-26:10_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,700	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	35	--[b]	--
100-F-26:10_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,800	14,066	No
100-F-26:10_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	11,795	No
100-F-26:10_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	54	--[b]	--
100-F-26:10_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	54	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	41	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	39	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:10_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	48	--[b]	--
100-F-26:10_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	93	--[b]	--
100-F-26:10_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	60	--[b]	--
100-F-26:10_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	4.9	--[b]	--
100-F-26:10_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	1.70E+06	No
100-F-26:10_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	120	--[b]	--
100-F-26:10_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	268	4,981	No
100-F-26:10_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--[b]	--
100-F-26:10_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.7	--[b]	--
100-F-26:10_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	640	3.99E+07	No
100-F-26:10_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	110	--[b]	--
100-F-26:10_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,369	14,066	No
100-F-26:10_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,500	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	860	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	39	1.70E+06	No
100-F-26:10_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	4,981	No
100-F-26:10_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,900	--[b]	--
100-F-26:10_Shallow_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	3.0	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	20	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--[b]	--
100-F-26:11_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	38	1.70E+06	No
100-F-26:11_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	4,981	No
100-F-26:11_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	23,600	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:11_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
100-F-26:12_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	293	4,981	No
100-F-26:12_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	60	--[b]	--
100-F-26:12_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	620	3.99E+07	No
100-F-26:12_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.081	--[b]	--
100-F-26:12_Overburden	Rad	Tritium	10028-17-8	pCi/g	5.9	1,660	No
100-F-26:12_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,000	11,795	No
100-F-26:12_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	4,981	No
100-F-26:12_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	28	--[b]	--
100-F-26:12_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	480	3.99E+07	No
100-F-26:12_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	307	4,981	No
100-F-26:12_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	56	--[b]	--
100-F-26:12_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	534	3.99E+07	No
100-F-26:12_Staging Pile Area	Rad	Carbon-14	14762-75-5	pCi/g	5.1	--[b]	--
100-F-26:12_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.56	24,600	No
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	38	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	9,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	6,100	--[c]	--
100-F-26:13_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	29,600	--[b]	--
100-F-26:13_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	520	3.99E+07	No
100-F-26:13_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.1	--[b]	--
100-F-26:13_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.6	--[b]	--
100-F-26:13_Shallow	non-Rad	Lead	7439-92-1	µg/kg	14,012	--[b]	--
100-F-26:13_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	554	3.99E+07	No
100-F-26:13_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	13	--[b]	--
100-F-26:13_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	2.0	24,600	No
100-F-26:13_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	3.99E+07	No
100-F-26:14_Overburden	non-Rad	Boron	7440-42-8	µg/kg	13,500	--[c]	--
100-F-26:14_Overburden	non-Rad	Lead	7439-92-1	µg/kg	20,400	--[b]	--
100-F-26:14_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	70	--[b]	--
100-F-26:14_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	560	3.99E+07	No
100-F-26:14_Overburden	Rad	Cesium-137	10045-97-3	pCi/g	2.0	--[b]	--
100-F-26:14_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.25	--[b]	--
100-F-26:14_Overburden	Rad	Europium-152	14683-23-9	pCi/g	1.4	--[b]	--
100-F-26:14_Overburden	Rad	Nickel-63	13981-37-8	pCi/g	9.6	--[b]	--
100-F-26:14_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.37	24,600	No
100-F-26:14_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	830	11,795	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:14_Shallow	non-Rad	Barium	7440-39-3	µg/kg	216,000	--[b]	--
100-F-26:14_Shallow	non-Rad	Boron	7440-42-8	µg/kg	31,600	--[c]	--
100-F-26:14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	4,981	No
100-F-26:14_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
100-F-26:14_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	510	3.99E+07	No
100-F-26:14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.089	--[b]	--
100-F-26:14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.53	--[b]	--
100-F-26:15_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.31	--[b]	--
100-F-26:15_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	850	11,795	No
100-F-26:15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,162	--[c]	--
100-F-26:15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	262	4,981	No
100-F-26:15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	130	--[b]	--
100-F-26:15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	661	3.99E+07	No
100-F-26:15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.22	--[b]	--
100-F-26:15_Shallow_Focused	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	14	--[b]	--
100-F-26:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	390	4,981	No
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.3	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	260,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	32,300	--[c]	--
100-F-26:4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	4,981	No
100-F-26:4_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	20,000	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	--[b]	--
100-F-26:4_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	3.99E+07	No
100-F-26:4_Overburden_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	141,000	--[c]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Arsenic	7440-38-2	µg/kg	6,500	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Boron	7440-42-8	µg/kg	5,100	--[c]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Lead	7439-92-1	µg/kg	16,000	--[b]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,700	--[c]	--
100-F-26:4_Overburden_Focused_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	10,000	--[c]	--
100-F-26:4_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	718	11,795	No
100-F-26:4_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	5,760	--[c]	--
100-F-26:4_Shallow_1	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	546	4,981	No
100-F-26:4_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	60	--[b]	--
100-F-26:4_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	890	3.99E+07	No
100-F-26:4_Shallow_1	non-Rad	Selenium	7782-49-2	µg/kg	2,700	14,066	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:4_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--[b]	--
100-F-26:4_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,903	--[c]	--
100-F-26:4_Shallow_2	non-Rad	Selenium	7782-49-2	µg/kg	930	14,066	No
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	6,371	--[c]	--
100-F-26:4_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	25,575	--[c]	--
100-F-26:4_Shallow_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	26	218,655	No
100-F-26:4_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	381	11,795	No
100-F-26:4_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	19	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	241	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	669	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	226	1.70E+06	No
100-F-26:4_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	370	4,981	No
100-F-26:4_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	150	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	39	3.33E+06	No
100-F-26:4_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	33	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	219	--[b]	--
100-F-26:4_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,100	--[b]	--
100-F-26:4_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.23	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Antimony	7440-36-0	µg/kg	662	11,795	No
100-F-26:5_Deep_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	35	--[b]	--
100-F-26:5_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	875	4,981	No
100-F-26:5_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	98	--[b]	--
100-F-26:5_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
100-F-26:7_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	680	11,795	No
100-F-26:7_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	153,000	--[b]	--
100-F-26:7_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	10,600	--[c]	--
100-F-26:7_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	66	--[b]	--
100-F-26:7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	684	11,795	No
100-F-26:7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	8,960	--[c]	--
100-F-26:7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	346	4,981	No
100-F-26:7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	18	--[b]	--
100-F-26:7_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--
100-F-26:7_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	731	11,795	No
100-F-26:7_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	5,756	--[c]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:7_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	960	14,066	No
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.9	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.4	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	38	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	23	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	30	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	62	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	37	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	1.70E+06	No
100-F-26:8_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	220	4,981	No
100-F-26:8_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	11,500	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Methoxychlor	72-43-5	µg/kg	1.8	--[b]	--
100-F-26:8_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	57	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	1.2	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.1	--[b]	--
100-F-26:8_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.0	--[b]	--
100-F-26:8_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	4.2	--[b]	--
100-F-26:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,100	11,795	No
100-F-26:8_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	0.60	11	No
100-F-26:8_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	178	--[b]	--
100-F-26:8_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.5	--[b]	--
100-F-26:8_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	29	1.70E+06	No
100-F-26:8_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.53	68	No
100-F-26:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--[b]	--
100-F-26:8_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.60	--[b]	--
100-F-26:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	160	--[b]	--
100-F-26:8_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.0	--[b]	--
100-F-26:8_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	3.99E+07	No
100-F-26:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	29	--[b]	--
100-F-26:8_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,335	14,066	No
100-F-26:8_Shallow	non-Rad	Silver	7440-22-4	µg/kg	510	--[b]	--
100-F-26:8_Shallow	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	253,000	--[c]	--
100-F-26:8_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	84	--[b]	--
100-F-26:8_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	1.70E+06	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:9_Overburden	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	27	218,655	No
100-F-26:9_Overburden	non-Rad	Anthracene	120-12-7	µg/kg	22	--[b]	--
100-F-26:9_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,000	11,795	No
100-F-26:9_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	180	--[b]	--
100-F-26:9_Overburden	non-Rad	Barium	7440-39-3	µg/kg	266,416	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	100	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	110	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	89	--[b]	--
100-F-26:9_Overburden	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	97	--[b]	--
100-F-26:9_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	243	--[b]	--
100-F-26:9_Overburden	non-Rad	Boron	7440-42-8	µg/kg	15,662	--[c]	--
100-F-26:9_Overburden	non-Rad	Chrysene	218-01-9	µg/kg	140	--[b]	--
100-F-26:9_Overburden	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	22	--[b]	--
100-F-26:9_Overburden	non-Rad	Fluoranthene	206-44-0	µg/kg	220	--[b]	--
100-F-26:9_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	319	4,981	No
100-F-26:9_Overburden	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	71	--[b]	--
100-F-26:9_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	100	--[b]	--
100-F-26:9_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	3.99E+07	No
100-F-26:9_Overburden	non-Rad	Naphthalene	91-20-3	µg/kg	18	3.33E+06	No
100-F-26:9_Overburden	non-Rad	Pyrene	129-00-0	µg/kg	260	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	23	218,655	No
100-F-26:9_Overburden_Focused	non-Rad	4-Nitroaniline	100-01-6	µg/kg	37	5,429	No
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	72	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	77	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	659,000	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	21	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	450	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	61,700	--[c]	--
100-F-26:9_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	44	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	183,000	329,092	No
100-F-26:9_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	32	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	240	4,981	No
100-F-26:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	81,700	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	3.99E+07	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:9_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	30	3.33E+06	No
100-F-26:9_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	59	--[b]	--
100-F-26:9_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	85,800	--[b]	--
100-F-26:9_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-26:9_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--[b]	--
100-F-26:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	108	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	120	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	85	--[b]	--
100-F-26:9_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	100	--[b]	--
100-F-26:9_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	152	--[b]	--
100-F-26:9_Shallow	non-Rad	Boron	7440-42-8	µg/kg	14,334	--[c]	--
100-F-26:9_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	134	--[b]	--
100-F-26:9_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	39	--[b]	--
100-F-26:9_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	235	--[b]	--
100-F-26:9_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	284	4,981	No
100-F-26:9_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--[b]	--
100-F-26:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	278	--[b]	--
100-F-26:9_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	910	3.99E+07	No
100-F-26:9_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	227	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.19E+07	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	20	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,600	11,795	No
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	329,000	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	90	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	71	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	49	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	68	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	690	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	28,600	--[c]	--
100-F-26:9_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	49	93,961	No
100-F-26:9_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	120	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	26,500	329,092	No
100-F-26:9_Shallow_Focused	non-Rad	Diethylphthalate	84-66-2	µg/kg	34	1.42E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	136	1.70E+06	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-26:9_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	130	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	360	4,981	No
100-F-26:9_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	47	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	16,900	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	810	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	3.99E+07	No
100-F-26:9_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	23	3.33E+06	No
100-F-26:9_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	310	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,300	14,066	No
100-F-26:9_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,200	--[b]	--
100-F-26:9_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.9	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,014	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	140	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	75	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.9	11	No
100-F-26:9_Staging Pile Area	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	333	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	160	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	26	1.70E+06	No
100-F-26:9_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	281	4,981	No
100-F-26:9_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	35,063	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	120	--[b]	--
100-F-26:9_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	750	3.99E+07	No
100-F-26:9_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	260	--[b]	--
100-F-31_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	490	11,795	No
100-F-31_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	17	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	45	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	41	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-31_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--[b]	--
100-F-31_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	39	--[b]	--
100-F-31_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	59	--[b]	--
100-F-31_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	685	--[b]	--
100-F-31_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	52	--[b]	--
100-F-31_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	1.70E+06	No
100-F-31_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	69	--[b]	--
100-F-31_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	363	4,981	No
100-F-31_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	25	--[b]	--
100-F-31_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	--[b]	--
100-F-31_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	89	--[b]	--
100-F-33_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	31	218,655	No
100-F-33_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
100-F-33_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	64	--[b]	--
100-F-33_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	1.70E+06	No
100-F-33_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	47	--[b]	--
100-F-33_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	22	3.33E+06	No
100-F-33_Shallow	non-Rad	Phenol	108-95-2	µg/kg	19	546,982	No
100-F-33_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	71,718	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	347	11,795	No
100-F-33_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	94	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	44,200	329,092	No
100-F-33_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	277	4,981	No
100-F-33_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--[b]	--
100-F-33_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,700	--[b]	--
100-F-33_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.095	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	52	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	30	1.70E+06	No
100-F-33_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	381	--[b]	--
100-F-33_Staging pile area_Focused	non-Rad	Silver	7440-22-4	µg/kg	174	--[b]	--
100-F-35_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	520	4,981	No
100-F-35_Shallow	Rad	Americium-241	14596-10-2	pCi/g	1.8	--[b]	--
100-F-35_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	2.6	--[b]	--
100-F-35_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	1.7	--[b]	--
100-F-35_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.64	24,600	No
100-F-36_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	325	4,981	No
100-F-36_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	866	4,981	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-37_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	508,000	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	340	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	710	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	214,000	--[b]	--
100-F-37_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	70	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	388,000	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	513	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	23,500	--[c]	--
100-F-38_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	47	1.70E+06	No
100-F-38_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,900	4,981	No
100-F-38_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	38,400	--[b]	--
100-F-38_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	510	3.99E+07	No
100-F-4_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	3,200	4,981	No
100-F-4_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.052	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
100-F-44:2_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
100-F-44:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	90,700	--[b]	--
100-F-44:8_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	9.1	--[b]	--
100-F-44:8_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	360	11,795	No
100-F-44:8_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	84	--[b]	--
100-F-44:8_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	59	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	36	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	18	--[b]	--
100-F-44:8_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.8	--[b]	--
100-F-44:8_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,762	--[c]	--
100-F-44:8_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	23	--[b]	--
100-F-44:8_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	35	--[b]	--
100-F-44:8_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	19	--[b]	--
100-F-44:8_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	106	--[b]	--
100-F-44:8_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	208	No
100-F-44:8_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	39	--[b]	--
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	47,322	--[c]	--
100-F-44:8_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	105,648	--[c]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	26	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	29	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	31	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	31	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	26	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.7	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	24	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	50	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	53	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	208	No
100-F-44:8_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	56	--[b]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	13,238	--[c]	--
100-F-44:8_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	110,000	--[c]	--
100-F-44:9_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	11,795	No
100-F-44:9_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	31	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	311	4,981	No
100-F-44:9_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,600	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
100-F-44:9_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	850	3.99E+07	No
100-F-44:9_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	14,066	No
100-F-44:9_Overburden_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.12	--[b]	--
100-F-44:9_Overburden_Focused	Rad	Tritium	10028-17-8	pCi/g	0.018	1,660	No
100-F-44:9_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	510	11,795	No
100-F-44:9_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	34	--[b]	--
100-F-44:9_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	--[b]	--
100-F-44:9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.21	24,600	No
100-F-44:9_Shallow	Rad	Tritium	10028-17-8	pCi/g	0.015	1,660	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-44:9_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	178	4,981	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	34	--[b]	--
100-F-44:9_Staging Pile Area Footprint	non-Rad	Selenium	7782-49-2	µg/kg	930	14,066	No
100-F-44:9_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	430	--[b]	--
100-F-44:9_Staging Pile Area Footprint	Rad	Europium-152	14683-23-9	pCi/g	1.1	--[b]	--
100-F-44:9_Staging Pile Area Footprint	Rad	Tritium	10028-17-8	pCi/g	0.090	1,660	No
100-F-45_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	20,700	--[b]	--
100-F-45_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	231	4,981	No
100-F-45_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	59	--[b]	--
100-F-45_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	34,335	--[b]	--
100-F-45_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	960	4,981	No
100-F-45_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,034	--[b]	--
100-F-45_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	487	3.99E+07	No
100-F-45_Shallow	non-Rad	Silver	7440-22-4	µg/kg	180	--[b]	--
100-F-45_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.7	--[b]	--
100-F-45_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.32	--[b]	--
100-F-45_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	274	4,981	No
100-F-45_Staging Pile Area Footprint	non-Rad	Mercury	7439-97-6	µg/kg	15	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,200	11,795	No
100-F-46_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	4.8	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.9	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.9	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.0	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,900	--[c]	--
100-F-46_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
100-F-46_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	10	--[b]	--
100-F-46_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	860	3.99E+07	No
100-F-46_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	380	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-46_Shallow_Focused	Rad	Tritium	10028-17-8	pCi/g	34	1,660	No
100-F-47_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	390	11,795	No
100-F-47_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.2	--[b]	--
100-F-47_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	21	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	62	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--[b]	--
100-F-47_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	100	--[b]	--
100-F-47_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-47_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	72	--[b]	--
100-F-47_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	97	--[b]	--
100-F-47_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	46	--[b]	--
100-F-47_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,383	--[b]	--
100-F-47_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	907	--[b]	--
100-F-47_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	84	--[b]	--
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	19,258	--[c]	--
100-F-47_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	37,638	--[c]	--
100-F-48_Overburden	non-Rad	2-Butanone	78-93-3	µg/kg	2.5	2.07E+07	No
100-F-48_Overburden	non-Rad	Acetone	67-64-1	µg/kg	16	2.97E+07	No
100-F-48_Overburden	non-Rad	Aroclor-1260	11096-82-5	µg/kg	79	--[b]	--
100-F-48_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
100-F-48_Overburden	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	2,322	No
100-F-48_Overburden	non-Rad	Methoxychlor	72-43-5	µg/kg	1.2	--[b]	--
100-F-48_Overburden	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	208	No
100-F-48_Overburden	non-Rad	Phenol	108-95-2	µg/kg	22	546,982	No
100-F-48_Overburden	non-Rad	Toluene	108-88-3	µg/kg	1.0	142,520	No
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,551	--[c]	--
100-F-48_Overburden	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,008	--[c]	--
100-F-48_Overburden	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.1	--[c]	--
100-F-48_Overburden_Focused	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	4.5	10	No
100-F-48_Overburden_Focused	non-Rad	2-Butanone	78-93-3	µg/kg	6.8	2.07E+07	No
100-F-48_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.89	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	39	2.97E+07	No
100-F-48_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--[b]	--
100-F-48_Overburden_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	2,322	No
100-F-48_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	3.7	208	No
100-F-48_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	38	546,982	No
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	4,000	--[c]	--
100-F-48_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	9,100	--[c]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-48_Overburden_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.0	--[c]	--
100-F-48_Shallow_1	non-Rad	1,1-Dichloroethene	75-35-4	µg/kg	1.3	10	No
100-F-48_Shallow_1	non-Rad	2-Butanone	78-93-3	µg/kg	8.5	2.07E+07	No
100-F-48_Shallow_1	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	21	218,655	No
100-F-48_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.4	--[b]	--
100-F-48_Shallow_1	non-Rad	Acetone	67-64-1	µg/kg	64	2.97E+07	No
100-F-48_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	520	11,795	No
100-F-48_Shallow_1	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.1	--[b]	--
100-F-48_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	93	--[b]	--
100-F-48_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	4,367	--[c]	--
100-F-48_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	52	--[b]	--
100-F-48_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	2.3	--[b]	--
100-F-48_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	32	1.70E+06	No
100-F-48_Shallow_1	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.5	2,322	No
100-F-48_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	151	--[b]	--
100-F-48_Shallow_1	non-Rad	Methoxychlor	72-43-5	µg/kg	13	--[b]	--
100-F-48_Shallow_1	non-Rad	Methylene chloride	75-09-2	µg/kg	2.2	208	No
100-F-48_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	660	546,982	No
100-F-48_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	37	--[b]	--
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	20,868	--[c]	--
100-F-48_Shallow_1	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	86,681	--[c]	--
100-F-48_Shallow_1	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	--[c]	--
100-F-48_Shallow_2	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	2.07E+07	No
100-F-48_Shallow_2	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	24	218,655	No
100-F-48_Shallow_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	12	--[b]	--
100-F-48_Shallow_2	non-Rad	Acetone	67-64-1	µg/kg	49	2.97E+07	No
100-F-48_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
100-F-48_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
100-F-48_Shallow_2	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	78	--[b]	--
100-F-48_Shallow_2	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.56	68	No
100-F-48_Shallow_2	non-Rad	Ethylbenzene	100-41-4	µg/kg	1.7	2,322	No
100-F-48_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	36	--[b]	--
100-F-48_Shallow_2	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	4.0	--[b]	--
100-F-48_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	17	--[b]	--
100-F-48_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	36	--[b]	--
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	12,909	--[c]	--
100-F-48_Shallow_2	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,139	--[c]	--
100-F-48_Shallow_2	non-Rad	Xylenes (total)	1330-20-7	µg/kg	2.2	--[c]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-49_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.81	--[b]	--
100-F-49_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.60	--[b]	--
100-F-49_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.9	--[b]	--
100-F-49_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	8.6	--[b]	--
100-F-49_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	634	11,795	No
100-F-49_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	20	--[b]	--
100-F-49_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.2	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	16	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	37	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	43	--[b]	--
100-F-49_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--[b]	--
100-F-49_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.1	--[b]	--
100-F-49_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	36	--[b]	--
100-F-49_Shallow	non-Rad	Dieldrin	60-57-1	µg/kg	3.1	--[b]	--
100-F-49_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	77	--[b]	--
100-F-49_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	26	--[b]	--
100-F-49_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	67	--[b]	--
100-F-49_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,200	14,066	No
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,845	--[c]	--
100-F-49_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	30,241	--[c]	--
100-F-49_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.43	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	11,795	No
100-F-49_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.65	--[b]	--
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,000	--[c]	--
100-F-49_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	11,000	--[c]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.80	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	840	11,795	No
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.7	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.9	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	4,100	--[c]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	1.0	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,100	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	10	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,900	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	16	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	19	--[b]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	23,000	--[c]	--
100-F-49_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	53,000	--[c]	--
100-F-50_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.4	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--[b]	--
100-F-50_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	21	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	16	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	40	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.8	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	25	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,600	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	75	--[b]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,600	--[c]	--
100-F-51 and 100-F-63_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	7,900	--[c]	--
100-F-51 and 100-F-63_Overburden_Focused	Rad	Carbon-14	14762-75-5	pCi/g	0.46	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	9.1	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.5	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.9	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	11	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	9.6	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	15	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Lead	7439-92-1	µg/kg	19,021	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	33	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	13	--[b]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,120	--[c]	--
100-F-51 and 100-F-63_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	5,627	--[c]	--
100-F-51 and 100-F-63_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	0.67	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	240	--[b]	--
100-F-52_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	31	1.70E+06	No
100-F-52_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,100	4,981	No
100-F-53_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,010	11,795	No
100-F-53_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	200	--[b]	--
100-F-53_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	21,200	--[b]	--
100-F-54_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.60	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	12	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	11	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	16	2.29E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	9.0	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	8.5	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	44	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	57	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	42	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	21	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	353	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chlordane	57-74-9	µg/kg	8.6	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	46	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Dieldrin	60-57-1	µg/kg	12	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	67	1.70E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	150	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	17	4.89E+06	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	36	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	65,065	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Mercury	7439-97-6	µg/kg	25	--[b]	--
100-F-55 and 100-F-62_Shallow_1	non-Rad	Phenol	108-95-2	µg/kg	25	546,982	No
100-F-55 and 100-F-62_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	177	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	17	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1248	12672-29-6	µg/kg	240	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	15	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	45	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	4,158	--[c]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	71	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	23	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	9.6	4.89E+06	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	39	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Mercury	7439-97-6	µg/kg	6,786	--[b]	--
100-F-55 and 100-F-62_Shallow_2	non-Rad	Phenol	108-95-2	µg/kg	35	546,982	No
100-F-55 and 100-F-62_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	142	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	660	11,795	No
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	4.9	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.4	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.7	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.3	--[b]	--
100-F-55 and 100-F-62_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.7	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	0.81	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Anthracene	120-12-7	µg/kg	26	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1248	12672-29-6	µg/kg	25	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	19	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	22	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	157,000	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	110	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	86	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	62	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	660	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	8,300	--[c]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.91	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	100	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	3.0	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	200	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Fluorene	86-73-7	µg/kg	16	4.89E+06	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	749	4,981	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	49	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,500	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Mercury	7439-97-6	µg/kg	690	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Phenol	108-95-2	µg/kg	80	546,982	No
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	160	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Silver	7440-22-4	µg/kg	970	--[b]	--
100-F-55 and 100-F-62_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	74,800	--[b]	--
100-F-56:1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.2	--[b]	--
100-F-56:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,771	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	18	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	58,600	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,560	4,981	No
100-F-56:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,500	--[b]	--
100-F-56:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	21	--[b]	--
100-F-60_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	26,000	--[b]	--
100-F-61_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	61	--[b]	--
100-F-61_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	362	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	197	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	135	--[b]	--
100-F-61_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	79	--[b]	--
100-F-61_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42	--[b]	--
100-F-61_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	224	--[b]	--
100-F-61_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	35	--[b]	--
100-F-61_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	511	--[b]	--
100-F-61_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	100	4.89E+06	No
100-F-61_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	99	--[b]	--
100-F-61_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	640	--[b]	--
100-F-61_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	520	3.99E+07	No
100-F-61_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	554	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	22,371	--[c]	--
100-F-61_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,222	--[c]	--
100-F-7_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	30	--[b]	--
100-F-7_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	131	--[b]	--
100-F-9_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	410	--[b]	--
116-F-1_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	11,119	--[b]	--
116-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	828	4,981	No
116-F-1_Shallow	Rad	Carbon-14	14762-75-5	pCi/g	2.5	--[b]	--
116-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
116-F-10_Shallow	Rad	Cesium-137	10045-97-3	pCi/g	1.5	--[b]	--
116-F-10_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.14	--[b]	--
116-F-10_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
116-F-11_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	1.4	--[b]	--
116-F-14_Deep	non-Rad	Chromium	7440-47-3	µg/kg	106,551	--[b]	--
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	4,981	Yes
116-F-14_Deep	Rad	Carbon-14	14762-75-5	pCi/g	9.8	--[b]	--
116-F-14_Deep	Rad	Cesium-137	10045-97-3	pCi/g	7.9	--[b]	--
116-F-14_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	12	--[b]	--
116-F-14_Deep	Rad	Europium-152	14683-23-9	pCi/g	185	--[b]	--
116-F-14_Deep	Rad	Europium-154	15585-10-1	pCi/g	23	--[b]	--
116-F-14_Deep	Rad	Nickel-63	13981-37-8	pCi/g	686	--[b]	--
116-F-14_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.2	24,600	No
116-F-14_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	24,156	--[b]	--
116-F-14_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,485	4,981	No
116-F-14_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.090	--[b]	--
116-F-14_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.1	--[b]	--
116-F-14_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.24	--[b]	--
116-F-14_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	20	--[b]	--
116-F-14_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.32	24,600	No
116-F-15_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	16	--[b]	--
116-F-15_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	27	--[b]	--
116-F-15_Shallow	non-Rad	Boron	7440-42-8	µg/kg	11,562	--[c]	--
116-F-15_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	680	4,981	No
116-F-15_Shallow	non-Rad	Lead	7439-92-1	µg/kg	15,865	--[b]	--
116-F-15_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	179	--[b]	--
116-F-15_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	715	3.99E+07	No
116-F-15_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.070	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
116-F-16_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	230	4,981	No
116-F-16_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	4,981	No
116-F-2_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,400	4,981	No
116-F-2_Deep	Rad	Carbon-14	14762-75-5	pCi/g	6.6	--[b]	--
116-F-2_Deep	Rad	Cesium-137	10045-97-3	pCi/g	44	--[b]	--
116-F-2_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	1.6	--[b]	--
116-F-2_Deep	Rad	Europium-152	14683-23-9	pCi/g	54	--[b]	--
116-F-2_Deep	Rad	Europium-154	15585-10-1	pCi/g	5.6	--[b]	--
116-F-2_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	420	4,981	No
116-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,123	4,981	No
116-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	1.0	--[b]	--
116-F-3_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	736	4,981	No
116-F-3_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.36	--[b]	--
116-F-4_Deep_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	71,000	--[b]	--
116-F-4_Deep_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.8	--[b]	--
116-F-4_Deep_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.074	--[b]	--
116-F-4_Overburden_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	54,600	--[b]	--
116-F-4_Overburden_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	11,700	398,601	No
116-F-4_Overburden_Focused	Rad	Cesium-137	10045-97-3	pCi/g	3.5	--[b]	--
116-F-4_Overburden_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.080	--[b]	--
116-F-4_Overburden_Focused	Rad	Strontium-90	10098-97-2	pCi/g	1.6	24,600	No
116-F-4_Overburden_Focused	Rad	Technetium-99	14133-76-7	pCi/g	1.5	36	No
116-F-4_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	6,500	--[b]	--
116-F-5_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	17,300	--[b]	--
116-F-5_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,600	--[b]	--
116-F-6_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,700	4,981	No
116-F-6_Deep	Rad	Cesium-137	10045-97-3	pCi/g	12	--[b]	--
116-F-6_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.51	--[b]	--
116-F-6_Deep	Rad	Europium-152	14683-23-9	pCi/g	13	--[b]	--
116-F-6_Deep	Rad	Europium-154	15585-10-1	pCi/g	0.86	--[b]	--
116-F-6_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	32	24,600	No
116-F-6_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	498	4,981	No
116-F-6_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.083	--[b]	--
116-F-6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.28	--[b]	--
116-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.4	24,600	No
116-F-7_Deep_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
116-F-7_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	147	--[b]	--
116-F-7_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	36,700	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
116-F-7_Deep_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	20	1.70E+06	No
116-F-7_Deep_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	742	4,981	No
116-F-7_Deep_Focused	non-Rad	Mercury	7439-97-6	µg/kg	145	--[b]	--
116-F-7_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	40,900	--[b]	--
116-F-8_Deep	Rad	Europium-152	14683-23-9	pCi/g	2.1	--[b]	--
116-F-8_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	250	4,981	No
116-F-8_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	350	4,981	No
116-F-9_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	1,200	4,981	No
116-F-9_Deep	Rad	Carbon-14	14762-75-5	pCi/g	8.5	--[b]	--
116-F-9_Deep	Rad	Cesium-137	10045-97-3	pCi/g	2.1	--[b]	--
116-F-9_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	2.3	--[b]	--
116-F-9_Deep	Rad	Europium-152	14683-23-9	pCi/g	6.4	--[b]	--
116-F-9_Deep	Rad	Europium-154	15585-10-1	pCi/g	1.3	--[b]	--
116-F-9_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	9.5	24,600	No
116-F-9_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.5	24,600	No
118-F-1_Overburden	non-Rad	Antimony	7440-36-0	µg/kg	1,400	11,795	No
118-F-1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	11,569	--[b]	--
118-F-1_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	673	3.99E+07	No
118-F-1_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,412	14,066	No
118-F-1_Overburden	non-Rad	Silver	7440-22-4	µg/kg	4,300	--[b]	--
118-F-1_Overburden	Rad	Americium-241	14596-10-2	pCi/g	0.60	--[b]	--
118-F-1_Overburden	Rad	Curium-244	13981-15-2	pCi/g	0.041	--[b]	--
118-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	11,795	No
118-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.13	--[b]	--
118-F-1_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	6.8	--[b]	--
118-F-1_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.24	--[b]	--
118-F-1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.66	24,600	No
118-F-1_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	11,600	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	33,300	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
118-F-1_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	690	3.99E+07	No
118-F-1_Staging Pile Area	non-Rad	Silver	7440-22-4	µg/kg	880	--[b]	--
118-F-1_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.11	--[b]	--
118-F-1_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.21	--[b]	--
118-F-1_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	14	--[b]	--
118-F-1_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.34	24,600	No
118-F-2_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	1,400	14,066	No
118-F-2_Overburden	non-Rad	Silver	7440-22-4	µg/kg	290	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
118-F-2_Shallow	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.31	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	780	11,795	No
118-F-2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	49	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	23	93,961	No
118-F-2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	61	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	50	1.70E+06	No
118-F-2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	79	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--
118-F-2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	480	3.99E+07	No
118-F-2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	73	--[b]	--
118-F-2_Shallow_Focused	Rad	Europium-152	14683-23-9	pCi/g	0.14	--[b]	--
118-F-2_Shallow_Focused	Rad	Nickel-63	13981-37-8	pCi/g	5.1	--[b]	--
118-F-2_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	900	3.99E+07	No
118-F-2_Staging Pile Area	non-Rad	Selenium	7782-49-2	µg/kg	1,400	14,066	No
118-F-2_Staging Pile Area	Rad	Plutonium-238	13981-16-3	pCi/g	1.0	--[b]	--
118-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	12,700	--[c]	--
118-F-3_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	--[b]	--
118-F-3_Shallow	Rad	Nickel-63	13981-37-8	pCi/g	24	--[b]	--
118-F-3_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.28	24,600	No
118-F-3_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	6,600	--[c]	--
118-F-3_Staging Pile Area	Rad	Cobalt-60	10198-40-0	pCi/g	0.38	--[b]	--
118-F-3_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.11	--[b]	--
118-F-3_Staging Pile Area	Rad	Nickel-63	13981-37-8	pCi/g	15	--[b]	--
118-F-5_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.65	24,600	No
118-F-5_Shallow_1	Rad	Tritium	10028-17-8	pCi/g	4.8	1,660	No
118-F-6_Overburden	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.3	24,600	No
118-F-6_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	4.1	24,600	No
118-F-6_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	42,000	--[b]	--
118-F-6_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	1.6	--[b]	--
118-F-6_Shallow_Focused	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.46	24,600	No
118-F-7_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,800	--[c]	--
118-F-7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	18,800	--[b]	--
118-F-7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	2,400	3.99E+07	No
118-F-7_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.25	24,600	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
118-F-7_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	--[b]	--
118-F-7_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	63,800	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	8,600	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	3,900	--[c]	--
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000	329,092	Yes
118-F-7_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	31,100	--[b]	--
118-F-7_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	3.99E+07	No
118-F-7_Staging Pile Area	Rad	Europium-152	14683-23-9	pCi/g	0.39	--[b]	--
118-F-7_Staging Pile Area	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.82	24,600	No
118-F-8:1_Deep	non-Rad	Aroclor-1248	12672-29-6	µg/kg	35	--[b]	--
118-F-8:1_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	62,000	--[b]	--
118-F-8:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	923	4,981	No
118-F-8:1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
118-F-8:1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	137,000	--[b]	--
118-F-8:1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	38,777	--[b]	--
118-F-8:1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	752	4,981	No
118-F-8:1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
118-F-8:1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.59	--[b]	--
118-F-8:1_Shallow	Rad	Europium-155	14391-16-3	pCi/g	0.094	--[b]	--
118-F-8:1_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	0.20	24,600	No
118-F-8:3_Deep	non-Rad	Aroclor-1254	11097-69-1	µg/kg	97	--[b]	--
118-F-8:3_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	932	4,981	No
118-F-8:3_Deep	non-Rad	Mercury	7439-97-6	µg/kg	125	--[b]	--
118-F-8:3_Deep	Rad	Americium-241	14596-10-2	pCi/g	2.2	--[b]	--
118-F-8:3_Deep	Rad	Carbon-14	14762-75-5	pCi/g	22	--[b]	--
118-F-8:3_Deep	Rad	Cesium-137	10045-97-3	pCi/g	319	--[b]	--
118-F-8:3_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	18	--[b]	--
118-F-8:3_Deep	Rad	Europium-152	14683-23-9	pCi/g	183	--[b]	--
118-F-8:3_Deep	Rad	Europium-154	15585-10-1	pCi/g	7.7	--[b]	--
118-F-8:3_Deep	Rad	Nickel-63	13981-37-8	pCi/g	617	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-238	13981-16-3	pCi/g	0.62	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	4.2	--[b]	--
118-F-8:3_Deep	Rad	Plutonium-241	14119-32-5	pCi/g	13	--[b]	--
118-F-8:3_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	103	24,600	No
118-F-8:3_Deep	Rad	Tritium	10028-17-8	pCi/g	0.69	1,660	No
118-F-8:4_Deep	non-Rad	Aroclor-1260	11096-82-5	µg/kg	49	--[b]	--
118-F-8:4_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	4,981	No
118-F-8:4_Deep	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
118-F-8:4_Deep	non-Rad	Molybdenum	7439-98-7	µg/kg	510	3.99E+07	No
118-F-8:4_Deep	Rad	Americium-241	14596-10-2	pCi/g	0.11	--[b]	--
118-F-8:4_Deep	Rad	Cesium-137	10045-97-3	pCi/g	6.6	--[b]	--
118-F-8:4_Deep	Rad	Cobalt-60	10198-40-0	pCi/g	0.27	--[b]	--
118-F-8:4_Deep	Rad	Europium-152	14683-23-9	pCi/g	4.4	--[b]	--
118-F-8:4_Deep	Rad	Nickel-63	13981-37-8	pCi/g	26	--[b]	--
118-F-8:4_Deep	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.75	--[b]	--
118-F-8:4_Deep	Rad	Total beta radiostrontium	SR-RAD	pCi/g	3.2	24,600	No
118-F-8:4_Overburden	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--[b]	--
118-F-8:4_Overburden	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	288	4,981	No
118-F-8:4_Overburden	non-Rad	Mercury	7439-97-6	µg/kg	127	--[b]	--
118-F-8:4_Overburden	non-Rad	Molybdenum	7439-98-7	µg/kg	623	3.99E+07	No
118-F-8:4_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.020	--[b]	--
118-F-8:4_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.44	--[b]	--
118-F-8:4_Overburden	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.97	--[b]	--
118-F-8:4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	4,981	No
118-F-8:4_Shallow	non-Rad	Lead	7439-92-1	µg/kg	10,300	--[b]	--
118-F-8:4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	530	--[b]	--
118-F-8:4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,500	14,066	No
118-F-8:4_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.19	--[b]	--
120-F-1_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--[b]	--
120-F-1_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1	--[b]	--
120-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	8.8	--[b]	--
120-F-1_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	910	11,795	No
120-F-1_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	23	--[b]	--
120-F-1_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.8	--[b]	--
120-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	94	--[b]	--
120-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	8.7	--[b]	--
120-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	27	1.70E+06	No
120-F-1_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.8	68	No
120-F-1_Shallow	non-Rad	Fluoride	16984-48-8	µg/kg	3,900	--[b]	--
120-F-1_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	300	4,981	No
120-F-1_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	102	--[b]	--
120-F-1_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	850	3.99E+07	No
120-F-1_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,800	14,066	No
126-F-1_Overburden	Rad	Cobalt-60	10198-40-0	pCi/g	0.081	--[b]	--
126-F-1_Overburden	Rad	Europium-152	14683-23-9	pCi/g	0.38	--[b]	--
126-F-1_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.20	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
126-F-1_Shallow	Rad	Europium-152	14683-23-9	pCi/g	3.3	--[b]	--
126-F-1_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.46	--[b]	--
126-F-1_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.24	--[d]	--
126-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	173	2.29E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	412	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	478	11,795	No
126-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	74	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	758	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	696	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	555	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	758	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	407	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,600	--[c]	--
126-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	842	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	203	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	1,804	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	211	4.89E+06	No
126-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	256	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	17,200	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1,754	--[b]	--
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06	--[c]	--
126-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	76,900	--[b]	--
128-F-1_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.8	11	No
128-F-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	21	--[b]	--
128-F-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	4,400	--[c]	--
128-F-2_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	3.0	--[b]	--
128-F-2_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.6	--[b]	--
128-F-2_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	34	--[b]	--
128-F-2_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	63	2.29E+06	No
128-F-2_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	1.7	--[b]	--
128-F-2_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	3.7	--[b]	--
128-F-2_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	120	--[b]	--
128-F-2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	920	11,795	No
128-F-2_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	44	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	264	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	263	--[b]	--
128-F-2_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	198	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
128-F-2_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	263	--[b]	--
128-F-2_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	8.8	11	No
128-F-2_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	105	--[b]	--
128-F-2_Shallow	non-Rad	Carbazole	86-74-8	µg/kg	62	--[c]	--
128-F-2_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.6	--[b]	--
128-F-2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	21,554	--[b]	--
128-F-2_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	290	--[b]	--
128-F-2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	40,037	329,092	No
128-F-2_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	99	--[b]	--
128-F-2_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	21	12,976	No
128-F-2_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	35	1.70E+06	No
128-F-2_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	4.0	68	No
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22	16	Yes
128-F-2_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--[b]	--
128-F-2_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	46	4.89E+06	No
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3	1.7	Yes
128-F-2_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	4,981	No
128-F-2_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	157	--[b]	--
128-F-2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,776	--[b]	--
128-F-2_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	35	--[b]	--
128-F-2_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	239	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.2	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	6.6	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	27	2.29E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	60	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,500	11,795	No
128-F-2_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	48	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	320	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	280	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	210	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	230	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	110	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Carbazole	86-74-8	µg/kg	30	--[c]	--
128-F-2_Staging pile area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,200	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	370	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Copper	7440-50-8	µg/kg	23,900	329,092	No
128-F-2_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	77	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	71	1.70E+06	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
128-F-2_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	670	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	19	4.89E+06	No
128-F-2_Staging pile area_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	730	4,981	No
128-F-2_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	150	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,800	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	50	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,300	3.99E+07	No
128-F-2_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	790	--[b]	--
128-F-2_Staging pile area_Focused	non-Rad	Selenium	7782-49-2	µg/kg	950	14,066	No
128-F-2_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	124,000	--[b]	--
128-F-3_Shallow	non-Rad	2-Butanone	78-93-3	µg/kg	5.0	2.07E+07	No
128-F-3_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	8.0	163,452	No
128-F-3_Shallow	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.3	--[b]	--
128-F-3_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.3	--[b]	--
128-F-3_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.6	--[b]	--
128-F-3_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	8.0	2.83E+06	No
128-F-3_Shallow	non-Rad	Acetone	67-64-1	µg/kg	9.0	2.97E+07	No
128-F-3_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.56	--[b]	--
128-F-3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.8	--[b]	--
128-F-3_Shallow	non-Rad	Barium	7440-39-3	µg/kg	209,520	--[b]	--
128-F-3_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	5.4	11	No
128-F-3_Shallow	non-Rad	Boron	7440-42-8	µg/kg	17,002	--[c]	--
128-F-3_Shallow	non-Rad	Chlorobenzene	108-90-7	µg/kg	4.2	20,361	No
128-F-3_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.8	386	No
128-F-3_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	42,093	--[b]	--
128-F-3_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	1.3	68	No
128-F-3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	2,322	No
128-F-3_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	1.3	14	No
128-F-3_Shallow	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.55	--[b]	--
128-F-3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	23	--[b]	--
128-F-3_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	9.8	--[b]	--
128-F-3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	21	208	No
128-F-3_Shallow	non-Rad	Silver	7440-22-4	µg/kg	280	--[b]	--
128-F-3_Shallow	non-Rad	Styrene	100-42-5	µg/kg	4.0	2.15E+07	No
128-F-3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	1.0	71	No
128-F-3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	7.0	--[c]	--
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.1	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.76	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
128-F-3_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	141,000	--[b]	--
128-F-3_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,500	--[c]	--
128-F-3_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	3.0	20,361	No
128-F-3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	3.0	386	No
128-F-3_Staging pile area_Focused	non-Rad	Endosulfan II	33213-65-9	µg/kg	0.88	68	No
128-F-3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	22	208	No
132-F-1_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	171	218,655	No
132-F-1_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	2.7	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	75	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	88	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	74	--[b]	--
132-F-1_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	98	--[b]	--
132-F-1_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.8	11	No
132-F-1_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	90	--[b]	--
132-F-1_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	3.4	--[b]	--
132-F-1_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	104	--[b]	--
132-F-1_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	44	12,976	No
132-F-1_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	43	1.70E+06	No
132-F-1_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	102	--[b]	--
132-F-1_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	43	--[b]	--
132-F-1_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	245	3.33E+06	No
132-F-1_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	124	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.7	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	269	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	535	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1,114	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	841	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	780	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	57	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2,137	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	256	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	169	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	620	--[b]	--
132-F-1_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	273	--[b]	--
141-C_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	65	--[b]	--
141-C_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	125	--[b]	--
141-C_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	65	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
141-C_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	41	--[b]	--
141-C_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	76	--[b]	--
141-C_Shallow	non-Rad	Boron	7440-42-8	µg/kg	5,336	--[c]	--
141-C_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	63	--[b]	--
141-C_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	15	--[b]	--
141-C_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	176	--[b]	--
141-C_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	30	4.89E+06	No
141-C_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	671	4,981	No
141-C_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	45	--[b]	--
141-C_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,208	--[b]	--
141-C_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	--[b]	--
141-C_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	163	--[b]	--
141-C_Shallow	Rad	Total beta radiostrontium	SR-RAD	pCi/g	1.7	24,600	No
141-C_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	2.29E+06	No
141-C_Staging Pile Area_Focused	non-Rad	Anthracene	120-12-7	µg/kg	7.6	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	76	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	46	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	197	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	88	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--[b]	--
141-C_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	82	--[b]	--
1607-F2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.51	--[b]	--
1607-F3_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.0	--[b]	--
1607-F3_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	3.5	--[b]	--
1607-F3_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,552	--[b]	--
1607-F3_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	33	--[b]	--
1607-F3_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	29	--[b]	--
1607-F3_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--[b]	--
1607-F3_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	2.6	--[b]	--
1607-F3_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	22	--[b]	--
1607-F3_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	25	1.70E+06	No
1607-F3_Shallow	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	2,322	No
1607-F3_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--
1607-F3_Shallow	non-Rad	Lead	7439-92-1	µg/kg	24,146	--[b]	--
1607-F3_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	27	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
1607-F3_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	26	208	No
1607-F3_Shallow	non-Rad	m-Xylene	108-38-3	µg/kg	4.0	--[c]	--
1607-F3_Shallow	non-Rad	o-Xylene	95-47-6	µg/kg	2.0	--[c]	--
1607-F3_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	4,200	14,066	No
1607-F3_Shallow	non-Rad	Tetrachloroethene	127-18-4	µg/kg	2.0	71	No
1607-F3_Shallow	non-Rad	Toluene	108-88-3	µg/kg	1.0	142,520	No
1607-F3_Shallow	non-Rad	Xylenes (total)	1330-20-7	µg/kg	4.7	--[c]	--
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	0.49	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	0.35	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Acetone	67-64-1	µg/kg	5.0	2.97E+07	No
1607-F3_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	3.4	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	12,100	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	82	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	0.83	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	386	No
1607-F3_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	1.70E+06	No
1607-F3_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	54,900	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
1607-F3_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.0	208	No
1607-F4_Overburden_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	140	--[b]	--
1607-F4_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	5,800	--[c]	--
1607-F4_Overburden_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	24	1.70E+06	No
1607-F4_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
1607-F4_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.1	--[b]	--
1607-F4_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.8	--[b]	--
1607-F4_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.6	--[b]	--
1607-F4_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,010	11,795	No
1607-F4_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	46	--[b]	--
1607-F4_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	6.7	--[b]	--
1607-F4_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--[b]	--
1607-F4_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	18	--[b]	--
1607-F4_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	91	--[b]	--
1607-F4_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	4.5	--[b]	--
1607-F4_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--[b]	--
1607-F4_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	33	1.70E+06	No
1607-F4_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	44	--[b]	--
1607-F4_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	210	4,981	No
1607-F4_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	1,200	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
1607-F4_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	580	3.99E+07	No
1607-F4_Shallow	non-Rad	Phenol	108-95-2	µg/kg	28	546,982	No
1607-F4_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	38	--[b]	--
1607-F4_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	1,602	14,066	No
1607-F4_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	190	--[b]	--
1607-F4_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	41	1.70E+06	No
1607-F4_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	490	3.99E+07	No
1607-F5_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	172	--[b]	--
1607-F5_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	93	1.70E+06	No
1607-F5_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	530	3.99E+07	No
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.8	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	5.5	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.6	11	No
1607-F5_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	75	--[b]	--
1607-F5_Staging pile area_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	0.60	68	No
1607-F6_Overburden	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
1607-F6_Overburden	non-Rad	Diethylphthalate	84-66-2	µg/kg	130	1.42E+06	No
1607-F6_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	342	--[b]	--
1607-F6_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	60	--[b]	--
1607-F6_Shallow	non-Rad	Diethylphthalate	84-66-2	µg/kg	24	1.42E+06	No
1607-F6_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	120	1.70E+06	No
1607-F6_Shallow	non-Rad	Lead	7439-92-1	µg/kg	13,247	--[b]	--
1607-F6_Shallow	non-Rad	Phenol	108-95-2	µg/kg	84	546,982	No
1607-F6_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	22	--[b]	--
1607-F6_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.065	--[b]	--
1607-F6_Shallow	Rad	Uranium-235	15117-96-1	pCi/g	0.19	--[d]	--
1607-F7_Shallow	non-Rad	2-Hexanone	591-78-6	µg/kg	2.7	163,452	No
1607-F7_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	134	218,655	No
1607-F7_Shallow	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6	--[b]	--
1607-F7_Shallow	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	5.3	--[b]	--
1607-F7_Shallow	non-Rad	4-Methyl-2-Pentanone	108-10-1	µg/kg	3.0	2.83E+06	No
1607-F7_Shallow	non-Rad	Acetone	67-64-1	µg/kg	15	2.97E+07	No
1607-F7_Shallow	non-Rad	Aldrin	309-00-2	µg/kg	0.42	--[b]	--
1607-F7_Shallow	non-Rad	Alpha-BHC	319-84-6	µg/kg	1.1	2.5	No
1607-F7_Shallow	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	1.2	--[b]	--
1607-F7_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	530	11,795	No
1607-F7_Shallow	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.4	--[b]	--
1607-F7_Shallow	non-Rad	Aroclor-1260	11096-82-5	µg/kg	9.0	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
1607-F7_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	23	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	48	--[b]	--
1607-F7_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	46	--[b]	--
1607-F7_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.7	11	No
1607-F7_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--[b]	--
1607-F7_Shallow	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	37	93,961	No
1607-F7_Shallow	non-Rad	Chlordane	57-74-9	µg/kg	1.1	--[b]	--
1607-F7_Shallow	non-Rad	Chloroform	67-66-3	µg/kg	3.4	386	No
1607-F7_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	76	--[b]	--
1607-F7_Shallow	non-Rad	Dibenzofuran	132-64-9	µg/kg	30	12,976	No
1607-F7_Shallow	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	40	1.70E+06	No
1607-F7_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	0.54	68	No
1607-F7_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--[b]	--
1607-F7_Shallow	non-Rad	Gamma-BHC (Lindane)	58-89-9	µg/kg	0.92	14	No
1607-F7_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	500	4,981	No
1607-F7_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	58	--[b]	--
1607-F7_Shallow	non-Rad	Lead	7439-92-1	µg/kg	31,177	--[b]	--
1607-F7_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
1607-F7_Shallow	non-Rad	Methoxychlor	72-43-5	µg/kg	1.4	--[b]	--
1607-F7_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	14	208	No
1607-F7_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	477	3.99E+07	No
1607-F7_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	96	3.33E+06	No
1607-F7_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	71	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	1,4-Dichlorobenzene	106-46-7	µg/kg	46	8,441	No
1607-F7_Staging pile area_Focused	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	110	218,655	No
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.2	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	58	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	46	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.5	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	60	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Barium	7440-39-3	µg/kg	147,000	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	22	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	32	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	36	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.4	11	No
1607-F7_Staging pile area_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	35	--[b]	--

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
1607-F7_Staging pile area_Focused	non-Rad	Boron	7440-42-8	µg/kg	7,700	--[c]	--
1607-F7_Staging pile area_Focused	non-Rad	Chlordane	57-74-9	µg/kg	3.7	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Chlorobenzene	108-90-7	µg/kg	1.0	20,361	No
1607-F7_Staging pile area_Focused	non-Rad	Chloroform	67-66-3	µg/kg	1.0	386	No
1607-F7_Staging pile area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	850	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Dibenzofuran	132-64-9	µg/kg	27	12,976	No
1607-F7_Staging pile area_Focused	non-Rad	Dieldrin	60-57-1	µg/kg	23	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	34	1.70E+06	No
1607-F7_Staging pile area_Focused	non-Rad	Ethylbenzene	100-41-4	µg/kg	2.0	2,322	No
1607-F7_Staging pile area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	37	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15	1.7	Yes
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor epoxide	1024-57-3	µg/kg	0.89	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	27	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	13	208	No
1607-F7_Staging pile area_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	72	3.33E+06	No
1607-F7_Staging pile area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	51	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Styrene	100-42-5	µg/kg	3.0	2.15E+07	No
1607-F7_Staging pile area_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	142,520	No
1607-F7_Staging pile area_Focused	non-Rad	Xylenes (total)	1330-20-7	µg/kg	6.0	--[c]	--
1607-F7_Staging pile area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	72,000	--[b]	--
182-F_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	500	11,795	No
182-F_Overburden_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	36	--[b]	--
182-F_Overburden_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	15	--[b]	--
182-F_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	780	--[b]	--
182-F_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	22,600	--[b]	--
182-F_Overburden_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	280	4,981	No
182-F_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	58,700	--[b]	--
182-F_Overburden_Focused	non-Rad	Mercury	7439-97-6	µg/kg	40	--[b]	--
182-F_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	560	3.99E+07	No
182-F_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	139,000	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1016	12674-11-2	µg/kg	20	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	110	--[b]	--
182-F_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	23	--[b]	--
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300	52,953	No
600-351_Shallow_Focused	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	27	614,005	No

Table A-5. Comparison of EPCs from 100-F Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-351_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	900	11,795	No
600-351_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	250,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	805,000	--[b]	--
600-351_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	500	3.99E+07	No
600-351_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	920	14,066	No
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,000	--[c]	--
600-351_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	48,000	--[c]	--
UPR-100-F-2_Shallow	Rad	Cobalt-60	10198-40-0	pCi/g	0.086	--[b]	--
UPR-100-F-2_Shallow	Rad	Europium-152	14683-23-9	pCi/g	0.57	--[b]	--
UPR-100-F-2_Shallow	Rad	Europium-154	15585-10-1	pCi/g	0.20	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g. An exception to this convention is strontium-90, which is calculated based on a 100:0 source distribution because of data that indicated strontium-90 distributed throughout the vadose zone at some locations in this operable unit.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. A soil screening level is not calculated because a surface water cleanup level or surface water standard is not available for the analyte.

d. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.

-- = Not applicable or no value.

CHPRC ADMINISTRATIVE DOCUMENT PROCESSING AND APPROVAL

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Comparison of the 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Preliminary Remediation Goals Protective of Groundwater and Preliminary Remediation Goals Protective of Surface Water	EP&SP

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RESPONSIBLE CONTACTS

	Name	Phone Number
Author:	Jason Hulstrom	
Manager:	AH Aly	376-0300

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REVIEWERS **Others**

Name *(print)*	Organization
Doug Evans	
Donna Morgans	

APPROVAL SIGNATURES

Author: Jason Hulstrom	11/28/12 Date	RELEASE / ISSUE
Name: (Print) Jason Hulstrom		
Responsible Manager:	11/28/12 Date	
Name: (print) AH Aly		
Other:	Date	
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Aly, Alaa H Approved via IDMS data file
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APPROVED
By Shauna E. Adams at 2:00 pm, Dec 04, 2012

If Additional Comments, Please Attach Separate Sheet

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ECF-100FR1-11-0086
Draft A

Comparison of the 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Preliminary Remediation Goals Protective of Groundwater and Preliminary Remediation Goals Protective of Surface Water

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

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ECF-100FR1-11-0086
Draft A

Comparison of the 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Preliminary Remediation Goals Protective of Groundwater and Preliminary Remediation Goals Protective of Surface Water

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J. Hulstrom
INTERA

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Assistant Secretary for Environmental Management

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CH2MHILL
Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352

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Environmental Calculation Cover Page

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Project: 100 Areas and 300 Area Remedial Investigation/Feasibility Study Reports

Date: September 26, 2012

Calculation Title & Description: **Comparison of 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Preliminary Remediation Goals Protective of Groundwater and Preliminary Remediation Goals Protective of Surface Water**

Preparer: Jason Hulstrom	**Basis of Qualification: Education and Experience**
Checker: Doug Evans	**Basis of Qualification: Education and Experience**
Senior Reviewer: Donna Morgans	**Basis of Qualification: Education and Experience**

Part 2: Completed by Preparer

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Draft A	Incorporated revised COPCs for groundwater and surface water protection from ECF-100FR1-11-0085. Incorporated revised PRGs for all analytes based on 70:30/100:0 contaminant source model.	8/23/2012	All

Part 3: Document Review & Approval:

Preparer:

Jason Hulstrom/Environmental Scientist

NAME/POSITION

Jason Hulstrom

SIGNATURE

9/27/2012

DATE

Checker:

Doug Evans/Senior Risk Assessor

NAME/POSITION

Doug Evans

SIGNATURE

9/27/2012

DATE

Senior Reviewer:

Donna Morgans/Senior Risk Assessor

NAME/POSITION

Donna L Morgans

SIGNATURE

9/27/12

DATE

Responsible Manager:

Alaa Aly/Risk and Modeling Integration Manager

NAME/POSITION

SIGNATURE

9/27/12

DATE

Contents

1 Purpose **1**

2 Background **1**

3 Methodology **1**

4 Assumptions and Inputs **2**

4.1 Identification of COPCs 2

4.2 Preliminary Remediation Goals for the Protection of Groundwater 2

4.3 Preliminary Remediation Goals for the Protection of Surface Water 3

4.4 Exposure Point Concentrations 3

5 Software Applications **3**

6 Calculation **3**

7 Results/Conclusions **4**

8 References **4**

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Terms

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
COPC	Contaminant of potential concern
DOE	U.S. Department of Energy
ECF	Environmental Calculation File
EPA	Environmental Protection Agency
EPC	Exposure point concentration
FS	Feasibility study
OU	Operable unit
PRG	Preliminary Remediation Goal
RI	Remedial investigation
STOMP	Subsurface Transport Over Multiple Phases

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1 Purpose

This environmental calculation documents the methodology used to identify waste sites in the 100-F Area where post-remediation soil sample results exceed soil preliminary remediation goals (PRGs) for the protection of groundwater and the protection of surface water. The 100-F Area is associated with two source operable units (OUs): the 100-FR-1 OU and 100-FR-2 OU. These OUs are referred to collectively herein as the 100-F Source OU. The exposure point concentrations (EPCs) for identified constituents of potential concern (COPCs) for each waste site decision unit in the 100-F Source OU are compared to both groundwater protective and surface water protective PRGs for a base case recharge scenario. The waste sites where EPCs exceed a PRG will be evaluated through the remedial investigation/feasibility study (RI/FS) process being conducted for the 100 Areas and 300 Area under the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA).

This environmental calculation supports DOE/RL-2010-98, *Remedial Investigation/Feasibility Study for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units*. A summary based upon the comparison of EPCs to PRGs described in this environmental calculation will be presented in the RI/FS report.

2 Background

Based on agreements with the Senior Executive Council, modeling with the STOMP simulator (PNNL-15782, *STOMP Subsurface Transport Over Multiple Phases, Version 4.0: User's Guide*) was performed to provide a site-specific basis for estimating PRGs for groundwater protection and surface water protection. PRGs for the protection of groundwater and the protection of surface water were estimated with the STOMP 1D 70:30/100:0 Contaminant Source Model, which is a one-dimensional model that assumes either 70 percent contamination of the vadose zone (upper 70 percent contaminated, lower 30 percent uncontaminated [70:30]) or 100 percent contamination of the vadose zone (zero percent uncontaminated [100:0]) beneath a backfilled waste site. Source distributions are assigned based on analyte distribution coefficients (K_d). A 70:30 source distribution is assumed for analytes with a $K_d \geq 2$ mL/g and a 100:0 source distribution is assumed for analytes with a $K_d < 2$ mL/g. The STOMP 1D 70:30/100:0 Contaminant Source Model assumes that all contamination moves downward with no dispersion, volatilization, or credit for mixing with river water. For determination of PRGs, the model was implemented with a base case recharge scenario, which represents a site re-vegetated with natural (shrub-steppe) land cover with no irrigation of the site.

Comparisons are conducted herein between EPCs and the PRGs for both groundwater protection and surface water protection for the identified COPCs at each waste site decision unit in the 100-F Source OU.

3 Methodology

This section describes the methodology used to compare EPCs for identified COPCs at each waste site decision unit to PRGs for groundwater protection and surface water protection.

For all of the COPCs identified at the 100-F waste site decision units, the following steps are performed:

1. Obtain COPCs for each waste site decision unit in the 100-F Source OU.
2. Obtain PRGs for the protection of groundwater and the protection of surface water for the STOMP 1D 70:30/100:0 base case scenario.

3. Obtain EPC values for each waste site decision unit in the 100-F Source OU.
4. Individually compare EPCs for each waste site decision unit in the 100-F Source OU to soil PRGs for the protection of groundwater and the protection of surface water.

4 Assumptions and Inputs

Assumptions and inputs associated with COPCs, PRGs, and EPCs are described below.

Table 4-1 documents the sources of information for the PRGs.

Table 4-1. Reference Sources

Preliminary Remediation Goal	Pathway	Reference
STOMP 1D 70:30/100:0 Contaminant Source Model – Base Case Recharge Scenario	Groundwater	ECF-HANFORD-12-0004
	Surface Water	ECF-HANFORD-12-0004

Notes:

ECF-HANFORD-12-0004, *STOMP1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

4.1 Identification of COPCs

For the purposes of this environmental calculation, a COPC is defined as an analyte suspected of being associated with site-related activities, which represents a potential threat to human health or the environment, and whose data are of sufficient quality for use in a quantitative baseline risk assessment.

All analytes identified as exceeding background soil concentrations and soil screening levels in a waste site decision unit are identified as COPCs because the soil sample results represent post-remediation conditions. COPCs for the 100-F Source OU are identified in ECF-100FR1-11-0085, C*omparison of 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water*. The COPCs for groundwater protection for each waste site decision unit are presented in Table 4-2. The COPCs for surface water protection for each waste site decision unit are presented in Table 4-3.

4.2 Preliminary Remediation Goals for the Protection of Groundwater

PRGs for the protection of groundwater at and near the 100-F Source OU have been derived using the following model:

- STOMP 1D 70:30/100:0 Contaminant Source Model, base case scenario

The STOMP 1D 70:30/100:0 Contaminant Source Model assumes that either the upper 70 percent of the vadose zone (for $K_d \geq 2$ mL/g analytes) or the entire vadose zone (for $K_d < 2$ mL/g analytes) is contaminated below a clean fill layer. The recharge rate for the base case scenario represents a site re-vegetated with natural (shrub steppe) land cover assuming no irrigation of the site. OU-specific PRGs protective of groundwater for the 100-F Source OU calculated using the STOMP 1D 70:30/100:0 Contaminant Source Model are documented in ECF-HANFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU*

Source Areas. The STOMP 1D 70:30/100:0 groundwater protective PRGs for identified COPCs at the 100-F Source OU are presented in Table 4-4.

4.3 Preliminary Remediation Goals for the Protection of Surface Water

PRGs for the protection of surface water at and near the 100-F Source OU have been derived using the following models:

- STOMP 1D 70:30/100:0 Contaminant Source Model, base case scenario

The STOMP 1D 70:30/100:0 Contaminant Source Model assumes that either the upper 70 percent of the vadose zone (for $K_d \geq 2$ mL/g analytes) or the entire vadose zone (for $K_d < 2$ mL/g analytes) is contaminated below a clean fill layer. The recharge rate for the base case scenario represents a site re-vegetated with natural (shrub steppe) land cover assuming no irrigation of the site. The model takes no credit for dilution of groundwater by mixing with surface water. OU-specific PRGs protective of surface water for the 100-F Source OU calculated using the STOMP 1D 70:30/100:0 Contaminant Source Model are documented in ECF-HANFORD-12-0004. The STOMP 1D 70:30/100:0 surface water protective PRGs for identified COPCs at the 100-F Source OU are presented in Table 4-5.

4.4 Exposure Point Concentrations

OSWER 9285.6-10, *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*, states that, "an exposure point concentration (EPC) is a conservative estimate of the average chemical concentration in an exposure medium." OSWER Publication 9285.7-081, *Supplemental Guidance to RAGS: Calculating the Concentration Term,* states that, "because of the uncertainty associated with estimating the true average concentration at a site, the 95 percent upper confidence limit (UCL) of the arithmetic mean should be used for this variable."

The EPCs used for comparison to PRGs are the analyte-specific values computed from the post-remediation soil sample results for each waste site decision unit in the 100-F Source OU, as described in ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units*. The EPCs corresponding to the identified COPCs for each waste site decision unit in the 100-F Source OU are presented in Tables 4-2 and 4-3.

5 Software Applications

Microsoft Excel® was used to tabulate the data in electronic spreadsheets. These spreadsheets are provided as tables in this environmental calculation.

6 Calculation

Comparison of EPCs to PRGs is conducted as described in Section 3 to determine which COPCs exceed a PRG. Results of the comparisons are presented in the accompanying tables, as discussed in Section 7. The tables share a similar format, providing both the values being compared as well as a "Yes/No" column indicating the outcome of the comparison.

® Microsoft Excel is a registered product of the Microsoft Corporation.

7 Results/Conclusions

A summary of the 100-F Source OU waste site decision unit COPCs with EPCs that exceed PRGs protective of groundwater is presented in Table 7-1. A summary of the 100-F Source OU waste site decision unit COPCs with EPCs that exceed PRGs protective of surface water is presented in Table 7-2.

8 References

DOE/RL-2010-98, 2012, *Remedial Investigation/Feasibility Study for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units*, Draft A, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

ECF-100FR1-11-0020, 2012, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Operable Unit*, Decisional Draft, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-100FR1-11-0085, 2012, *Comparison of 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water,* Decisional Draft, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-HANFORD-12-0004, 2012, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas*, Draft A, CH2M HILL Plateau Remediation Company, Richland, Washington.

OSWER 9285.6-10, 2002, *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://epa.gov/oswer/riskassessment/pdf/ucl.pdf.

OSWER Publication 9285.7-081, 1992, *Supplemental Guidance to RAGS: Calculating the Concentration Term*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.deq.state.or.us/lq/pubs/forms/tanks/UCLsEPASupGuidance.pdf.

PNNL-15782, 2006, *STOMP Subsurface Transport Over Multiple Phases, Version 4.0: User's Guide*, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://stomp.pnnl.gov/.

Table 4-2 Summary of COPCs and EPCs for Groundwater Protection for the 100-F Source OU

Waste Site/Decision Unit	Analyte Group	COPC[a]	CAS No.	Units	Exposure Point Concentration[b]
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300

Notes:

a. ECF-100FR1-11-0085, *Comparison of 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water.*

b. ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units.*

Table 4-3. Summary of COPCs and EPCs for Surface Water Protection for the 100-F Source OU					
Waste Site/Decision Unit	Analyte Group	COPC[a]	CAS No.	Units	Exposure Point Concentration[b]
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15

Notes:

a. ECF-100FR1-11-0085, *Comparison of 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water.*

b. ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units.*

Table 4-4. STOMP 1D 70:30/100:0 Contaminant Source Model Base Case Preliminary Remediation Goals for Groundwater Protection for Identified COPCs at the 100-F Source OU

COPC[a]	CAS No.	STOMP 1D 70:30/100:0 Contaminant Source Model Base Case GWP Preliminary Remediation Goal[b]
Nonradionuclides (µg/kg)		
Hexavalent Chromium	18540-29-9	6,000[c]
Total petroleum hydrocarbons	TPH	1.00E+06[d]
2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	2,620

Notes:

a. ECF-100FR1-11-0085, *Comparison of 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water.*

b. ECF-HANFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

Table 4-5. STOMP 1D 70:30/100:0 Contaminant Source Model Base Case Preliminary Remediation Goals for Surface Water Protection for Identified COPCs at the 100-F Source OU

COPC[a]	CAS No.	STOMP 1D 70:30/100:0 Contaminant Source Model Base Case SWP Preliminary Remediation Goal[b]
Nonradionuclides (µg/kg)		
Hexavalent Chromium	18540-29-9	6,000[c]
Copper	7440-50-8	--[d]
Endrin	72-20-8	--[d]
Heptachlor	76-44-8	--[d]

Notes:

a. ECF-100FR1-11-0085, *Comparison of 100-FR-1 and 100-FR-2 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water.*

b. ECF-HANFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

Table 7-1. Comparison of EPCs for 100-F Source OU COPCs to STOMP 1D 70:30/100:0 Contaminant Source Model Base Case Preliminary Remediation Goals Protective of Groundwate							
Waste Site/Decision Unit	**Analyte Group**	**COPC**	**CAS No.**	**Units**	**Exposure Point Concentration**	**STOMP 1D 70:30/100:0 Contaminant Source Model Base Case GWP Preliminary Remediation Goal**	**Is EPC > PRG Protective of Groundwater?**
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	6,000[a]	Yes
126-F-2_Staging pile area_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.65E+06	1.00E+06[b]	Yes
600-351_Shallow_Focused	non-Rad	2-(2-methyl-4-chlorophenoxy) propionic acid	93-65-2	µg/kg	2,300	2,620	No

Notes:

a. The PRG for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

b. The PRG for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

Table 7-2. Comparison of EPCs for 100-F Source OU COPCs to STOMP 1D 70:30/100:0 Contaminant Source Model Base Case Preliminary Remediation Goals Protective of Surface Water

Waste Site/Decision Unit	Analyte Group	COPC	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Base Case SWP Preliminary Remediation Goal	Is EPC > PRG Protective of Groundwater?
100-F-19:1_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	5,600	6,000[a]	No
116-F-14_Deep	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	6,787	6,000[a]	Yes
118-F-7_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	552,000	--[b]	--
128-F-2_Shallow	non-Rad	Endrin	72-20-8	µg/kg	22	--[b]	--
128-F-2_Shallow	non-Rad	Heptachlor	76-44-8	µg/kg	3.3	--[b]	--
1607-F7_Staging pile area_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	15	--[b]	--

Notes:

a. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

-- = Not applicable or no value.

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RESPONSIBLE CONTACTS

Name	Phone Number
Author: A Spiliotopoulos	301-718-8900
Manager: AH Aly	509-376-0300

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Name *(print)*	Organization
V Bedekar	SSP&A
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N Hasan	INTERA, Inc.

APPROVAL SIGNATURES

Author: A Spiliotopoulos		12-13-2012 Date	RELEASE / ISSUE
Name: (Print)	A Spiliotopoulos		
Responsible Manager:		13 Dec 12 Date	
Name: (print)	AH Aly		
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Contents

1. Purpose **1**

2. Methodology **1**

2.1 Overview of the 100 Area Groundwater Model 1
2.2 Predictive Hydraulic Containment Calculations 2
2.3 Predictive Modeling Process 3

3. Modeling Assumptions and Inputs **4**

3.1 Model Structure 4
3.2 Contaminant Transport Processes 6
3.2.1 Dual Domain 6
3.2.2 Radioactive Decay 7
3.2.3 Bio-remediation 7
3.2.4 Treatment System Recirculation 8
3.3 Initial Distribution of COCs 9
3.4 Wells 13
3.4.1 Alternative 1: No Action 13
3.4.2 Alternative 2: ICs and MNA 14
3.4.3 Alternative 3: P&T Optimized with Other Technologies 14
3.4.4 Alternative 4: Enhanced P&T 16
3.5 Model Assumptions and Limitations 20

4. Software Applications, Descriptions, Installation & Checkout, and Statements of Validity ... 21

4.1 Approved Software 21
4.2 Descriptions 21
4.2.1 MODFLOW (Controlled Calculation Software) 21
4.2.2 MT3DMS (Controlled Calculation Software) 21
4.2.3 MODPATH (Controlled Calculation Software) 22
4.2.4 MODFLOW Support Software 22
4.2.5 Software Installation and Checkout 23
4.2.6 Statement of Valid Software Application 23

5. Calculation **24**

5.1 Simulated Hydraulic Capture Frequency 26
5.2 Simulated Contaminant Distributions – Concentration Statistics 27
5.2.1 Simulated Contaminant Distributions – Concentration Statistics: Cr(VI) 27
5.2.2 Simulated Contaminant Distributions – Concentration Statistics: Nitrate 47
5.2.3 Simulated Contaminant Distributions – Concentration Statistics: Strontium-90 74
5.2.4 Simulated Contaminant Distributions – Concentration Statistics: TCE 106

6. References **126**

Attachment A: Software Installation and Checkout Forms **129**

Figures

Figure 3-1. Initial Cr(VI) Distribution in 100-FR-3 10
Figure 3-2. Initial Nitrate Distribution in 100-FR-3 11
Figure 3-3. Initial Strontium-90 Distribution in 100-FR-3 12
Figure 3-4. Initial TCE Distribution in 100-FR-3 13
Figure 3-5. Extraction/Injection Well Configuration – Alternative 3 14
Figure 3-6. Extraction/Injection Well Configuration – Alternative 4 17
Figure 5-1. Simulated Capture Frequency Map After 1 Year – Alternative 3 26
Figure 5-2. Simulated Capture Frequency Map After 1 Year – Alternative 4 27
Figure 5-3. Simulated Distribution of Cr(VI) After 1 Year – Alternatives 1 & 2 29
Figure 5-4. Simulated Distribution of Cr(VI) After 5 Years – Alternatives 1 & 2 30
Figure 5-5. Simulated Distribution of Cr(VI) After 10 Years – Alternatives 1 & 2 31
Figure 5-6. Simulated Distribution of Cr(VI) After 15 Years – Alternatives 1 & 2 32
Figure 5-7. Simulated Distribution of Cr(VI) After 20 Years – Alternatives 1 & 2 33
Figure 5-8. Simulated Distribution of Cr(VI) After 25 Years – Alternatives 1 & 2 34
Figure 5-9. Simulated Distribution of Cr(VI) After 50 Years – Alternatives 1 & 2 35
Figure 5-10. Simulated Distribution of Cr(VI) After 75 Years – Alternatives 1 & 2 36
Figure 5-11. Simulated Distribution of Cr(VI) After 1 Year – Alternative 3 37
Figure 5-12. Simulated Distribution of Cr(VI) After 5 Years – Alternative 3 38
Figure 5-13. Simulated Distribution of Cr(VI) After 1 Year – Alternative 4 39
Figure 5-14. Simulated Distribution of Cr(VI) After 5 Years – Alternative 4 40
Figure 5-15. Simulated Distribution of Cr(VI) After 10 Years – Alternative 4 41
Figure 5-16. Cr(VI): Concentration Statistics – All Alternatives 42
Figure 5-17. Cr(VI): Affected Shoreline Length Above Clean-Up Standard 43
Figure 5-18. Cr(VI): Calculated Mass and Volume 44
Figure 5-19. Cr(VI): Calculated Mass Frequency Distribution at Selected Times 45
Figure 5-20. Cr(VI): Calculated Influent Concentration at P&T 46
Figure 5-21. Simulated Distribution of Nitrate After 1 Year – Alternatives 1 & 2 48
Figure 5-22. Simulated Distribution of Nitrate After 5 Years – Alternatives 1 & 2 49
Figure 5-23. Simulated Distribution of Nitrate After 10 Years – Alternatives 1 & 2 50
Figure 5-24. Simulated Distribution of Nitrate After 15 Years – Alternatives 1 & 2 51
Figure 5-25. Simulated Distribution of Nitrate After 20 Years – Alternatives 1 & 2 52
Figure 5-26. Simulated Distribution of Nitrate After 25 Years – Alternatives 1 & 2 53
Figure 5-27. Simulated Distribution of Nitrate After 50 Years – Alternatives 1 & 2 54

Figure 5-28. Simulated Distribution of Nitrate After 75 Years – Alternatives 1 & 2 55
Figure 5-29. Simulated Distribution of Nitrate After 1 Year – Alternative 3 56
Figure 5-30. Simulated Distribution of Nitrate After 5 Years – Alternative 3 57
Figure 5-31. Simulated Distribution of Nitrate After 10 Years – Alternative 3 58
Figure 5-32. Simulated Distribution of Nitrate After 15 Years – Alternative 3 59
Figure 5-33. Simulated Distribution of Nitrate After 20 Years – Alternative 3 60
Figure 5-34. Simulated Distribution of Nitrate After 25 Years – Alternative 3 61
Figure 5-35. Simulated Distribution of Nitrate After 50 Years – Alternative 3 62
Figure 5-36. Simulated Distribution of Nitrate After 75 Years – Alternative 3 63
Figure 5-37. Simulated Distribution of Nitrate After 1 Year – Alternative 4 64
Figure 5-38. Simulated Distribution of Nitrate After 5 Years – Alternative 4 65
Figure 5-39. Simulated Distribution of Nitrate After 10 Years – Alternative 4 66
Figure 5-40. Simulated Distribution of Nitrate After 15 Years – Alternative 4 67
Figure 5-41. Simulated Distribution of Nitrate After 20 Years – Alternative 4 68
Figure 5-42. Nitrate: Concentration Statistics – All Alternatives 69
Figure 5-43. Nitrate: Affected Shoreline Length Above Clean-Up Standard 70
Figure 5-44. Nitrate: Calculated Mass and Volume 71
Figure 5-45. Nitrate: Calculated Mass Frequency Distribution at Selected Times 72
Figure 5-46. Nitrate: Calculated Influent Concentration at P&T 73
Figure 5-47. Simulated Distribution of Strontium-90 After 1 Year – Alternatives 1 & 2 75
Figure 5-48. Simulated Distribution of Strontium-90 After 5 Years – Alternatives 1 & 2 76
Figure 5-49. Simulated Distribution of Strontium-90 After 10 Years – Alternatives 1 & 2 77
Figure 5-50. Simulated Distribution of Strontium-90 After 15 Years – Alternatives 1 & 2 78
Figure 5-51. Simulated Distribution of Strontium-90 After 20 Years – Alternatives 1 & 2 79
Figure 5-52. Simulated Distribution of Strontium-90 After 25 Years – Alternatives 1 & 2 80
Figure 5-53. Simulated Distribution of Strontium-90 After 50 Years – Alternatives 1 & 2 81
Figure 5-54. Simulated Distribution of Strontium-90 After 75 Years – Alternatives 1 & 2 82
Figure 5-55. Simulated Distribution of Strontium-90 After 100 Years – Alternatives 1 & 2 83
Figure 5-56. Simulated Distribution of Strontium-90 After 150 Years – Alternatives 1 & 2 84
Figure 5-57. Simulated Distribution of Strontium-90 After 1 Year – Alternative 3 85
Figure 5-58. Simulated Distribution of Strontium-90 After 5 Years – Alternative 3 86
Figure 5-59. Simulated Distribution of Strontium-90 After 10 Years – Alternative 3 87
Figure 5-60. Simulated Distribution of Strontium-90 After 15 Years – Alternative 3 88
Figure 5-61. Simulated Distribution of Strontium-90 After 20 Years – Alternative 3 89
Figure 5-62. Simulated Distribution of Strontium-90 After 25 Years – Alternative 3 90
Figure 5-63. Simulated Distribution of Strontium-90 After 50 Years – Alternative 3 91
Figure 5-64. Simulated Distribution of Strontium-90 After 75 Years – Alternative 3 92
Figure 5-65. Simulated Distribution of Strontium-90 After 1 Year – Alternative 4 93
Figure 5-66. Simulated Distribution of Strontium-90 After 5 Years – Alternative 4 94

Figure 5-67. Simulated Distribution of Strontium-90 After 10 Years – Alternative 4 95
Figure 5-68. Simulated Distribution of Strontium-90 After 15 Years – Alternative 4 96
Figure 5-69. Simulated Distribution of Strontium-90 After 20 Years – Alternative 4 97
Figure 5-70. Simulated Distribution of Strontium-90 After 25 Years – Alternative 4 98
Figure 5-71. Simulated Distribution of Strontium-90 After 50 Years – Alternative 4 99
Figure 5-72. Simulated Distribution of Strontium-90 After 75 Years – Alternative 4 100
Figure 5-73. Strontium-90: Concentration Statistics – All Alternatives 101
Figure 5-74. Strontium-90: Affected Shoreline Length Above Clean-Up Standard 102
Figure 5-75. Strontium-90: Calculated Mass and Volume 103
Figure 5-76. Strontium-90: Calculated Mass Frequency Distribution at Selected Times 104
Figure 5-77. Strontium-90: Calculated Influent Concentration at P&T 105
Figure 5-78. Simulated Distribution of TCE After 1 Year – Alternatives 1 & 2 107
Figure 5-79. Simulated Distribution of TCE After 5 Years – Alternatives 1 & 2 108
Figure 5-80. Simulated Distribution of TCE After 10 Years – Alternatives 1 & 2 109
Figure 5-81. Simulated Distribution of TCE After 15 Years – Alternatives 1 & 2 110
Figure 5-82. Simulated Distribution of TCE After 20 Years – Alternatives 1 & 2 111
Figure 5-83. Simulated Distribution of TCE After 25 Years – Alternatives 1 & 2 112
Figure 5-84. Simulated Distribution of TCE After 50 Years – Alternatives 1 & 2 113
Figure 5-85. Simulated Distribution of TCE After 75 Years – Alternatives 1 & 2 114
Figure 5-86. Simulated Distribution of TCE After 1 Year – Alternative 3 115
Figure 5-87. Simulated Distribution of TCE After 5 Years – Alternative 3 116
Figure 5-88. Simulated Distribution of TCE After 10 Years – Alternative 3 117
Figure 5-89. Simulated Distribution of TCE After 1 Year – Alternative 4 118
Figure 5-90. Simulated Distribution of TCE After 5 Years – Alternative 4 119
Figure 5-91. Simulated Distribution of TCE After 10 Years – Alternative 4 120
Figure 5-92. TCE: Concentration Statistics – All Alternatives 121
Figure 5-93. TCE: Affected Shoreline Length Above Clean-Up Standard 122
Figure 5-94. TCE: Calculated Mass and Volume 123
Figure 5-95. TCE: Calculated Mass Frequency Distribution at Selected Times 124
Figure 5-96. TCE: Calculated Influent Concentration at P&T 125

Tables

Table 3-1. Parameter Values for the MT3DMS Transport Simulations 9
Table 3-2. Names, Geographic Coordinates, and Extraction and Injection Rates of 100-FR-3 Wells – Alternative 3 15
Table 3-3. Names, Geographic Coordinates, and Extraction and Injection Rates of 100-FR-3 Wells – Alternative 4 18

Table 5-1. Lower Bounds for the Calculation of Concentration Statistics 25
Table 5-2. Remediation Timeframes for Cr(VI) (in Years) 28
Table 5-3. Remediation Timeframes for Nitrate (in Years) 47
Table 5-4. Remediation Timeframes for Strontium-90 (in Years) 74
Table 5-5. Remediation Timeframes for TCE (in Years) 106

Terms

AWQS	ambient water quality standard
CERCLA	*Comprehensive Environmental Response, Compensation and Liability Act of 1980*
CHPRC	CH2M HILL Plateau Remediation Company
COC	contaminant of concern
CTS	contaminant treatment system
FS	Feasibility Study
HISI	Hanford Information System Inventory (software database)
IC	Institutional Control
MNA	Monitored Natural Attenuation
MODFLOW	modular three-dimensional finite-difference ground-water flow model (software)
MT3DMS	modular three-dimensional multi-species transport model for simulation of advection, dispersion, and chemical reactions of contaminants in groundwater systems (software)
PNNL	Pacific Northwest National Laboratory (institution)
PRG	preliminary remediation goal
OU	Operable Unit
P&T	pump and treat (system)
RAG	remedial action goal
RI	Remedial Investigation
ROD	Record of Decision
RUM	Ringold upper mud
SCFM	simulated capture frequency map
SSP&A	S.S. Papadopulos and Associates, Inc.
TCE	trichloroethylene (contaminant)
USGS	United States Geological Survey (agency)
WQS	water quality standard

1. Purpose

The purpose of this environmental calculation file (ECF) is to present the results of groundwater flow and contaminant transport modeling for the *Comprehensive Environmental Response, Compensation and Liability Act of 1980* (CERCLA) Remedial Investigation (RI) and Feasibility Study (FS) undertaken for the 100-FR-3 portion of the Hanford Site that will support final remedy selection and provide the basis for a final Record of Decision (ROD) for 100-FR-3. The modeling effort focused on the evaluation of remedy alternatives to prevent the migration of contaminants of concern (COC) toward the Columbia River and lower COC concentrations in the aquifer below preliminary remediations goals (PRGs).

The model was used as the basis for the evaluation of four alternative remedy designs:

(a) Alternative 1 – No Action: COC plume migration and discharge to the river under ambient aquifer conditions.

(b) Alternative 2 – Institutional Controls (ICs) and Monitored Natural Attenuation (MNA): ICs to prevent exposure to contaminated groundwater until natural attenuation processes reduce COC concentrations of the COC plumes as they migrate under ambient aquifer conditions.

(c) Alternative 3 – Pump-and-Treat (P&T) Optimized with Other Technologies: installation and operation of a P&T with implementation of in-situ treatment (bioremediation) at selected wells to address hexavalent chromium (Cr(VI)) and nitrate contamination.

(d) Alternative 4 – Enhanced P&T: installation and operation of an expanded P&T system considering ex-situ treatment for all COCs.

2. Methodology

2.1 Overview of the 100 Area Groundwater Model

A groundwater flow and contaminant transport model has been developed and calibrated for remedy design evaluation purposes in the 100 Areas. Groundwater flow and advective-dispersive-reactive contaminant transport simulations, together with advective particle tracking analyses, were performed for each conceptual remedy design to determine the feasibility of each design and - if feasible - corresponding pumping rates to evaluate whether the resulting hydraulic conditions would prevent the migration of COC above the target levels to the Columbia River and would lower COC concentrations in the aquifer below target levels.

The model development and calibration is documented in a comprehensive modeling report (*Conceptual Framework and Numerical Implementation of 100 Areas Groundwater Flow and Transport Model*, SGW-46279, Rev. 2). The groundwater flow model is constructed using the U.S. Geological Survey (USGS) modular groundwater flow model MODFLOW (*A Modular Three-Dimensional Finite-Difference Ground-Water Flow Model* [McDonald and Harbaugh 1988]; *User Documentation for MODFLOW 96, An Update to the U.S. Geological Survey Modular Finite-Difference Ground-Water Flow Model* [Harbaugh and McDonald 1996]; *MODFLOW-2000, The U.S. Geological Survey Modular Ground-Water Model – User Guide to Modularization Concepts and the Ground-Water Flow Process* [Harbaugh et al. 2000]; *MODFLOW-2005, The U.S. Geological Survey Modular Ground-Water Model – The Ground-Water Flow Process* [Harbaugh 2005]). Particle tracking was performed using the USGS program MODPATH (*User's Guide for MODPATH/MODPATH-PLOT, Version 3: A Particle Tracking Post-Processing Package for MODFLOW, the U.S. Geological Survey Finite-Difference Ground-Water Flow*

Model [Pollock 1994]). MT3DMS (1998 to present) was used to simulate the contaminant plume migration (*MT3DMS, A Modular Three-Dimensional Multi-Species Transport Model for Simulation of Advection, Dispersion, and Chemical Reactions of Contaminants in Groundwater Systems; Documentation and User's Guide* [Zheng and Wang 1999]; *MT3DMS v5.3: Supplemental User's Guide – Technical Report* [Zheng 2010]).

Predictive simulations were based on transient-state (i.e., time-varying) conditions in the aquifer that reflect water-level changes due to river-stage variation. The flow model simulation timeframe corresponds to a 151-year period. For the first 26 years the simulations are discretized into a pattern of twelve monthly stress periods, reflecting the seasonally-varying river stage, that are repeated in the same sequence: each stress period corresponds to monthly average river stages, each representing the average river stage for the particular calendar month over the period 2006-2010 (excluding 2007 values, when the river stage variation pattern was inconsistent with the other years). It is assumed that these conditions are representative of the typical conditions in the field and that future conditions will not vary significantly from these conditions. For the remainder of the simulation timeframe a single transient stress period is used, with the river stage elevation remaining constant reflecting annual average conditions, corresponding to 2006-2010 average elevations for the month of January. Constant-head and general-head boundary conditions for the predictive simulations were based on the 2010 monthly values, repeated during the initial 26-year period. During the last model stress period values from the month of January 2010 were used for both these boundary conditions.

The migration of the Cr(VI) plume in response to ambient flow conditions and projected extraction and injection well operations in the 100-FR-3 Area was simulated. In addition to Cr(VI), transport simulations were performed to evaluate corresponding migration patterns for three other COCs: nitrate, strontium-90 and TCE. Transport simulations were based on the transient flow fields calculated by the groundwater flow model using the stress periods described above and a mapped initial distribution for each COC in groundwater. A dual-domain formulation representing plume migration in a dual-porosity continuum with mass transfer between mobile and immobile domains was also considered. The transport model simulation timeframe corresponds to a 76-year period for Cr(VI), nitrate and TCE. Strontium-90 transport was simulated for 201 years.

Bioremediation of Cr(VI) and nitrate was also simulated assuming injection of a suitable substrate at selected injection wells. Radioactive decay was considered for strontium-90.

Under Alternative 3, TCE is assumed to be passing through the Ion Exchange (IX) treatment system without being removed under the proposed treatment process. It is therefore recirculated in the aquifer via injection at the injection wells connected to the treatment plant. TCE concentrations injected back into the aquifer are equal to the blended influent concentration at the treatment plant.

2.2 Predictive Hydraulic Containment Calculations

A systematic approach was developed and applied to estimated hydraulic containment once pumping operations are commenced and aquifer conditions are stabilized using the groundwater model. An estimate of the approximate extent of hydraulic capture was calculated using the transient model using an approach similar to that described in "The Capture Efficiency Map: The Capture Zone Under Time-Varying Flow" (Festger and Walter, 2002) and "Sources of Water to Wells for Transient Cyclic Systems" (Reilly and Pollock, 1996), focusing on the evaluation of the temporal variation in capture due to changing flow patterns and hydraulic gradients:

- Releasing particles near the end of each of the twelve monthly stress periods and simulating their migration using a very low effective porosity, ensuring that particle travel times are essentially instantaneous.
- Recording the instantaneous fate of each particle during each stress period.
- Calculating a capture zone for each stress period based on the "snapshot" of aquifer conditions at the time of the particle release, in this case producing twelve instantaneous "snapshots" of the extent of capture.
- Constructing a simulated capture frequency map (SCFM) by counting the number of times a particle originating from a location was captured by a well, and dividing this count by the total number of releases (i.e., twelve).

2.3 Predictive Modeling Process

For each alternative design, a systematic process was followed to develop model input files, to perform the model simulation, and to post-process the model results to evaluate system performance. This procedure is described by the following steps (for Alternatives 1 and 2 steps 1 through 3 are omitted as ambient flow conditions are simulated):

1. Well locations for injection and extraction wells were proposed, discussed and selected.
2. Injection and extraction rates were proposed, discussed and assigned to each well.
3. An input file for the MODFLOW Multi-Node Well (MNW2) Package (Konikow et al., 2009) was constructed to describe the spatial and temporal configuration of the well operations.
4. The flow model was executed to simulate transient hydraulic head distributions, together with accessory outputs including model-wide and cell-by-cell flow budgets.
5. Input files for subsequent particle tracking analyses were constructed, including particle starting locations encompassing an area equivalent to the footprint of the corresponding COC plume.
6. MODPATH was executed to simulate the conservative, advective transport of groundwater and dissolved contaminants, and the results were post-processed to identify particles that - given sufficient time - would (a) ultimately migrate to the river or would (b) ultimately be captured by the extraction wells.
7. Maps of simulated hydraulic capture frequency (i.e., SCFMs) were constructed, using the method described above.
8. Input files for the advective-dispersive-reactive contaminant transport model were constructed for each COC, including the initial distribution, COC-specific transport parameters such as decay rate, and the time-varying mass loading of any injected substraite at each bio-injection well (Alternative 3 only), where applicable.
9. MT3DMS was executed to simulate the advective-dispersive-reactive transport of each COC, and the results were post-processed. Reactive transport simulations were not performed for TCE.
10. Postprocessing of the MT3DMS simulations was completed, comprising:
    a. Maps of the simulated distribution of each COC after 1, 5, 10, 15, 20, 25, 50 and 75 years. For strontium-90 additional plume depictions at 100 and 150 years of elapsed

model simulation time are presented for Alternatives 1 and 2. Plume maps are not presented if the COC is not present in the aquifer at concentrations above the corresponding applicable standard.

b. Summary concentration statistics timeseries including: (i) concentration statistics in the aquifer and at the shoreline (maximum, mean, median and 90th percentile); (ii) affected shoreline length (that is, model cells adjacent to the river with concentrations above the applicable standard); (iii) COC plume mass and volume; (iv) COC mass frequency distributions corresponding to mass below a range of concentration levels; and (v) COC influent concentrations at the treatment plant.

3. Modeling Assumptions and Inputs

3.1 Model Structure

The groundwater flow model grid encompasses all 100-Area Operable Units (OU). The model finite-difference grid is constructed so that the north and northeast boundaries of the flow model are parallel to, and abut, the Columbia River. The model extends southward, toward Gable Butte and Gable Mountain. The grid spacing is relatively coarse (about 100 m) throughout much of the domain, but it is refined (15 m) in the area of each 100 Area OU to support remedy evaluations.

Groundwater flow is simulated as three-dimensional (3D) using four layers. These layers represent the Hanford formation (always present in Layer 1, across the model domain) and the Ringold E Formation (typically represented by Layers 2 through 4, except east of 100-D where it is absent and therefore all model layers represent the Hanford formation). Throughout much of the western half of the modeled area (including 100-K and 100-D), the water table lies within the Ringold Unit E sands (except in 100-B/C where the water table fluctuates between the Hanford and Ringold E formations), whereas toward the east and north of the modeled area (including 100-H and 100-F), the water table lies within the Hanford formation sands and gravels.

The base of the model is assumed to be the top of the Ringold Upper Mud (RUM) where present and the top of the basalt where the RUM is absent, which typically occurs in the southern portions of the model approaching Gable Butte. The geologic characterization compiled as part of the Model Data Packages (SGW-40781 Rev. 0, *100-HR-3 Remedial Process Optimization Modeling Data Package*; SGW-41213 Rev. 0, *100-KR-4 Remedial Process Optimization Modeling Data Package*; SGW-44022 Rev. 0, *Geohydrologic Data Package in Support of 100-BC-5 Modeling*; SGW-47040 Rev. 0, *Geohydrologic Data Package in Support of 100-FR-3 Modeling*) depicts a reasonably abrupt lateral transition from areas where the water table lies dominantly within the Ringold Unit E in the west and south of the model domain to areas where the water table lies dominantly within the Hanford formation sands and gravels in the east and north of the model domain, that occurs between the 100-D and 100-H areas.

The principal aquifer property specified in the flow model is the spatially varying hydraulic conductivity of the saturated aquifer materials. The hydraulic conductivity distribution in the model was developed based on the information included in the Model Data Packages and a pilot-point parameterization technique (Doherty, 2003) that was implemented in the model calibration process. Estimates of hydraulic conductivity compiled as part of the Model Data Packages were tabulated and assigned to their corresponding aquifer unit. The mean value for the aquifer hydraulic conductivity in the vicinity of 100-FR-3 that resulted from the model calibration process is 30 m/day for the Hanford formation.

Areal recharge from precipitation was specified based on information included in the Groundwater Data Package for Hanford Assessments (*Groundwater Data Package for Hanford Assessments*, PNNL-14753). An electronic version of the recharge package developed and presented in PNNL-14753 was obtained; the data were spatially distributed to the model grid cells; and this initial distribution was subsequently adjusted during model calibration. Based on the results of the model calibration, the recharge value was set equal to 12 mm/yr throughout much of the model domain. Local recharge conditions (e.g. surface reservoirs) were assigned recharge rates based on specific reported values (*In Situ Redox Manipulation (ISRM) Annual Report Fiscal Year 2007*, DOE/RL-2008-10).

Initial effective porosity and specific yield values for the aquifer were identified from published sources: these were revised during the model calibration and set equal to 18% and 10%, respectively. Both values are within the range of values documented in previous investigations for Hanford (*Development of a Three-Dimensional Ground-Water Model of the Hanford Site Unconfined Aquifer System,* PNL-10886). As a result of the approach taken to the model calibration, the relatively low value of specific yield (versus the higher value of effective porosity) principally reflects periodic but incomplete draining and rewetting of aquifer materials near the shoreline in response to oscillatory river stage changes. Finally, riverbed conductance values were also determined during calibration, separately for the stretches of the Columbia River within each Area.

River stage data from six gauges located in the vicinity of each Operable Unit plus USGS Gauge 12472800 (located below Priest Rapids Dam) were processed and summarized to monthly average stage values for application in each stress period to represent the river boundary along the north and northeast model boundary.

A constant-head boundary condition was used to represent time-variant hydraulic head distribution in model cells representing the Western Gap and the Gable Gap. Monthly-average hydraulic head values for the period 2006-2011 were assigned to those cells based on measurements at two monitoring wells in the vicinity of those boundaries.

A general-head boundary condition was used to represent flow into and out of the model domain along the southeast model boundary between Gable Mountain and the Columbia River. The spatially-variable values were specified on the basis of a map of site-wide groundwater elevations representing typical groundwater level conditions in 2006-2008 and river-stage elevations for the same period.

The lower boundary of the model is a no-flow boundary, in keeping with the stratigraphy selected to choose relatively impermeable units (aquitard, basalt, or mud) to serve as the lower boundary.

The groundwater flow model was calibrated to data included in the Model Data Packages for each OU, through a combined manual (i.e., trial-and-error) and automated process. Model calibration was facilitated by the use of PEST (Doherty, 2010) and post-processing programs that calculate simulated water-level responses to stresses. The model was calibrated to data obtained from January 2006 to June 2009, and was then validated using data obtained from July 2009 to December 2011. Calibration focused on the transient response of water levels to changing stresses and how these compare to values measured at wells at each OU; in addition, maps of water-level contours calculated by the model were compared to contours included in published reports to ensure that the simulated hydraulic gradient magnitude and direction is in agreement with prior independent interpretations.

Further details on model development and calibration are provided in the comprehensive modeling report (*Conceptual Framework and Numerical Implementation of 100 Areas Groundwater Flow and Transport Model*, SGW-46279, Rev. 2). However, it should be noted that the model used for the 100-FR-3

simulations has a slightly different structure from the model presented in the modeling report, as modifications were made at a later time. These modifications are briefly described below:

- The finite-difference grid was extented to the west of 100-BC-5 to provide better definition of the model boundary in that area. The boundary condition was modified from general-head to no-flow, to represent the no-flow conditions due to the basalt outcrop in that area which was encompassed by the extended grid.
- Model layer elevations were determined on the basis of a revised interpretation of the hydrostratigraphy across the River Corridor, part of which is described in *100-HR-3 Remedial Process Optimization Modeling Data Package* (SGW-40781, Rev.2).
- Hydraulic conductivity of the Hanford formation was 40 m/d across the River Corridor except for the area encompassing 100-FR-3, where hydraulic conductivity was estimated to be 30 m/d.
- The geometry of the highly transmissive paleochannel in the vicinity of 100-BC-5 was redefined based on a more recent interprestation of the geologic data.
- Areal recharge from surface features, such as the 182-B and 182-D reservoirs, was included in the model at rates consistent with reported values.
- Model validation was extended to 2011 and therefore initial conditions for the predictive model reflect the simulated hydraulic head distribution corresponding to December 2011.

3.2 Contaminant Transport Processes

The migration of Cr(VI) in response to ambient flow conditions and projected extraction and injection well operations in the 100-FR-3 Area was simulated to support remedy design evaluation. In addition to Cr(VI), transport simulations were performed for three other COCs (nitrate, strontium-90 and TCE) to evaluate corresponding migration patterns. Transport simulations were based on transient flow fields calculated by the groundwater flow model and a mapped initial distribution of each COC in groundwater. A dual-domain formulation representing plume migration in a dual-porosity continuum with mass transfer between mobile and immobile domains was considerd. Bioremediation of Cr(VI) and nitrate was also simulated assuming injection of a suitable substrate at selected injection wells. Radioactive decay was considered for strontium-90.

Under Alternative 3 it is assumed that TCE passing through the Ion Exchange (IX) Treatment System is not removed under the proposed treatment process. It is therefore recirculated in the aquifer via injection at the injection wells associated with TCE removal. TCE concentrations injected back into the aquifer at each injection well are equal to the blended influent concentration at the treatment plant.

A brief description of these processes is provided below. All transport parameters used in the model simulations are summarized in Table 3-1.

3.2.1 Dual Domain

Although often assumed to be conservative, recent studies by Pacific Northwest National Laboratory (PNNL) (*Geochemical Characterization of Chromate Contamination in the 100 Area Vadose Zone at the Hanford Site*, PNNL-17674) suggest that Cr(VI) within soils of the 100 Areas exhibits migration characteristics that may be more complex than can be represented using simple advection. According to these tests, although the majority of the mass is highly mobile and migrates principally by advection, Cr(VI) mass can be held in heterogeneous parts of the aquifer that possess a low hydraulic conductivity. This relatively less mobile Cr(VI) constitutes a longer-term source of chromium to the mobile domain that is facilitated by mass transfer between the two domains. Based on these observations, the migration of Cr(VI) can be reasonably described by a dual-domain (or dual-porosity) approach that divides the aquifer into two domains: mobile and immobile. Advective-dispersive transport occurs predominantly in the mobile domain while mass transfer occurs between the mobile and immobile domains.

MT3DMS supports the use of a dual-domain formulation to simulate the transport of a contaminant in groundwater. To do so, the following parameters must be defined for the dual domain formulation: the fraction of mobile and immobile domains; the mass transfer coefficient between the mobile and immobile domains; and when considering sorption or related retardation processes, distribution coefficients that describe sorption within the mobile and immobile domains. For the 100 Area transport model, it was assumed that some sorption occurs within the immobile domain for Cr(VI), strontium-90 and TCE. Sorption occurs within the mobile domain only for strontium-90. No sorption in either domain was assumed for nitrate. The parameter values used for the dual-domain formulation for the advective-dispersive-reactive transport simulations for all COCs are listed in Table 3-1.

Further details on the development of the dual-domain parameters can be found in the comprehensive modeling report (*Conceptual Framework and Numerical Implementation of 100 Areas Groundwater Flow and Transport Model*, SGW-46279, Rev. 2).

3.2.2 Radioactive Decay

Radioactive decay was simulated for strontium-90. The corresponding half-life value used in the model was 28.8 years.

3.2.3 Bio-remediation

The groundwater flow and transport model was also used to make predictive simulations of the impact of injection of water amended with a suitable substrate for remediation of Cr(VI) and nitrate. Simulations consider the transport and interaction of two species - the first species being the Cr(VI) (or nitrate), and the second species being the injected substrate. The substrate injection is simulated as an injection concentration that enters the groundwater system through an injection well using the Source Sink Mixing (SSM) package of MT3DMS. An instantaneous reaction is simulated, with a specified stoichiometry – i.e., a specified ratio of the substrate that is required to reduce/consume/transform the COC such that under most conditions absent transport of the species either (a) the substrate completely and instantaneously reduces/consumes/transforms the contaminant in the model cell or (b) the substrate is entirely consumed and reduces/consumes/transforms the corresponding amount of contaminant. This reaction between the two species assumes instantaneous and complete mixing within each model cell, and is represented explicitly in the model. The rate of the reaction - i.e. the amount of contaminant that is reduced/consumed/transformed by the injected substrate - is calculated directly based on the specific reaction stoichiometry for the two corresponding species.

The foregoing approach to simulating degradation can in theory be used to represent direct reduction (or oxidation) and/or bio-degradation/bio-transformation. The approach does not explicitly consider the growth of organisms in the case of bio-remediation: the reaction stoichiometry will in many cases be semi-empirical, based in part upon equations that describe the oxidation-reduction system including the target contaminant, but also considering field experience with similar remediation technologies.

For the purposes of the model simulations presented herein, ethanol (C_2H_6O) is assumed as a carbon source to reduce Cr(VI) to trivalent chromium, Cr(III). The stoichiometric equation that describes the chemical reaction that is involved in this reduction does not consider the fact that before the substrate reacts with the chromium, it is also consumed by two processes due to competitive demand for ethanol:

1. Bio-activity of the microbes that diminishes the substrate concentration; and,
2. Competitive reaction with other compounds present in the system.

Since neither bioactivity of microbes nor the reaction of the substrate with secondary compounds is explicitly simulated in the transport model, the MT3DMS reactive transport simulator developed for use

with the transport model enables a first-order decay term to be applied to the substrate that can approximate the consumption of the substrate over time due to these two processes. Typically, the half-life of this first-order decay term will be empirically based, derived from field observations of pilot scale studies and other field-scale applications. In the case of Cr(VI) reduction to Cr(III) though injection of ethanol, a first-order decay rate for the substrate is provided that assumes that the substrate has a half-life of 20 days as a result of competing demands. In this context, "half-life" refers to the surrogate representation of the consumption of the substrate by a variety of processes that are collectively represented as a first-order decay process. The same approach was used for the reduction of nitrate through injection of a substrate at selected injection wells.

Further details on the modeling of the bio-remediation processes can be found in the comprehensive modeling report (*Conceptual Framework and Numerical Implementation of 100 Areas Groundwater Flow and Transport Model*, SGW-46279, Rev. 2).

3.2.4 Treatment System Recirculation

The groundwater flow and transport model was also configured to simulate the circulation of extracted TCE (only under Alternative 3) within the P&T system while the other COCs are actively treated. During this process, this secondary contaminant is recovered at the extraction wells, passes untreated through the treatment system, and is returned to the groundwater domain via injection wells. Blending of the extracted water occurs within the above-ground treatment system so that the effluent concentration is generally lower (more dilute) than the highest influent concentration measured at the wellhead. This movement of contaminants through a P&T system is simulated using the Contaminant Treatment System (CTS) package implemented in MT3DMS (Bedekar et al, 2011).

Table 3-1. Parameter Values for the MT3DMS Transport Simulations

	Parameter	Chromium		Nitrate		Strontium		TCE	
		Mobile Domain	Immobile Domain	Mobile Domain	Immobile Domain	Mobile Domain	Immobile Domain	Mobile Domain	Immobile Domain
COC	Porosity	0.18	0.045	0.18	0.045	0.18	0.045	0.18	0.045
	Bulk density (g/cc)	1.72				1.72			
	Kd (cc/g)	0.0[2]	0.3[1]	0.0[2]	0.0[2]	7.0[3]	39.0[3]	0.0[4]	0.025[4]
	Decay in water (1/day)	0.0		0.0		6.59E-05		0.0	
	Decay on soil (1/day)	0.0		0.0		6.59E-05		0.0	
	Radioactive Decay (years)[5]	-		-		28.8		-	
	Mass transfer rate (1/day)	0.01		0.01		0.01		0.01	
Substrate	Kd (cc/g)	0.0	0.0	0.0	0.0	-	-	-	-
	Decay in water (1/day)	3.4657E-02		3.4657E-02		-		-	
	Decay on soil (1/day)	0.0		0.0		-		-	
	Mass transfer rate (1/day)	0.0		0.0		-		-	

[2] PNNL-18564, Table 6.9, Sandy Gravel sediment type

[3] Based on a value of 12 cc/g (PNNL-18564, Table 6.9, Sandy Gravel sediment type) and distributed in the mobile and immobile domains based on the approximate ratio of the corresponding porosities

[4] Based on empirical calculation (PNNL-13560 (Equations 1 & 2, p. C.16), assuming foc = 0.00027, solubility of TCE of 1100 mg/L)

[5] Decay values in water/soil correspond to the half-life represented by the radioactive decay

3.3 Initial Distribution of COCs

The initial distribution of each COC in groundwater within the 100-FR-3 OU was obtained using maximum sampled COC concentrations at each monitoring location during the period 2009-2010, supplemented by more recent monitoring data at selected locations to ensure that a comprehensive dataset is used that reflect current interpretations of the COC distribution in the aquifer.

Calculation of the initial distribution was performed using Quantile Kriging, a robust interpolation method (*Spatial Interpolation Methods for Nonstationary Plume Data*, [Reed et al. 2004]), and was based on a stepwise procedure that includes adjustments to the interpolated distribution to reflect institutional knowledge of the historic plume migration and the local conditions affecting the actual COC distribution in the aquifer (*Conceptual Framework and Numerical Implementation of 100 Areas Groundwater Flow and Transport Model*, SGW-46279, Rev. 2).

[1] Recent leach tests conducted on vadose zone sediment samples indicate that a higher-valued distribution coefficient (K_d) of 0.8 may be appropriate as a conservative lower limit when representing residual hexavalent chromium that is present in fine sediment after several pore-volume flushes of contaminated sediments have occurred (ECF-Hanford-11-0165). Future revisions of the groundwater fate and transport models will incorporate this new information. Model parameters will also be calibrated to match observed conditions and available information for hexavalent chromium plumes across the River Corridor.

Initial concentrations in the mobile and immobile domains were the same for each COC. Figures 3-1 through 3-4 show the initial distribution of Cr(VI), nitrate, strontium-90 and TCE, respectively.

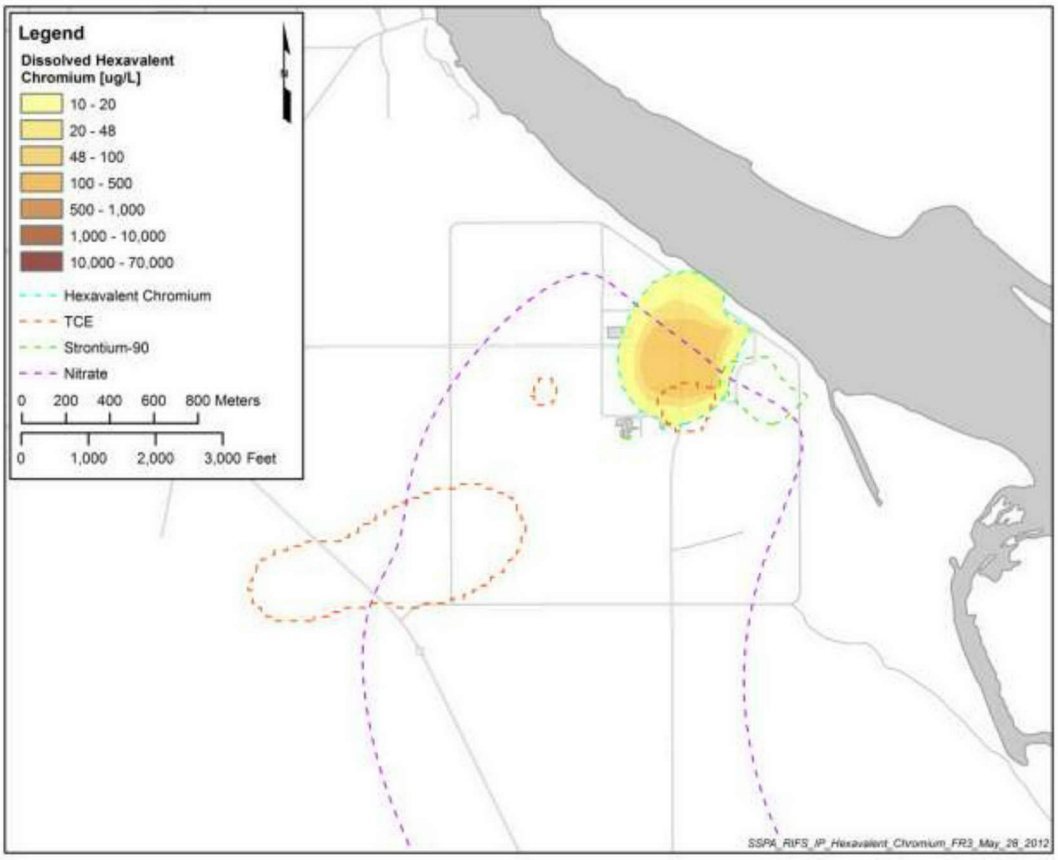

Figure 3-1. Initial Cr(VI) Distribution in 100-FR-3

ECF-100FR3-11-0116 REV. 3

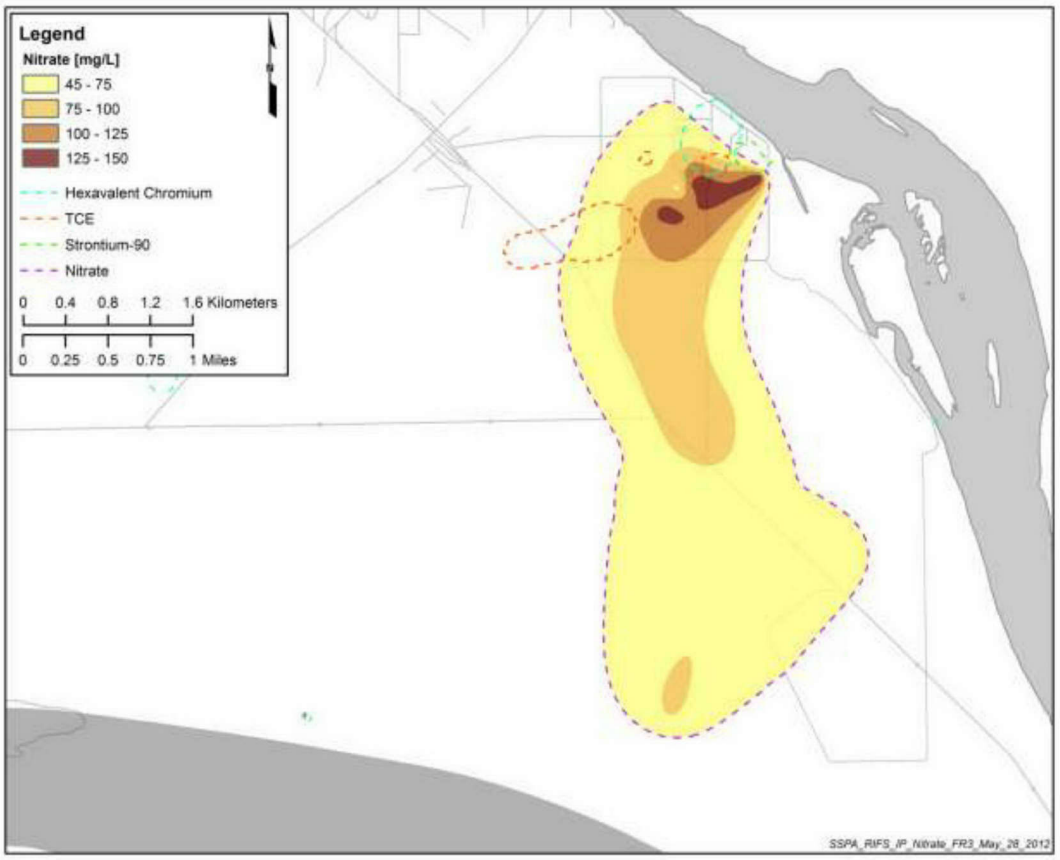

Figure 3-2. Initial Nitrate Distribution in 100-FR-3

ECF-100FR3-11-0116 REV. 3

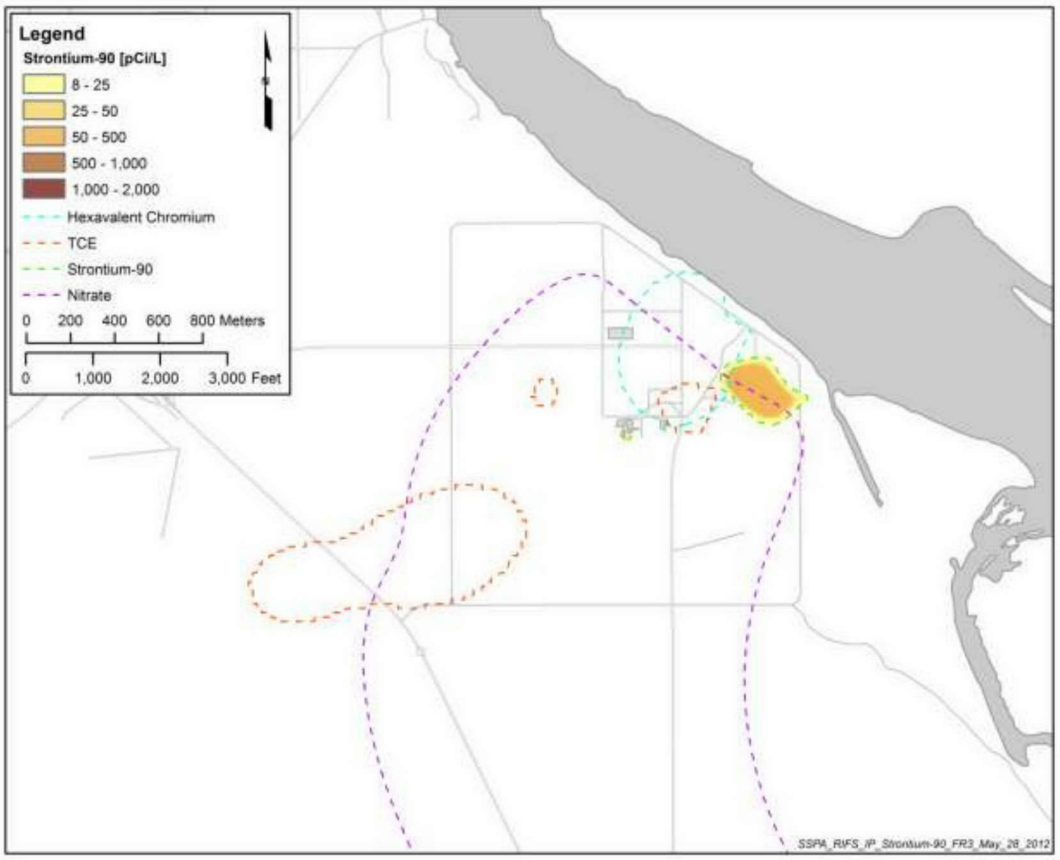

Figure 3-3. Initial Strontium-90 Distribution in 100-FR-3

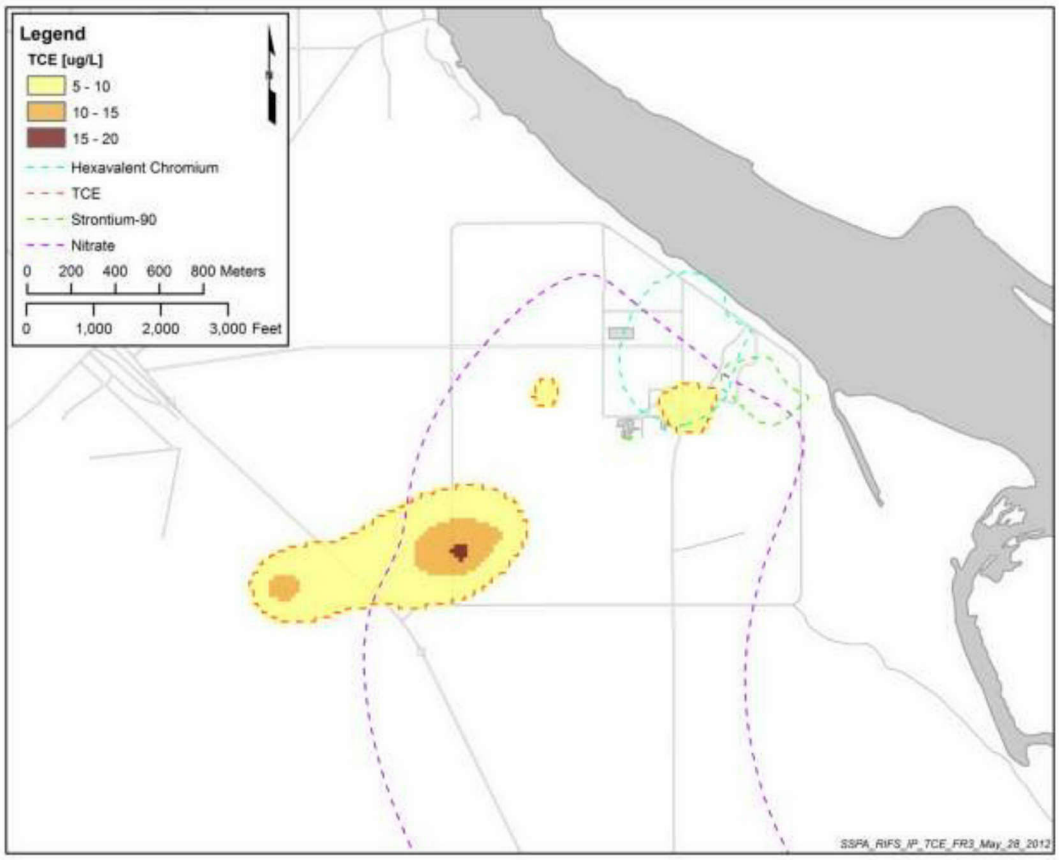

Figure 3-4. Initial TCE Distribution in 100-FR-3

3.4 Wells

Flow and transport model simulations were performed for four alternative remedy designs. Alternatives 1 and 2 consider only ambient aquifer conditions while Alternatives 3 and 4 comprise extraction and injection wells. In addition, Alternative 3 includes in-situ treatment at selected wells.

Detailed descriptions of each alternative well configuration are presented in the following subsections.

3.4.1 Alternative 1: No Action

Under Alternative 1 plume migration is simulated under ambient aquifer conditions. No extraction and/or injection wells are considered.

3.4.2 Alternative 2: ICs and MNA

Like Alternative 1, plume migration under Alternative 2 assumes ambient aquifer conditions. No extraction and/or injection wells are considered.

3.4.3 Alternative 3: P&T Optimized with Other Technologies

In Alternative 3 a P&T system is installed and operated for 12 years with extraction and injection wells maintaining hydraulic containment and/or recovery of the COC plumes. In addition, in-situ treatment is considered in the form of bio-injection at selected wells to further enhance the reduction of dissolved Cr(VI) and nitrate concentrations in the aquifer and improve cleanup times. Well locations were determined based on the COC plume distributions, although spatial restrictions due to cultural and other constraints were considered. The proposed pumping rates are based on an assumed system efficiency of 90% on an average annual basis, considering scheduled and unforeseen system shutdown periods. As a result, the proposed pumping rates reflect a 10% reduction of their nominal design rates to account for the assumed system efficiency.

Figure 3-5 shows the extraction and injection well configuration for Alternative 3. Detailed account of the pumping rates for all wells is included in Table 3-2, with shaded cells indicating bio-injection.

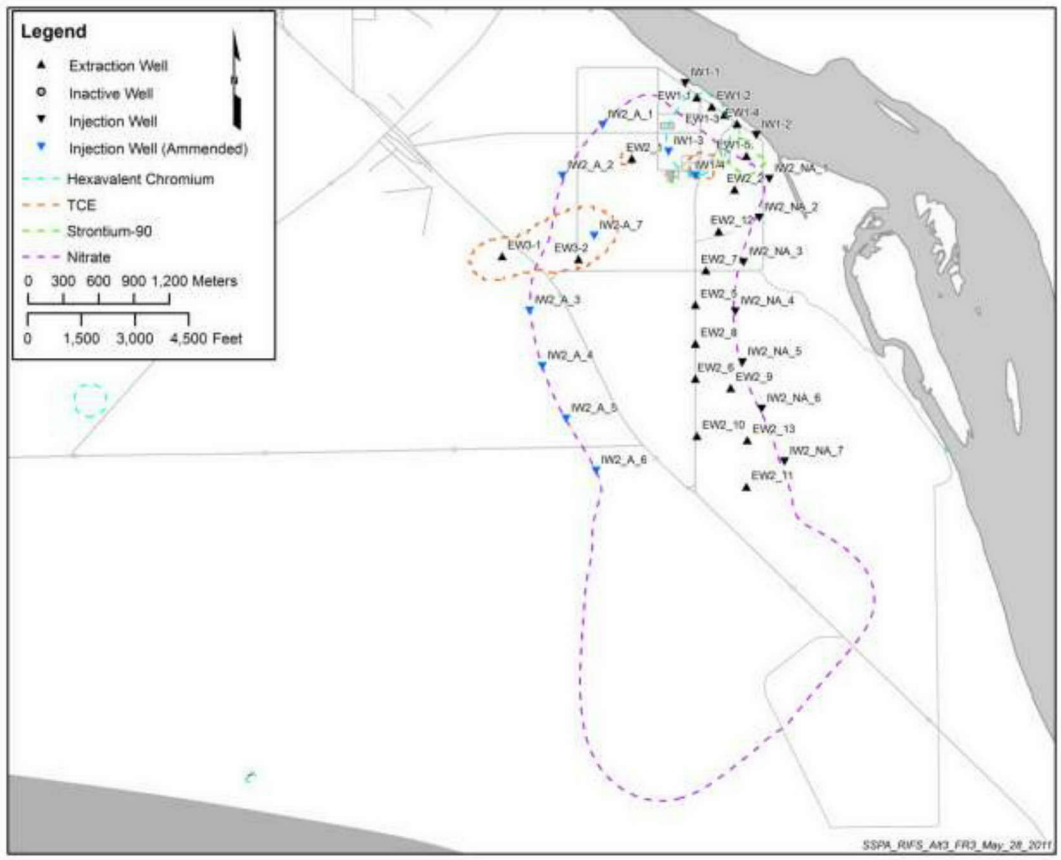

Figure 3-5. Extraction/Injection Well Configuration – Alternative 3

Table 3-2. Names, Geographic Coordinates, and Extraction and Injection Rates of 100-FR-3 Wells – Alternative 3

Well Name	Easting	Northing	Bio-remediation	Pumping Rate Years 1-7	Pumping Rate Years 8-12
EW1-1	580658	148271	NA	-40.5[1,2]	-40.5
EW1-2	580785	148193	NA	-40.5	-40.5
EW1-3	580895	148124	NA	-40.5	-40.5
EW1-4	581001	148049	NA	-40.5	-40.5
EW1-5	581081	147774	NA	-36	-36
IW1-1	580558	148391	NA	49.5	49.5
IW1-2	581164	147948	NA	49.5	49.5
IW1-3	580418	147810	Amended	49.5	49.5
IW1-4	580644	147602	Amended	49.5	49.5
EW3-1	579002	146920	NA	-36	-36
EW3-2	579651	146895	NA	-36	-36
IW2-A_7	579784	147090	Amended	36	36
IW2_NA_1	581275	147574	NA	36	36
IW2_NA_2	581189	147246	NA	36	36
IW2_NA_3	581055	146865	NA	31.5	31.5
IW2_NA_4	580985	146447	NA	31.5	31.5
IW2_NA_5	581047	146013	NA	31.5	31.5
IW2_NA_6	581210	145618	NA	31.5	31.5
IW2_NA_7	581404	145169	NA	31.5	31.5
IW2_A_1	579856	148035	Amended	36	0
IW2_A_2	579513	147601	Amended	36	0
IW2_A_3	579234	146455	Amended	36	36
IW2_A_4	579343	145982	Amended	36	36
IW2_A_5	579544	145533	Amended	36	36
IW2_A_6	579800	145091	Amended	36	0
EW2_1	580104	147751	NA	-36	-36
EW2_2	580979	147487	NA	-36	-36
EW2_5	580646	146506	NA	-36	0
EW2_6	580646	145877	NA	-36	0

Table 3-2. Names, Geographic Coordinates, and Extraction and Injection Rates of 100-FR-3 Wells – Alternative 3

Well Name	Easting	Northing	Bio-remediation	Pumping Rate Years 1-7	Pumping Rate Years 8-12
EW2_7	580735	146799	NA	-40.5	-40.5
EW2_8	580646	146173	NA	-36	-36
EW2_9	580947	145796	NA	-36	-36
EW2_10	580659	145388	NA	-36	0
EW2_11	581081	144956	NA	-36	-36
EW2_12	580845	147130	NA	-40.5	-40.5
EW2_13	581089	145353	NA	-40.5	-40.5

[1] Pumping rates in gallons per minute (gpm)

[2] Negative values indicate extraction

3.4.4 Alternative 4: Enhanced P&T

Alternative 4 considers installation and operation of an expanded P&T extraction and injection wells for a period of 18 years. Well operation is phased throughout this period to expedite the plume recovery process in a more cost-effective manner. Above-ground treatment is assumed for all COCs.

Figure 3-6 shows the extraction and injection well configuration for Alternative 4. Detailed account of the pumping rates for all wells is included in Table 3-3.

ECF-100FR3-11-0116 REV. 3

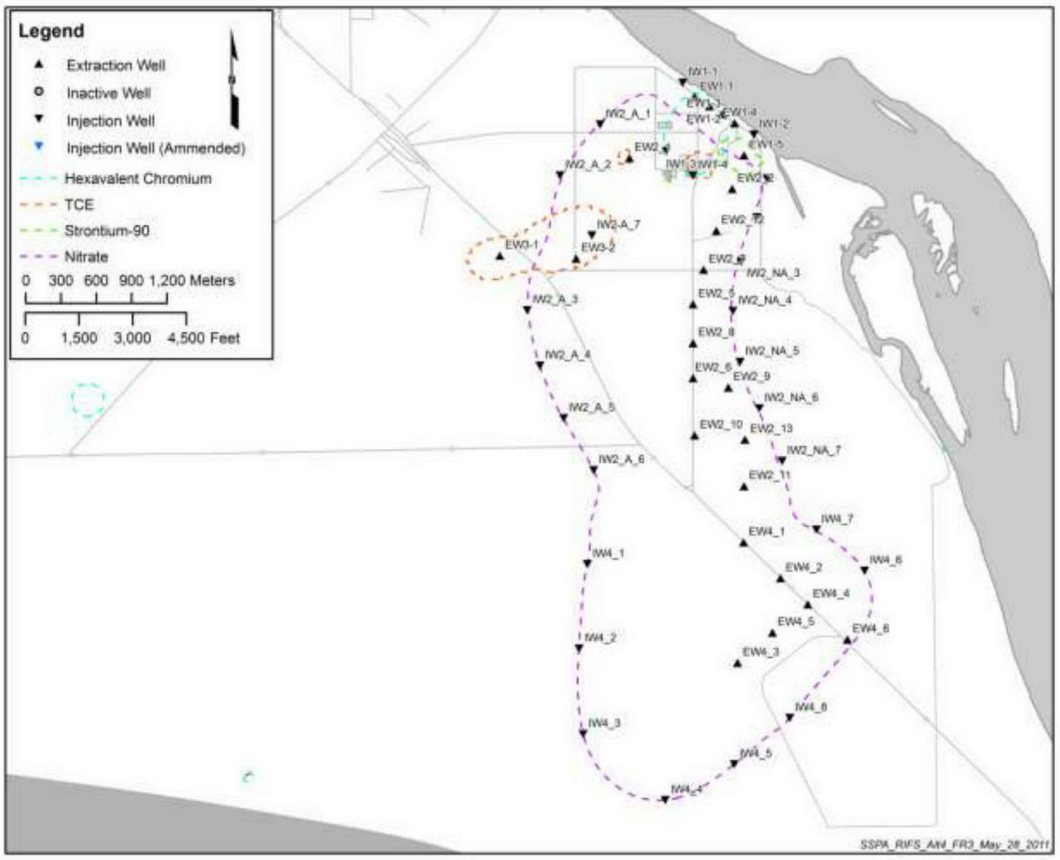

Figure 3-6. Extraction/Injection Well Configuration – Alternative 4

ECF-100FR3-11-0116 REV. 3

Table 3-3. Names, Geographic Coordinates, and Extraction and Injection Rates of 100-FR-3 Wells – Alternative 4

Well Name	Easting	Northing	Pumping Rate Years 1-7	Pumping Rate Years 8-12	Pumping Rate Years 13-18
EW1-1	580658	148271	-40.5	-40.5	0
EW1-2	580785	148193	-40.5	-40.5	0
EW1-3	580895	148124	-40.5	-40.5	0
EW1-4	581001	148049	-40.5	-40.5	0
EW1-5	581081	147774	-36	-36	0
IW1-1	580558	148391	49.5	49.5	0
IW1-2	581164	147948	49.5	49.5	0
IW1-3	580418	147810	49.5	49.5	0
IW1-4	580644	147602	49.5	49.5	0
EW3-1	579002	146920	-36	-36	0
EW3-2	579651	146895	-36	-36	0
IW2-A_7	579784	147090	36	36	0
IW2_NA_1	581275	147574	36	36	0
IW2_NA_2	581189	147246	36	36	0
IW2_NA_3	581055	146865	31.5	31.5	0
IW2_NA_4	580985	146447	31.5	31.5	0
IW2_NA_5	581047	146013	31.5	31.5	0
IW2_NA_6	581210	145618	31.5	31.5	0
IW2_NA_7	581404	145169	31.5	31.5	0
IW2_A_1	579856	148035	36	0	0
IW2_A_2	579513	147601	36	0	0
IW2_A_3	579234	146455	36	36	0
IW2_A_4	579343	145982	36	36	0
IW2_A_5	579544	145533	36	36	0
IW2_A_6	579800	145091	36	0	0
EW2_1	580104	147751	-36	-36	0
EW2_2	580979	147487	-36	-36	0
EW2_5	580646	146506	-36	0	0
EW2_6	580646	145877	-36	0	0

ECF-100FR3-11-0116 REV. 3

Table 3-3. Names, Geographic Coordinates, and Extraction and Injection Rates of 100-FR-3 Wells – Alternative 4

Well Name	Easting	Northing	Pumping Rate Years 1-7	Pumping Rate Years 8-12	Pumping Rate Years 13-18
EW2_7	580735	146799	-40.5	-40.5	0
EW2_8	580646	146173	-36	-36	0
EW2_9	580947	145796	-36	-36	0
EW2_10	580659	145388	-36	0	0
EW2_11	581081	144956	-36	-36	0
EW2_12	580845	147130	-40.5	-40.5	0
EW2_13	581089	145353	-40.5	-40.5	0
IW4_1	579746	144291	27	27	0
IW4_2	579675	143572	27	27	36
IW4_3	579711	142844	27	27	0
IW4_4	580410	142281	27	27	36
IW4_5	580997	142587	27	27	36
IW4_6	582107	144235	27	27	0
IW4_7	581696	144585	27	27	0
EW4_1	581076	144477	-36	-36	0
EW4_2	581391	144172	-36	-36	-36
EW4_3	581026	143453	-36	-36	0
EW4_4	581623	143950	-36	-36	-36
EW4_5	581322	143709	-36	-36	-36
IW4_8	581469	142981	27	27	36
EW4_6	581961	143650	-36	-36	-36

[1] Pumping rates in gallons per minute (gpm)

[2] Negative values indicate extraction

3.5 Model Assumptions and Limitations

The principal assumptions and limitations of the modeling analyses are described below:

- The Ringold Upper Mud (RUM) Formation, where present, is considered a vertical no-flow boundary. However, sensitivity analysis should be performed to examine the effects, if any, of possible flow across the bottom of the model on plume migration and on the efficiency of the proposed remedies.
- The initial COC distributions are based on available data from a finite number of sampling points. Acquisition of new data (including new sampling locations) could lead to different plume distributions and different projections of plume migration and mass recovery.
- Small-scale heterogeneity and its effect on contaminant transport are incorporated in the model through a dual-domain formulation. However, the parameters that describe mass transfer between the mobile and immobile phases are calculated based on limited information from soil column experiments. Actual field-scale values could vary significantly and should be evaluated through model calibration when remedy mass recovery data are collected.
- The model does not include continuing sources in the vadose zone or the RUM. The presence of such sources could significantly prolong aquifer cleanup times.
- Any scheduled or unforeseen shut-down periods of the proposed treatment systems (or components of them) will have direct impacts on plume migration. The nature and extent of those impacts cannot be determined a-priori and result in remedy performance that differs from that presented in this report.
- Effects of river stage are modeled for a period of 26 years. After that, average annual river stage is simulated to reduce the associated computation time required for the simulations. As a result of the averaging, simulated concentrations for that period - especially near the river - do not reflect the effect of river-stage / river-water mixing induced dilution since the river is always a discharge boundary. It is therefore expected that use of the annual average river stage results in slightly higher concentrations simulated at and near the shoreline, versus concentrations that would be simulated using a fluctuating river stage. Nonetheless, the corresponding plume migration patterns for that period reflect the effect of average ambient flow conditions.

As a result of the above - and consistent with recommendations made throughout the remedy design process - simulated COC distributions in the future, under a variety of potential remedy alternatives, should be interpreted as relative estimates and not as absolute predictions of actual plume migration patterns. Numerical transport modeling over long timeframes such as these should be used principally for comparative remedy selection – i.e., to identify the likely benefits of one remedy versus another - through qualitative assessments of long-term plume migration patterns, rather than to accurately calculate point concentration time-series at such times in the future.

Upon implementation of any remedy design, monitoring data should be compiled and analyzed to further improve estimation of the parameters associated with the simulation of the fate and transport of the COCs and performance of the implemented remedies. The model should be updated to provide improving estimates of remedy performance. The same procedure should be followed if well operation and performance in the future are different from those described for each Alternative, as predicted plume migration patterns are contingent upon the extraction/injection well operation and performance that those predictions were based on.

4. Software Applications, Descriptions, Installation & Checkout, and Statements of Validity

Software use for this calculation was in accordance with PRC-PRO-IRM-309, Controlled Software Management.

4.1 Approved Software

The following software was used to perform calculations and was approved and compliant with PRC-PRO-IRM-309 (PRC-PRO-IRM-309, Controlled Software Management). These software items are managed under the following documents consistent with PRC-PRO-IRM-309:

- CHPRC-00257, *MODFLOW and Related Codes Functional Requirements Document*
- CHPRC-00258, *MODFLOW and Related Codes Software Management Plan*
- CHPRC-00259, *MODFLOW and Related Codes Software Test Plan*
- CHPRC-00260, *MODFLOW and Related Codes Acceptance Test Report*
- CHPRC-00261, *MODFLOW and Related Codes Requirements Traceability Matrix*

CHPRC-00258 distinguishes between safety software and support software based on whether the software managed calculates reportable results or provides run support, visualization, or other similar functions. Brief descriptions of the software are provided below.

4.2 Descriptions

4.2.1 MODFLOW (Controlled Calculation Software)

- Software Title: MODFLOW-2000 (Open File Report 00-92, MODFLOW-2000, the US. Geological Survey Modular Ground-water model -- User Guide to Modularization Concepts and the Ground- Water Flow); solves transient groundwater flow equations using the finite-difference discretization technique.
- Software Version: Version 1.19.01 modified by S.S. Papadopulos and Associates, Inc. (SSP&A) to address dry cell issues and to use the Orthomnin solver; approved as CH2M HILL Plateau Remediation Company (CHPRC) Build 6 using a version of the executable "mf2k-mst-chprc0006dp.exe" (compiled to default double precision for real variables and optimized for speed: "mf2k_1_18_mst_dble.exe").
- Hanford Information Systems Inventory (HISI) Identification Number: 2517 (Safety Software, graded Level C).
- Workstation type and property number (from which software is run):
    - S.S. Papadopulos and Assoc, Inc, FE454, FE455.

4.2.2 MT3DMS (Controlled Calculation Software)

- Software Title: MT3DMS (Zheng and Wang 1999), MT3DMS: A Modular Three-dimensional Multispecies Transport Model for Simulation of Advection, Dispersion, and Chemical Reactions of Contaminants in Groundwater Systems; Documentation and User's Guide); MT3DMS V5.3 Supplemental User's Guide [Zheng 2010])
- Software Version: Version 5.3 modified by S.S. Papadopulos and Associates, Inc. (SSP&A) to address dry cell issues; approved as CHPRC Build 6 using a version of the executable "mt3d-mst-chprc0006dp.exe" (compiled to default double precision for real variables and optimized for speed: "mt3d_reaction_dble.exe").
- HISI Identification Number: 2518 (Safety Software, graded Level C).
- Workstation type and property number (from which software is run):
    - S.S. Papadopulos and Assoc, Inc, FE454, FE455.

4.2.3 MODPATH (Controlled Calculation Software)

- Software Title: MODPATH (Pollock, 1994): A particle-tracking post-processor developed for use with the MODFLOW codes, was used to evaluate the approximate directions and rates of groundwater flow and the approximate extent of hydraulic capture developed by proposed P&T well configurations.
- Software Version: Version 5.0 modified by S.S. Papadopulos and Associates, Inc. (SSP&A) to address dry cell issues; approved as CHPRC Build 6 using executable "modpath-mst-chprc0006sp.exe".
- Workstation type and property number (from which software is run):
    - S.S. Papadopulos and Assoc, Inc, FE454, FE455.

4.2.4 MODFLOW Support Software

Support software is used that has been identified in CHPRC-00258, Rev. 2, or is scheduled by the software owner to be included as support software in the next revision to that document. Software with a trademark designation is commercial software. Software listed without a trademark has been developed internally.

- **ALLOCATEQWELL**: Constructs a MODFLOW well package (WEL) or a multi-node well (MNW) package file.
- **READ-LST-BUDGET**: Tabulates volumetric budget terms for the MODFLOW simulations.
- **READ-MT3D-OUT-BUDGET**: Tabulates mass budget terms for the MT3D simulations.
- **READEND_WRITECAPTURE.EXE**: Reads ENDPOINT file generated by MODPATH and calculates the simulated capture frequency.
- **READBIN_WRITEASC.EXE**: Reads binary output files generated by MODFLOW or MT3D and creates ASC files for plotting the spatial distribution of heads or concentrations, respectively.
- **readoutgetmnw2nodes.exe**: Constructs the MT3D recirculation input file (CTS Package) base don the flow model solution and MNW2 structure.
- **srf2model.exe**: reads concentration grid files and combines them into one array of initial concentrations that can be entered into MT3D input files.
- **CALCMASS.EXE**: Reads MODFLOW/MT3D output files and calculates contaminant plume mass and volume timeseries.
- **Concmass_vs_t.exe**: Reads MODFLOW/MT3D output files and calculates concentration and mass timeseries at the extraction wells.
- **Postproccalsmassconc.exe:** calculates blended influent concentration at each treatment system.
- **Groundwater Vistas™[2]:** (*Guide to Using Groundwater Vistas* [Rumbaugh and Rumbaugh, 2007].) Provided graphical tools used for model quality assurance and model input/output review.
- **ArcGIS™[3]:** (*The ESRI Guide to GIS Analysis, Volume 1: Geographic Patterns and Relationships* [Mitchell, 1999].) Provided visualization tool for assessing simulated plume distributions, identifying extraction/injection well coordinates and mapping auxiliary data.
- **R:** The R programming environment, a language and environment for statistical computing and graphics, (*R: A Language and Environment for Statistical Computing*, by R Core Team, R Foundation for Statistical Computing, Vienna, Austria, 2012. ISBN 3-900051-07-0, http://www.R-project.org.; *R: A Language for Data Analysis and Graphics*, Journal of Computational and Graphical Statistics, ***5***, 299–314, Ihaka & Gentleman, 1996) was used to perform a variety of data processing including post-processing of model results and plot generation of aggregate data timeseries.

[2] Groundwater Vistas is a trademark of Environmental Simulations Incorporated, Reinholds, PA.

[3] ArcGIS is a trademark of ESRI, Redlands, CA.

- **Surfer™[4]:** Data interpolation for visualization, model implementation, and quality assurance purposes.

4.2.5 Software Installation and Checkout

Safety Software (CHPRC Build 0006 of MODFLOW-2000-SSPA) is checked out in accordance with procedures specified in CHPRC-00258. Executables are obtained from the CHPRC software owner who maintains the configuration managed copies in MKS Integrity, installation tests identified in CHPRC-00259 performed and successful installation confirmed, and Software Installation and Checkout Forms are required and must be approved for installations used to perform model runs. Approved Users are registered in HISI for safety software. Copies of the *Software Installaiton and Checkout* Forms are provided in Attachment A to this ECF.

4.2.6 Statement of Valid Software Application

- The software identified above was used consistent with intended use for CHPRC as identified in CHPRC-00257 and is a valid use of this software for the problem addressed in this application.
- The software was used within its limitations as identified in CHPRC-00257.
- R has not been identified in CHPRC-00258, but is scheduled by the software owner to be included as support software in the next revision to that document. It is publically available, open-source freeware.

[4] Surfer is a trademark of Golden Software, Golden, CO.

5. Calculation

The 100-Area groundwater flow and contaminant transport model was used for the simulation of the alternative remedy designs in 100-FR-3 and model results were post-processed to evaluate system performance under each alternative. Upon completion of model simulations for all alternatives and COCs and post-processing of the model results, the following maps and graphs were constructed to provide the basis for evaluation of system performance:

1. Maps of simulated hydraulic capture frequency (SCFM) for Alternatives 3 and 4.
2. Maps depicting the simulated spatial distribution of each COC after 1, 5, 10, 15, 20, 25, 50, 75, 100 and 150 years of elapsed model simulation time. Maps are not shown if the COC is not present in the aquifer at concentrations above the corresponding applicable standard.
3. Summary plots of concentration statistics for each alternative and COC.
4. Graphs of affected shoreline length over time for each alternative and COC.
5. Summary plots of plume mass and volume for each alternative and COC.
6. Graphs of mass frequency distribution at 1, 5, 10, 15, 20, 25, 50, 75, 100 and 150 years.
7. P&T influent concentration timeseries for each COC for Alternatives 3 and 4.

Statistical calculations were based on the simulated spatial COC distribution as calculated by the model and mapped by post-processing the model outputs. COC concentrations were considered in the calculations based on values at all model cells within a geographically defined area encompassing the 100-FR-3 OU and all COC initial and predicted plume distributions. The extent of the COC spatial distribution was determined at each simulation time-step considering all model cells with concentration values above a selected lower limit (cut-off). This lower limit was defined as the applicable standard for each COC or 1% of that value, depending on the statistic to be calculated. This procedure was followed to ensure that realistic representations of the COC plume extents and corresponding concentration statistics are calculated at each time step and that the performance metrics are consistent and directly comparable for each alternative and COC.

Calculation of concentration statistics at the shoreline were based on the chain of model cells immediately upgradient of the river and within the specified area of interest, as described above. To determine the shoreline cells, for each river cell within that area only the aquifer cell immediately upgradient was considered for the calculation.

Concentration statistics were calculated within the OU and its corresponding shoreline and included:

- Maximum;
- Mean;
- Median;
- 90th percentile;

Concentrations above 1% of the applicable standard for each COC were considered for the calculation of concentration statistics in the aquifer and along the shoreline. The applicable standard was considered for all other calculations. The applicable standard for each COC and the corresponding cut-off limit are listed in Table 5-1:

Table 5-1. Lower Bounds for the Calculation of Concentration Statistics

COC	Applicable Standard	Cut-Off Limit
Cr(VI)	10 µg/L	0.1 µg/L
Nitrate	45,000 µg/L (45 mg/L)	450 µg/L
Strontium-90	8 pCi/L	0.08 pCi/L
TCE	5 µg/L	0.05 µg/L

Affected shoreline length is determined for each COC by the model cells with concentrations above the corresponding applicable clean-up standard at each model time step.

Plume mass summary plots depict the reduction of COC mass in the aquifer as the result of plume recovery (via the operation of extraction wells and above-ground treatment) and/or contaminant discharge to the river. Mass is calculated in kilograms (Kg) for Cr(VI), nitrate and TCE while radioactivity, calculated in curies (Ci), is reported for strontium-90. Plume volume is calculated in cubic meters.

Mass frequency distribution lines provide a simple tool to estimate the mass in the aquifer that can be attributed to concentrations at a certain level or below, within the range of concentrations in the aquifer. Each frequency line comprises the calculated percentages of mass in the aquifer when considering only those model cells with concentrations below each concentration level in the range. Each graph comprises a series of such frequency distributions, one for each output year (that is 1, 5, 10, 15, 20, 25, 50, 75, 100 and 150 elapsed simulation years).

Influent concentrations reflect mixing of the extracted water from each well, resulting in a blended concentration that passes through the treatment system. The calculated influent concentration during each stress period is equal to the product of the wellhead concentration at the each extraction well (i.e. the COC concentration at the model cell representing the particular well) and the corresponding pumped water volume during that period, divided by the total volume of water extracted at the wells over the same timeframe.

The model results and corresponding plots and graphs are grouped per COC and type in the following sequence:

1. Simulated hydraulic Capture Frequency: depiction of the simulated capture frequency corresponding to well operations after 1 year for Alternatives 3 and 4.
2. For each COC:
    a. Simulated COC distribution after 1, 5, 10, 15, 20, 25, 50, 75, 100 and 150 years for each alternative. No maps are presented if concentrations in the aquifer are below the applicable standard. Model results for Alternatives 1 and 2 are identical as the simulated conditions are equivalent from a modeling standpoint and therefore a single set of figures is included for these two alternatives;
    b. Summary concentration statistics in the aquifer and along the shoreline;
    c. Affected shoreline length above clean-up standard;
    d. Calculated plume mass and volume;

e. Mass frequency distributions;

f. Calculated influent concentration at the P&T.

5.1 Simulated Hydraulic Capture Frequency

Figures 5-1 and 5-2 depict the SCFM for design alternatives 3 and 4, as calculated from the model results after one year of system operation. No capture frequencies are calculated for Alternatives 1 and 2 as no wells are considered under either alternative.

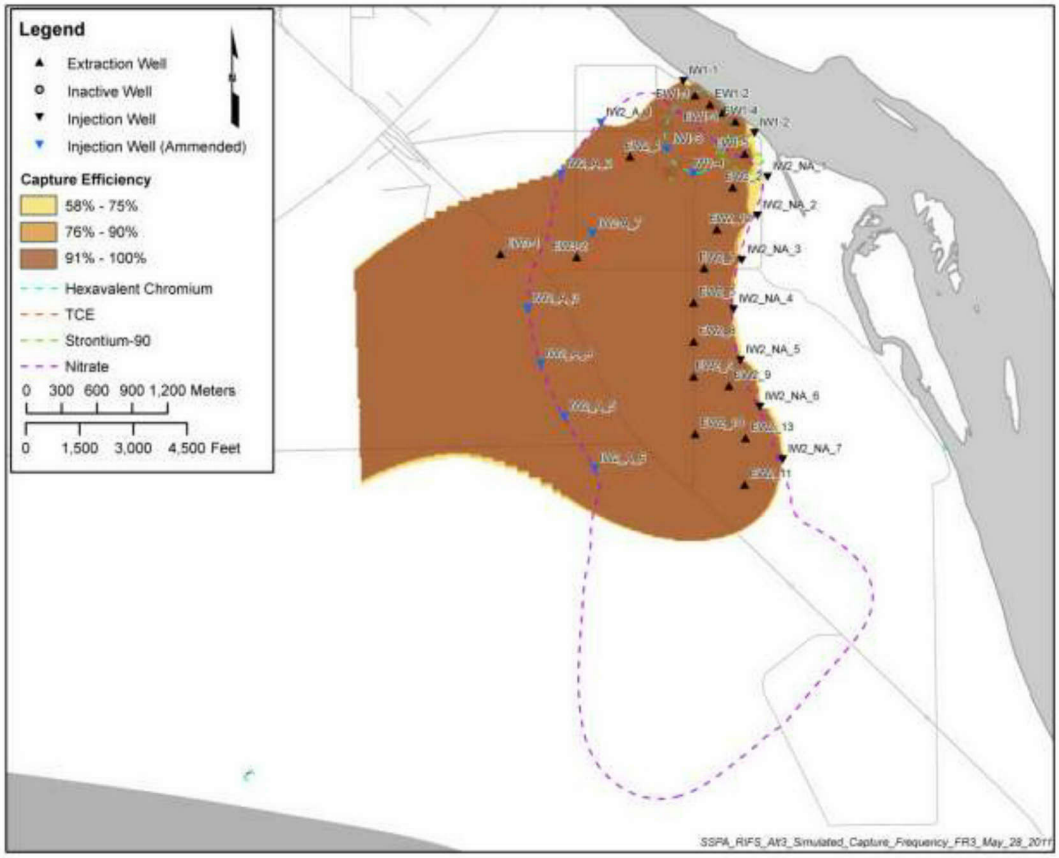

Figure 5-1. Simulated Capture Frequency Map After 1 Year – Alternative 3

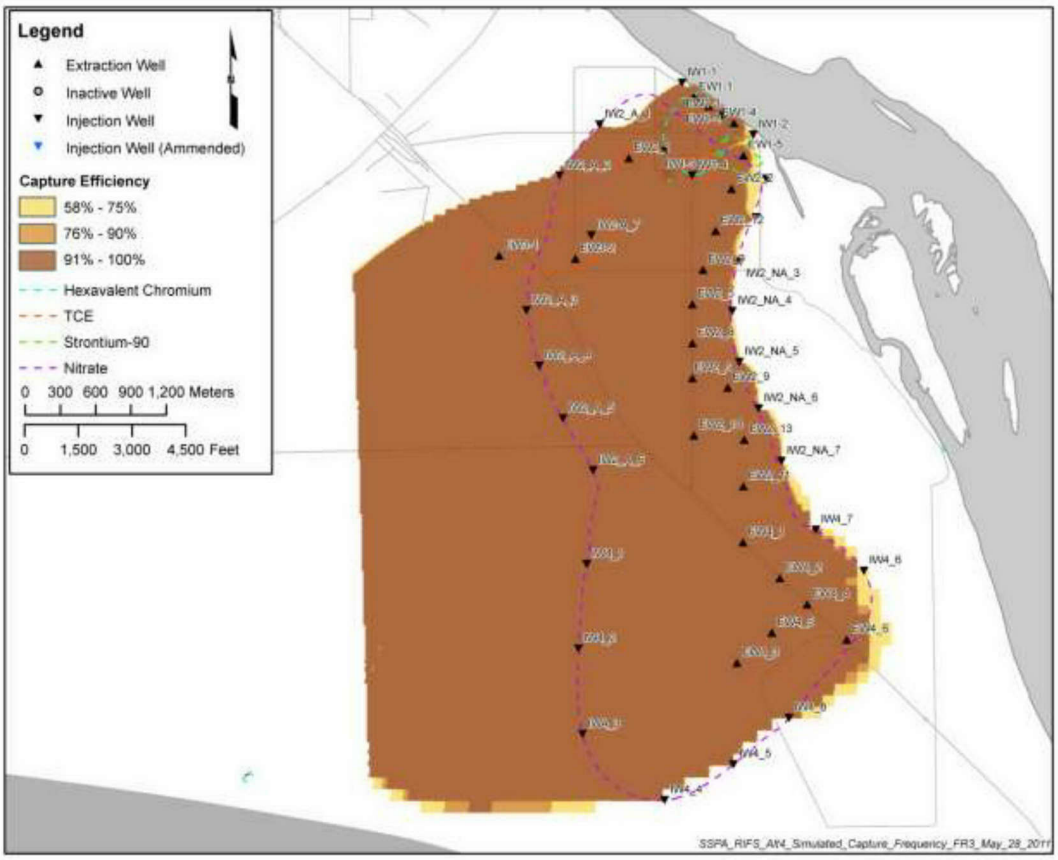

Figure 5-2. Simulated Capture Frequency Map After 1 Year – Alternative 4

5.2 Simulated Contaminant Distributions – Concentration Statistics

5.2.1 Simulated Contaminant Distributions – Concentration Statistics: Cr(VI)

Table 5-2 summarizes aquifer remediation timeframes for each alternative on the basis of maximum concentration in the aquifer and the 90th percentile of the concentration distribution. Values in this Table are rounded up to 5-year increments. Remediation timeframes are calculated for Cr(VI) to reflect if/when concentrations in the aquifer are below the PRG (10 µg/L) or the ambient water quality standard (AWQS) of 48 µg/L.

Figures 5-3 to 5-10 illustrate the simulated distribution of Cr(VI) under Alternatives 1 and 2 after 1, 5, 10, 15, 20, 25, 50 and 75 years, respectively. Figures 5-11 to 5-12 illustrate the simulated distribution of Cr(VI) under Alternative 3 after 1 and 5 years, respectively. Figures 5-13 to 5-15 illustrate the simulated distribution of Cr(VI) under Alternative 4 after 1, 5 and 10 years, respectively.

Figure 5-16 shows summary concentration statistics for each alternative in the aquifer and at the shoreline. Figure 5-17 shows the timeseries of affected shoreline length under each alternative. Figure 5-

18 illustrates the plume mass and volume timeseries under each alternative. Mass frequency distributions for each alternative are shown in Figure 5-19. P&T influent concentrations are ahown in Figure 5-20.

Table 5-2. Remediation Timeframes for Cr(VI) (in Years)

	Alternative 1 and 2		Alternative 3		Alternative 4	
	Maximum Concentration	90th Percentile	Maximum Concentration	90th Percentile	Maximum Concentration	90th Percentile
Cr(VI) PRG: 10 µg/L	35	25	5	5	10	5
Cr(VI) AWQS: 48 µg/L	20	10	5	5	5	5

ECF-100FR3-11-0116 REV. 3

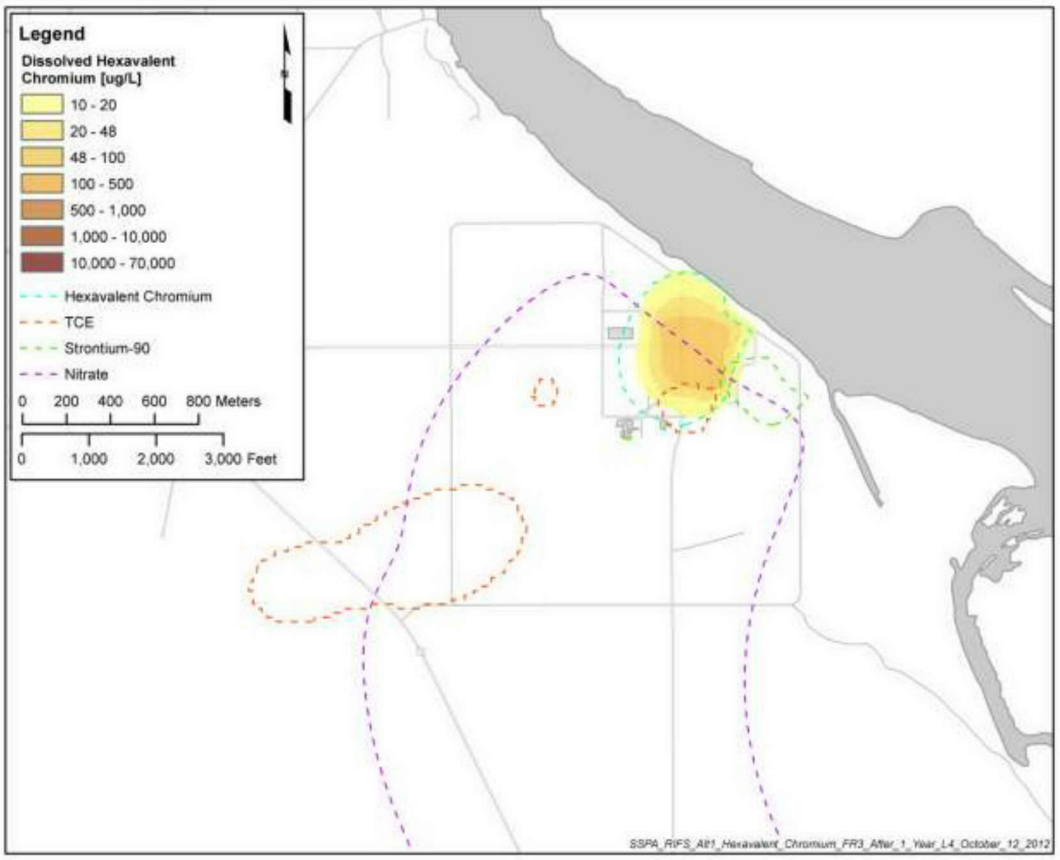

Figure 5-3. Simulated Distribution of Cr(VI) After 1 Year – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

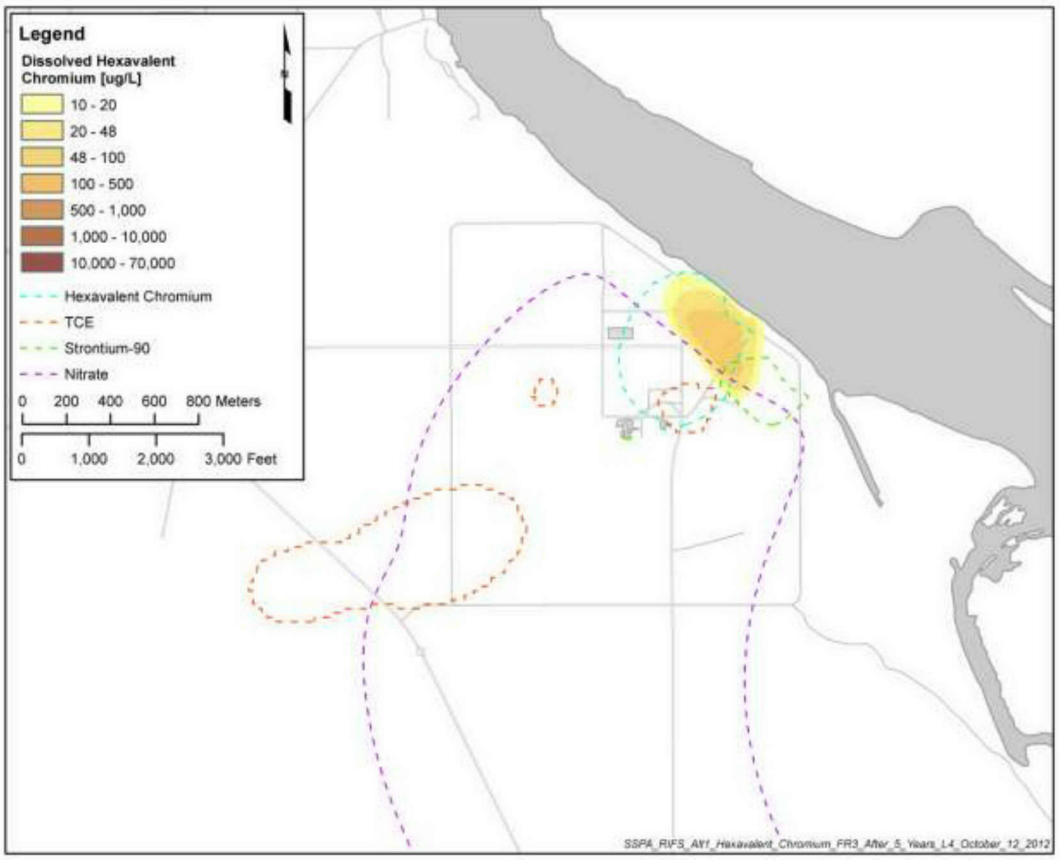

Figure 5-4. Simulated Distribution of Cr(VI) After 5 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

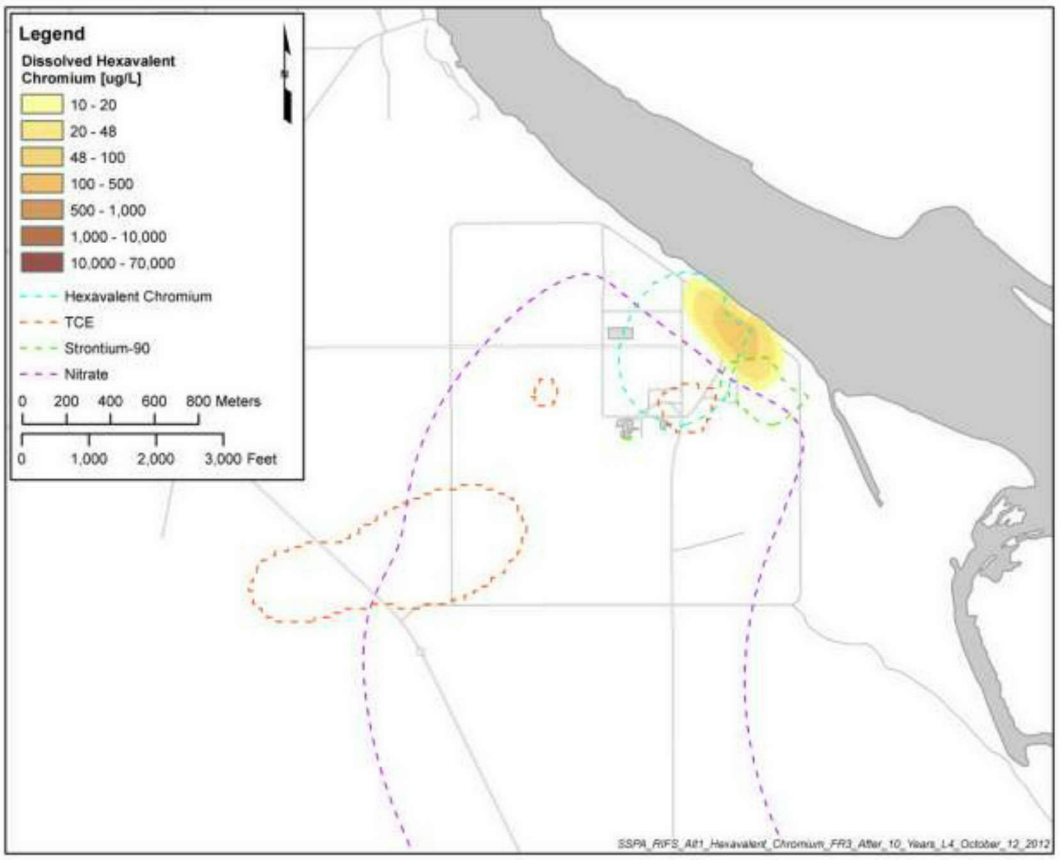

Figure 5-5. Simulated Distribution of Cr(VI) After 10 Years – Alternatives 1 & 2

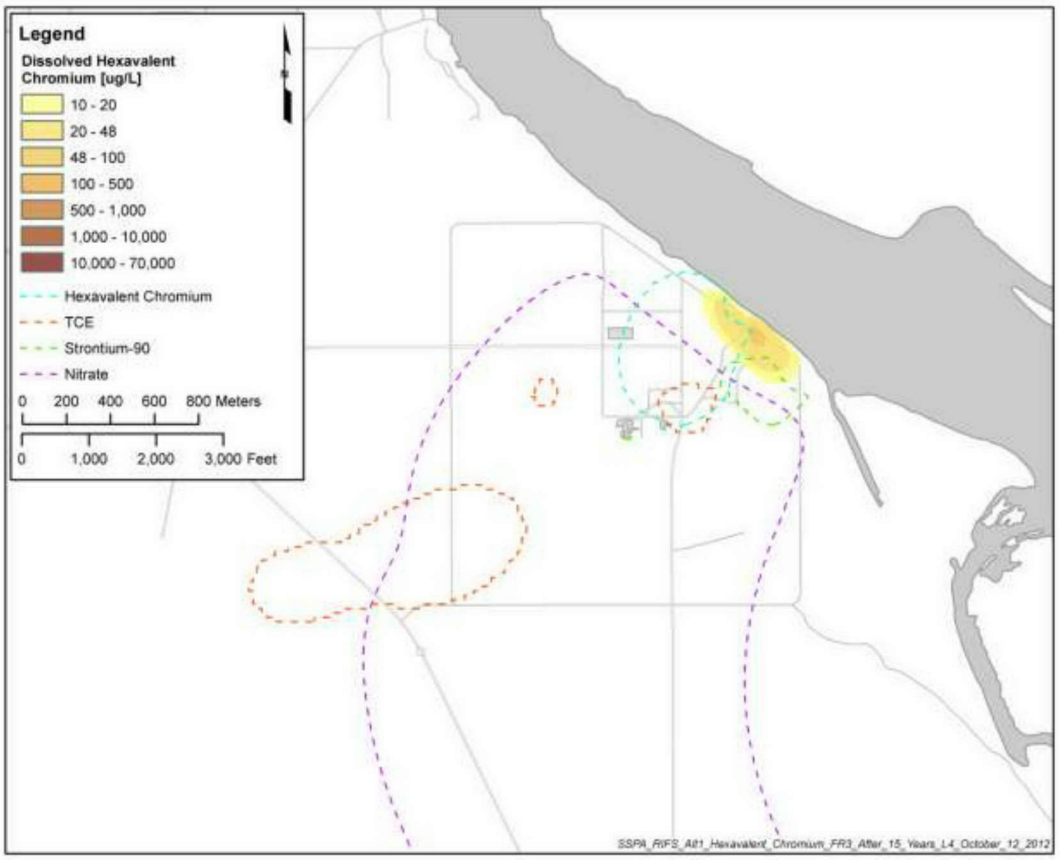

Figure 5-6. Simulated Distribution of Cr(VI) After 15 Years – Alternatives 1 & 2

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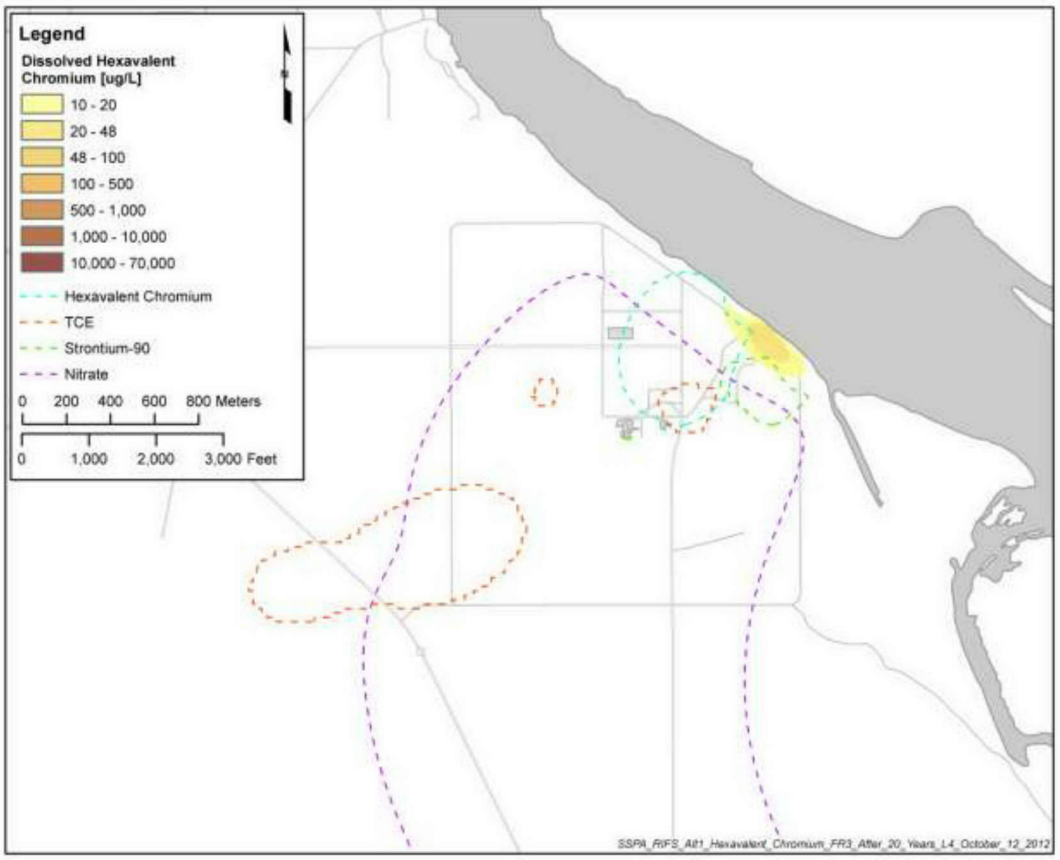

Figure 5-7. Simulated Distribution of Cr(VI) After 20 Years – Alternatives 1 & 2

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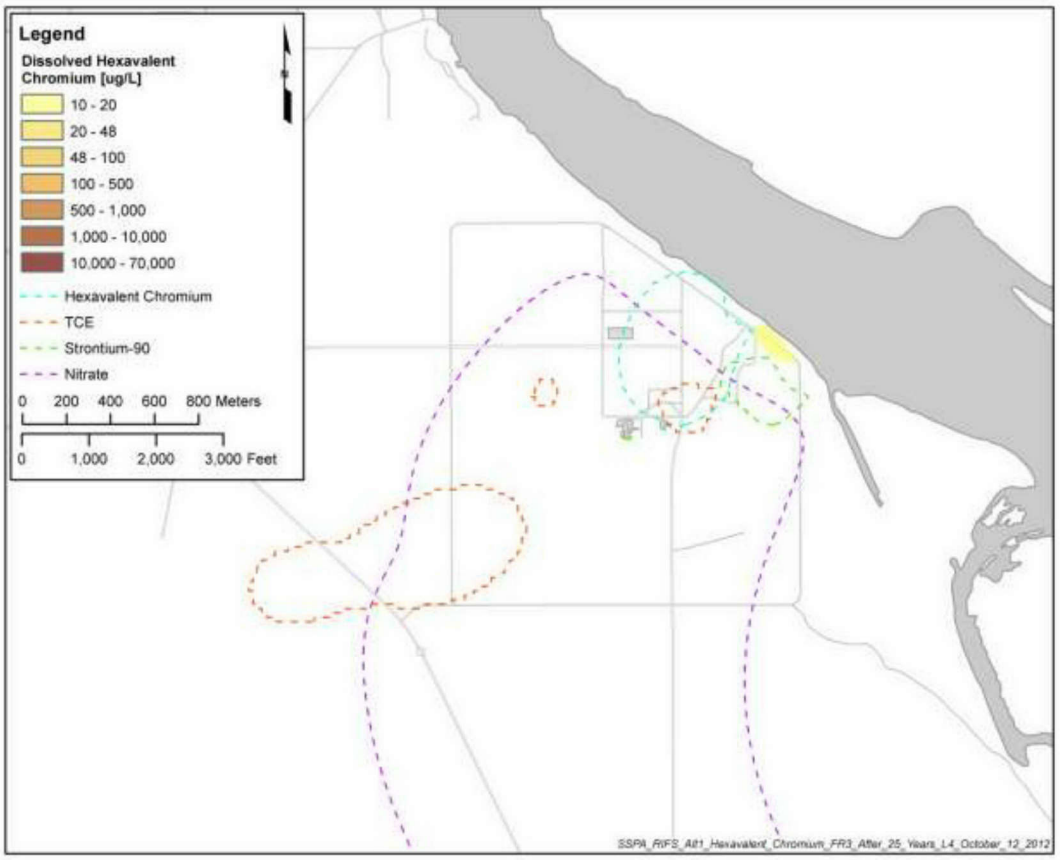

Figure 5-8. Simulated Distribution of Cr(VI) After 25 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

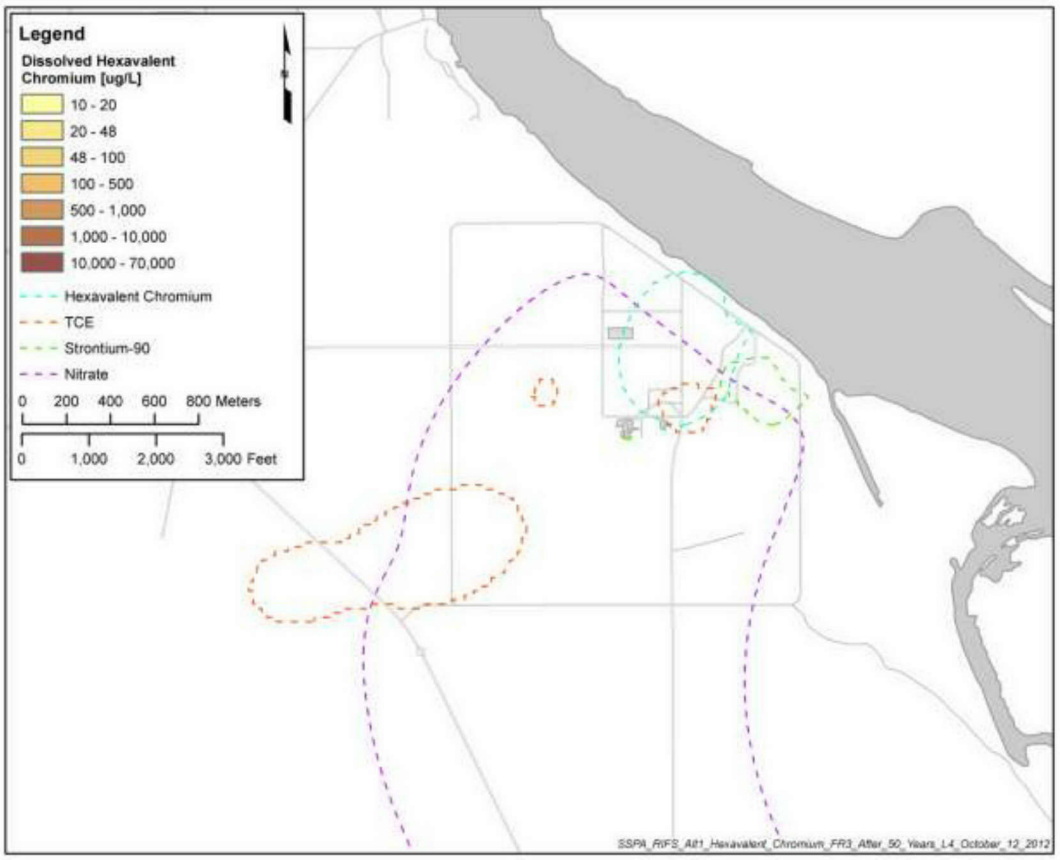

Figure 5-9. Simulated Distribution of Cr(VI) After 50 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

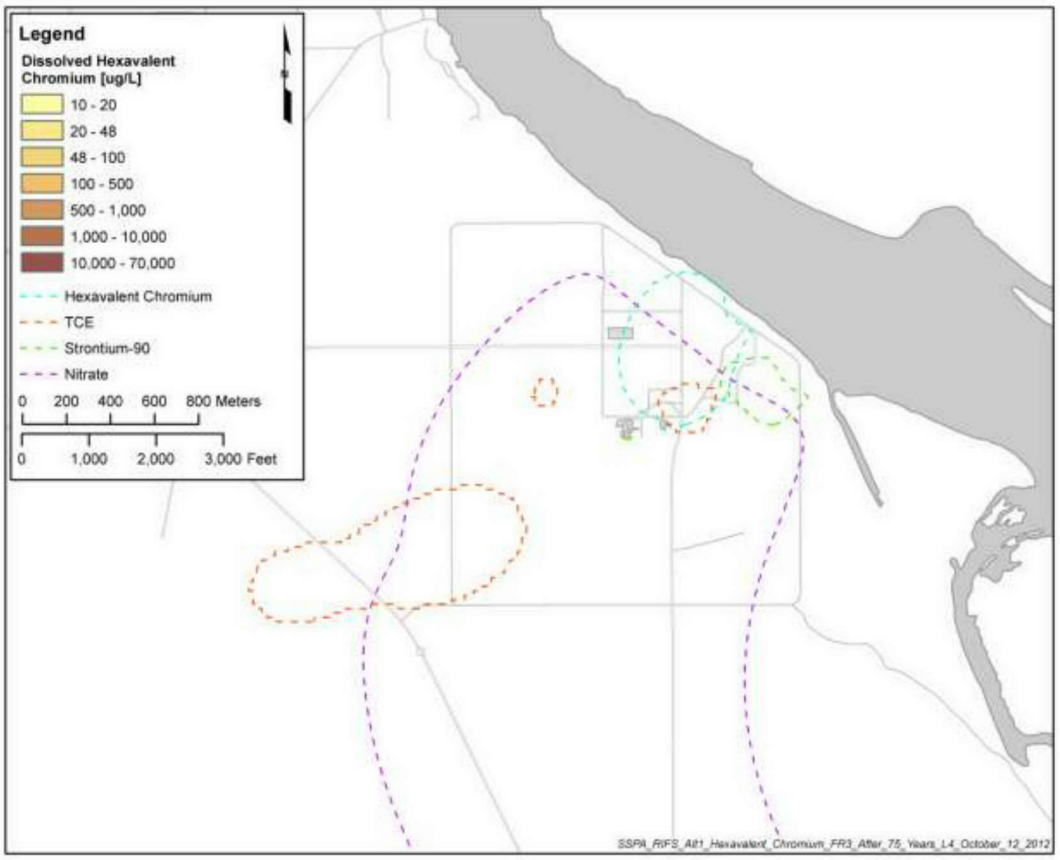

Figure 5-10. Simulated Distribution of Cr(VI) After 75 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

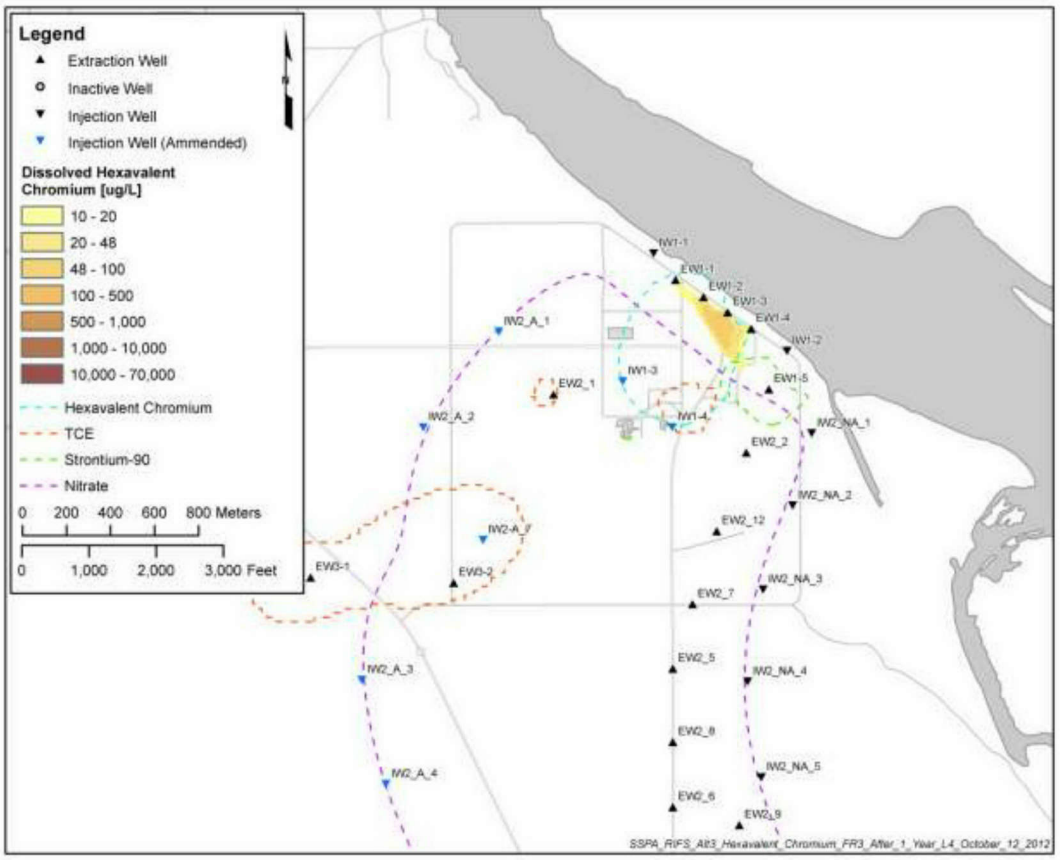

Figure 5-11. Simulated Distribution of Cr(VI) After 1 Year – Alternative 3

ECF-100FR3-11-0116 REV. 3

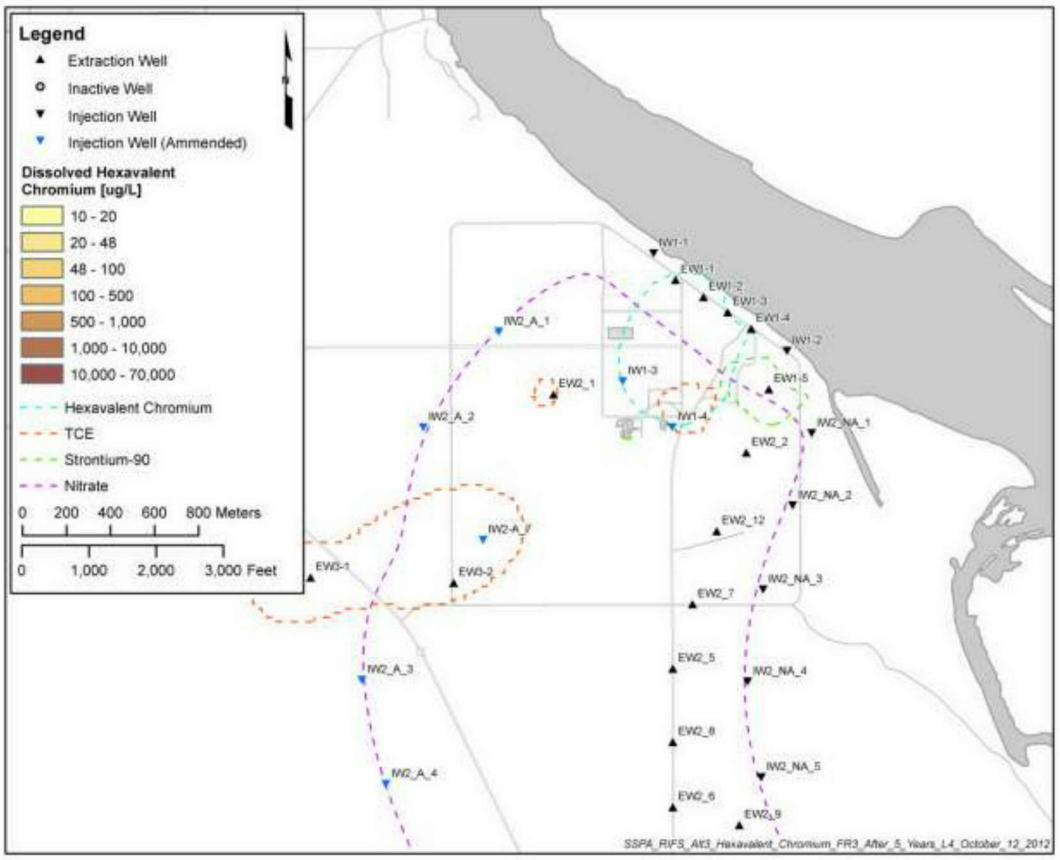

Figure 5-12. Simulated Distribution of Cr(VI) After 5 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

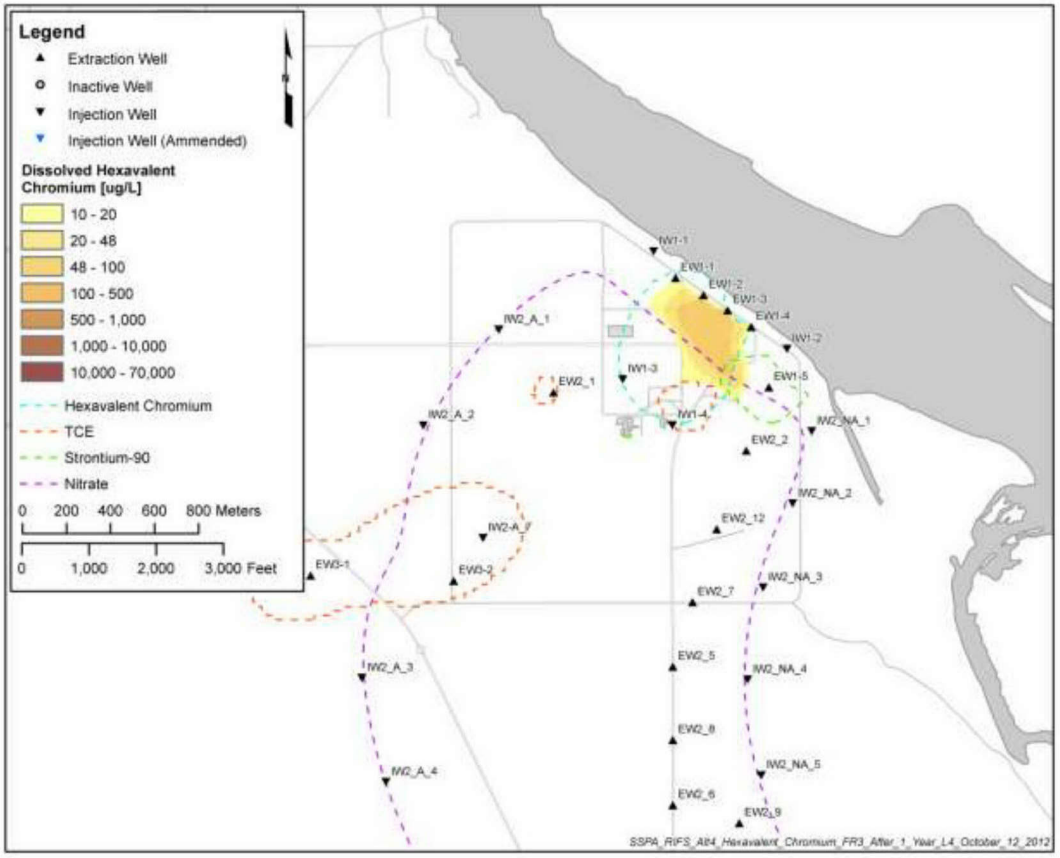

Figure 5-13. Simulated Distribution of Cr(VI) After 1 Year – Alternative 4

ECF-100FR3-11-0116 REV. 3

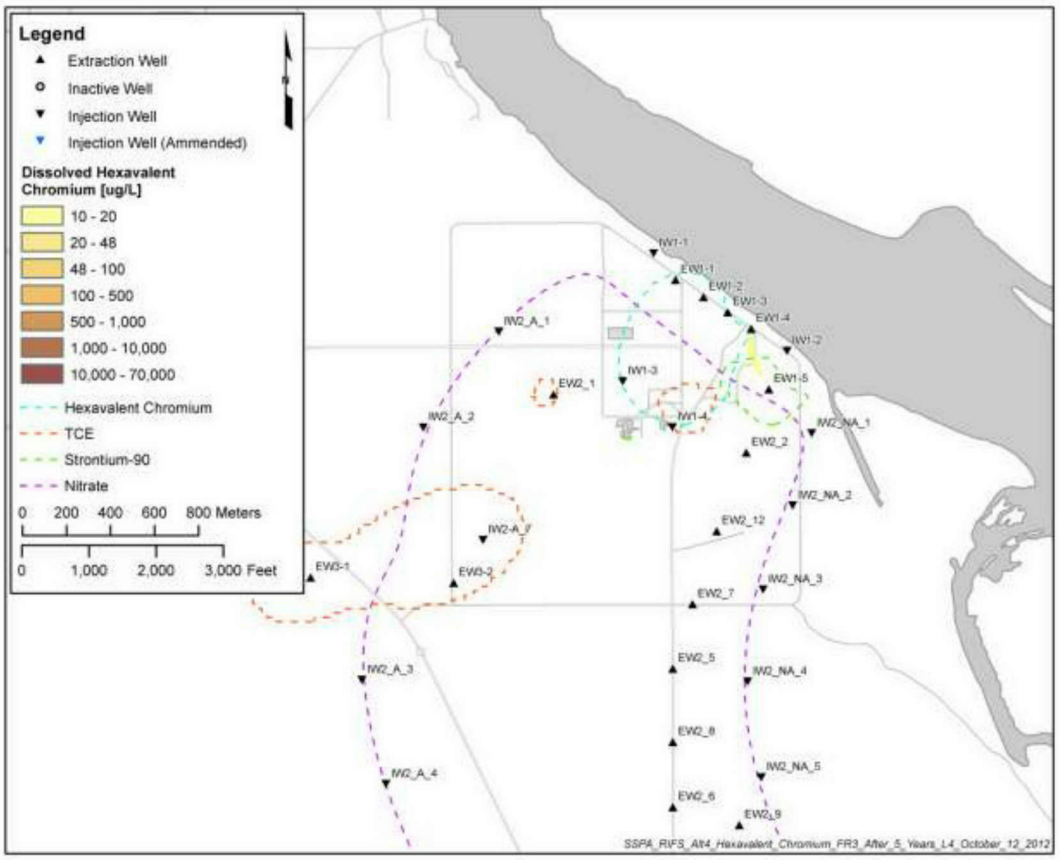

Figure 5-14. Simulated Distribution of Cr(VI) After 5 Years – Alternative 4

ECF-100FR3-11-0116 REV. 3

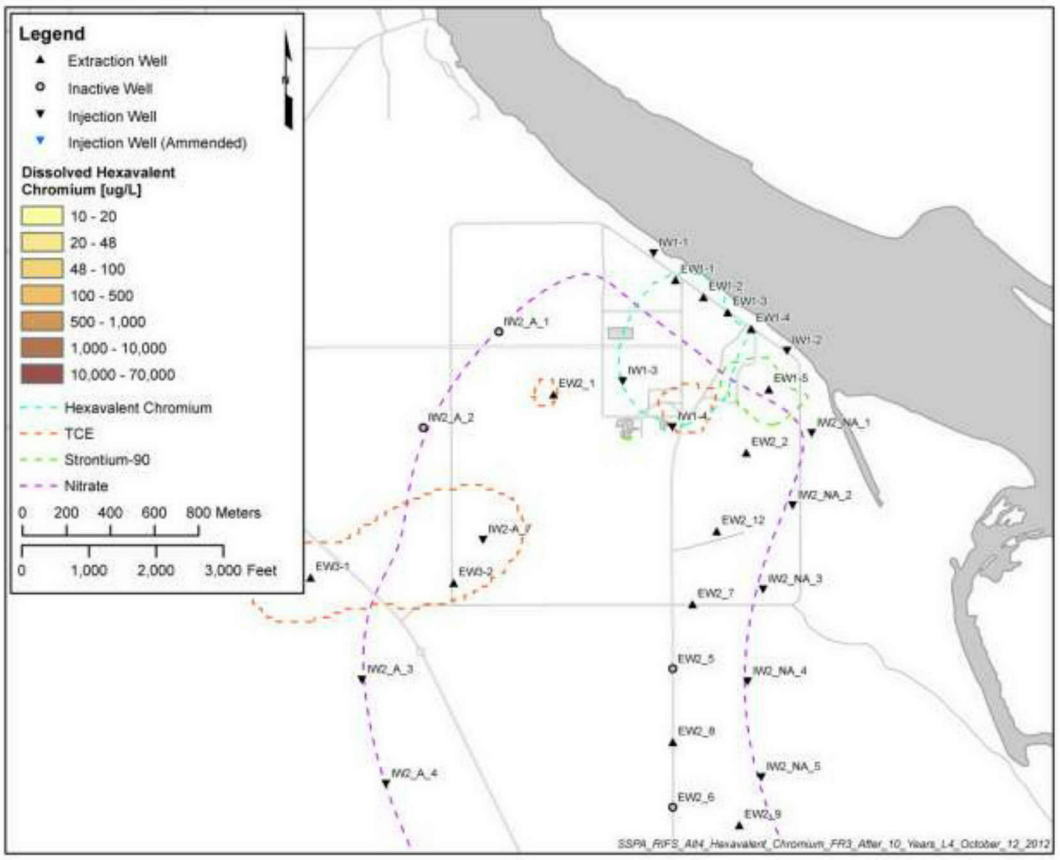

Figure 5-15. Simulated Distribution of Cr(VI) After 10 Years – Alternative 4

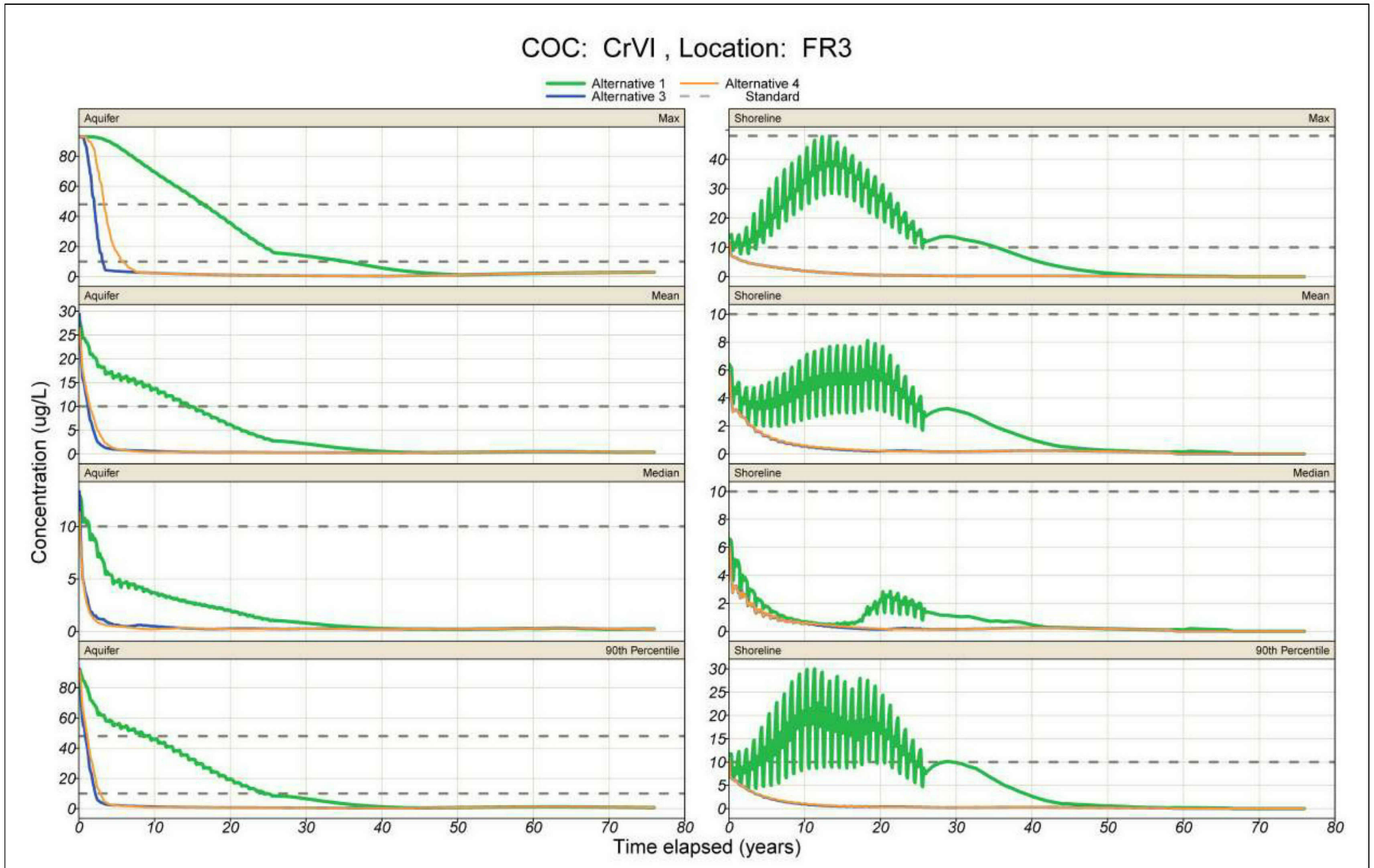

Figure 5-16. Cr(VI): Concentration Statistics – All Alternatives

ECF-100FR3-11-0116 REV. 3

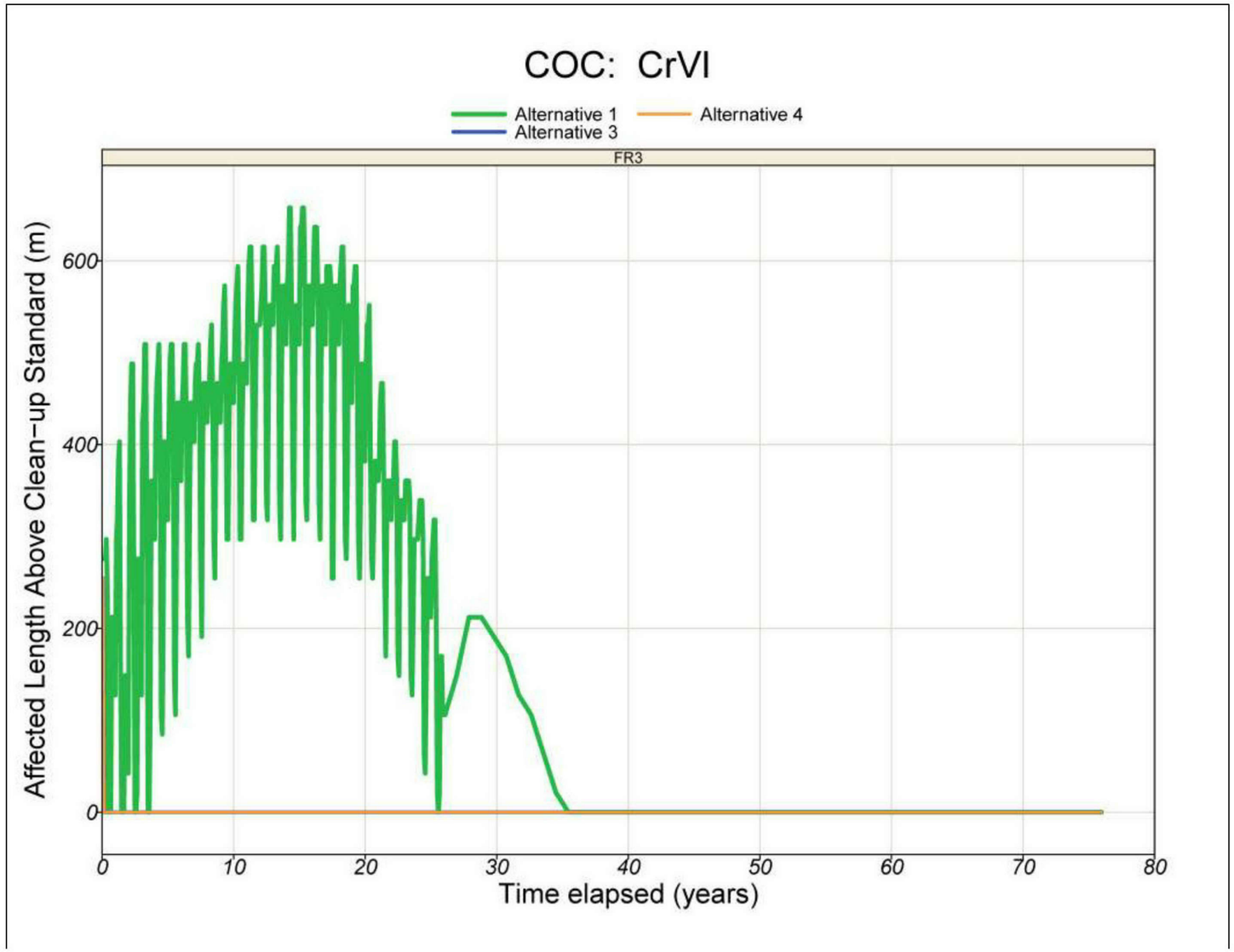

Figure 5-17. Cr(VI): Affected Shoreline Length Above Clean-Up Standard

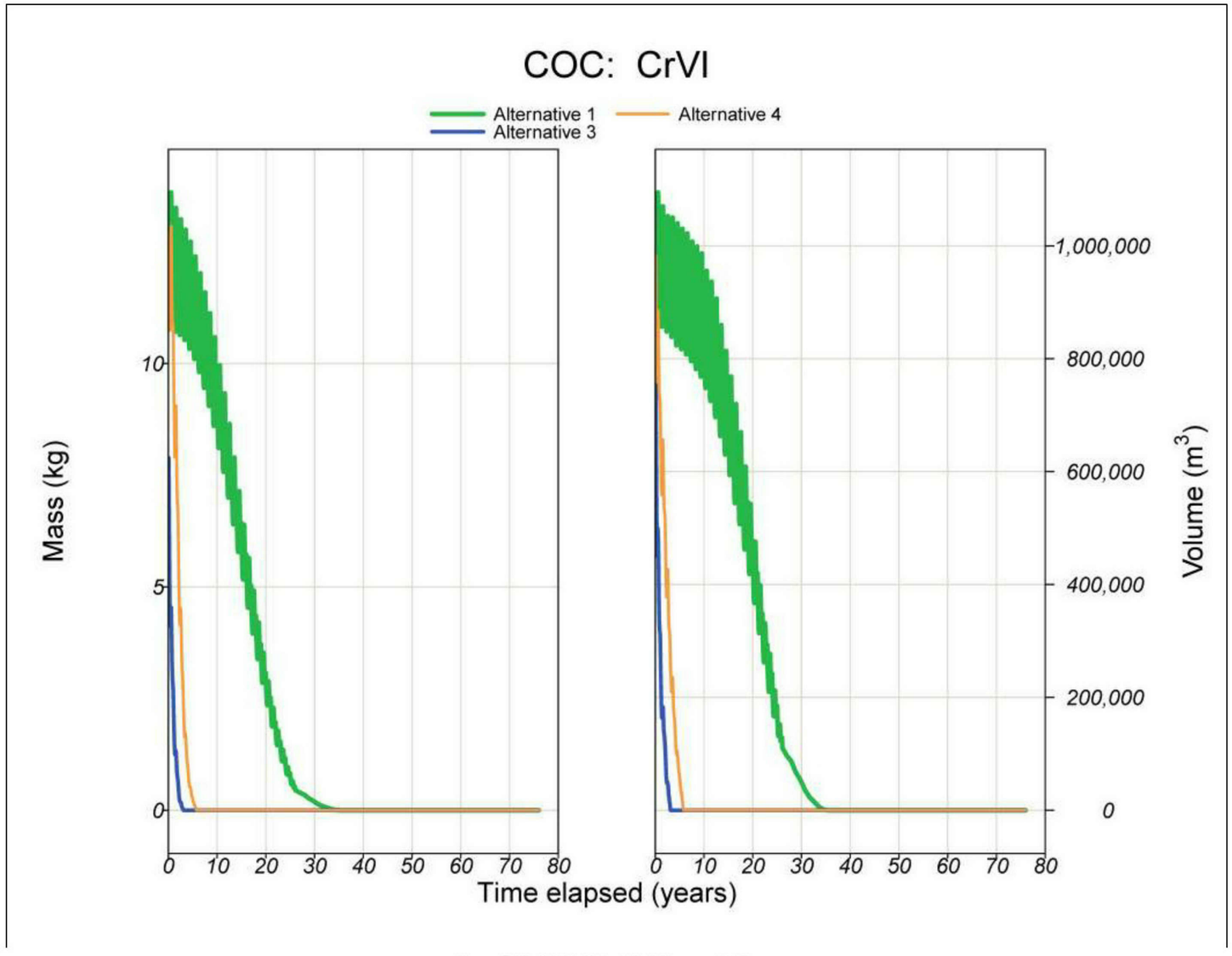

Figure 5-18. Cr(VI): Calculated Mass and Volume

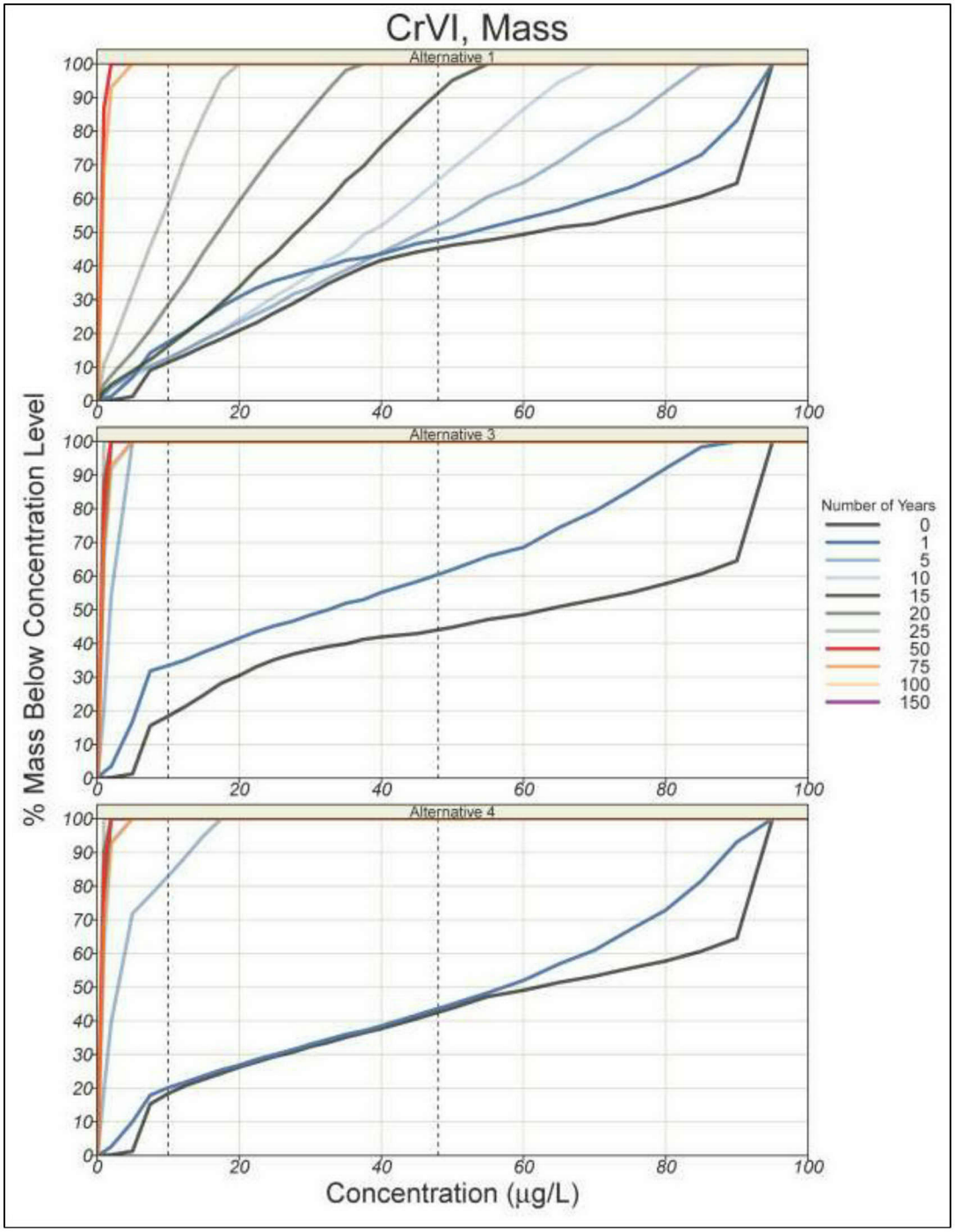

Figure 5-19. Cr(VI): Calculated Mass Frequency Distribution at Selected Times

ECF-100FR3-11-0116 REV. 3

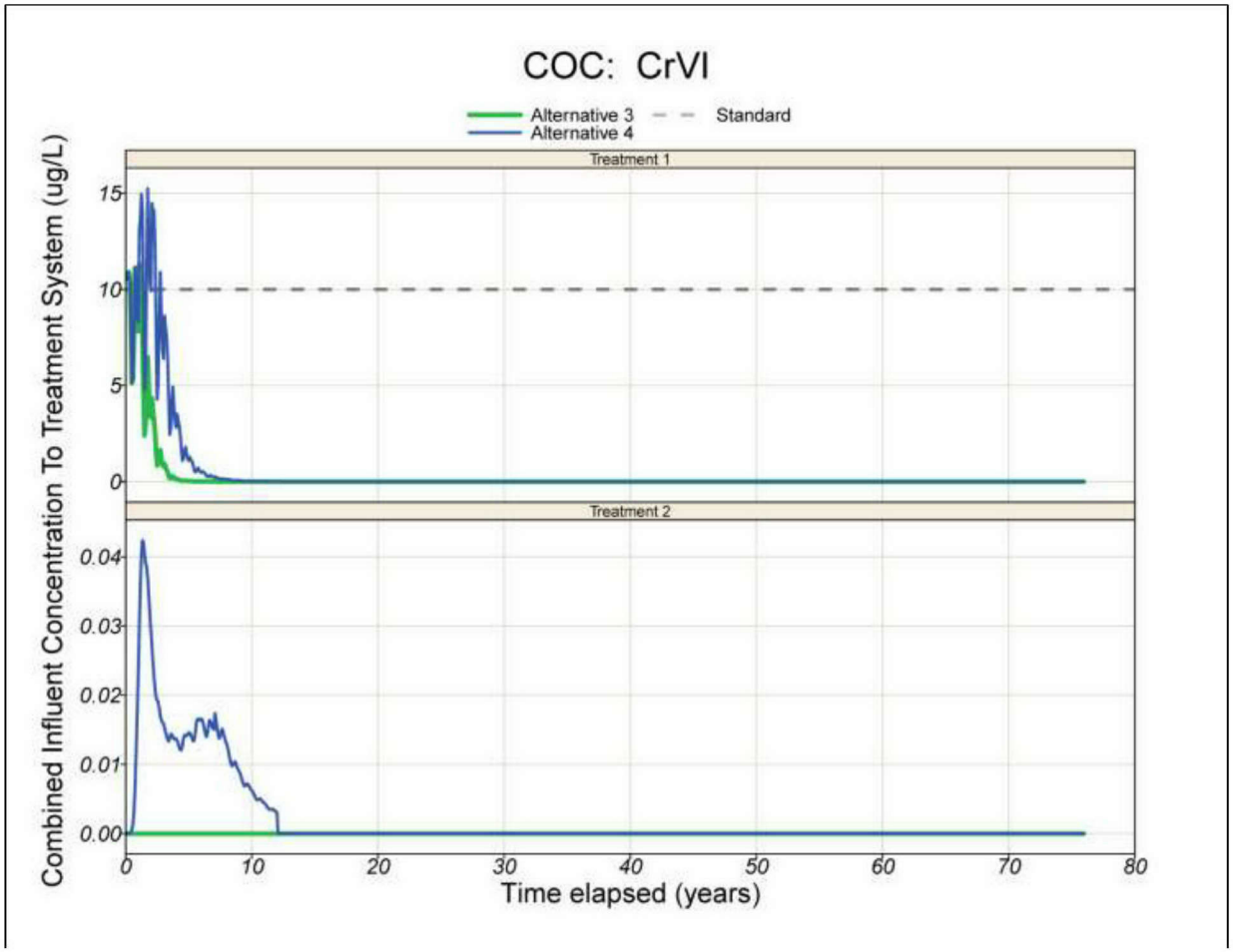

Figure 5-20. Cr(VI): Calculated Influent Concentration at P&T

5.2.2 Simulated Contaminant Distributions – Concentration Statistics: Nitrate

Table 5-3 summarizes aquifer remediation timeframes for each alternative on the basis of maximum concentration in the aquifer and the 90th percentile of the concentration distribution. Values in this Table are rounded up to 5-year increments. Remediation timeframes are calculated for nitrate to reflect if/when concentrations in the aquifer are below the PRG (45 mg/L).

Figures 5-21 to 5-28 illustrate the simulated distribution of nitrate under Alternatives 1 and 2 after 1, 5, 10, 15, 20, 25, 50 and 75 years, respectively. Figures 5-29 to 5-36 illustrate the simulated distribution of nitrate under Alternative 3 after 1, 5, 10, 15, 20, 25, 50 and 75 years, respectively. Figures 5-37 to 5-41 illustrate the simulated distribution of nitrate under Alternative 4 after 1, 5, 10, 15, 20, 25, 50, and 75 years, respectively.

Figure 5-42 shows summary concentration statistics for each alternative in the aquifer and at the shoreline. Figure 5-43 shows the timeseries of affected shoreline length under each alternative. Figure 5-44 illustrates the plume mass and volume timeseries under each alternative. Mass frequency distributions for each alternative are shown in Figure 5-45. P&T influent concentrations are ahown in Figure 5-46.

Table 5-3. Remediation Timeframes for Nitrate (in Years)

	Alternative 1 and 2		Alternative 3		Alternative 4	
	Maximum Concentration	90th Percentile	Maximum Concentration	90th Percentile	Maximum Concentration	90th Percentile
Nitrate PRG: 45 mg/L	80	30	75	20	25	10

ECF-100FR3-11-0116 REV. 3

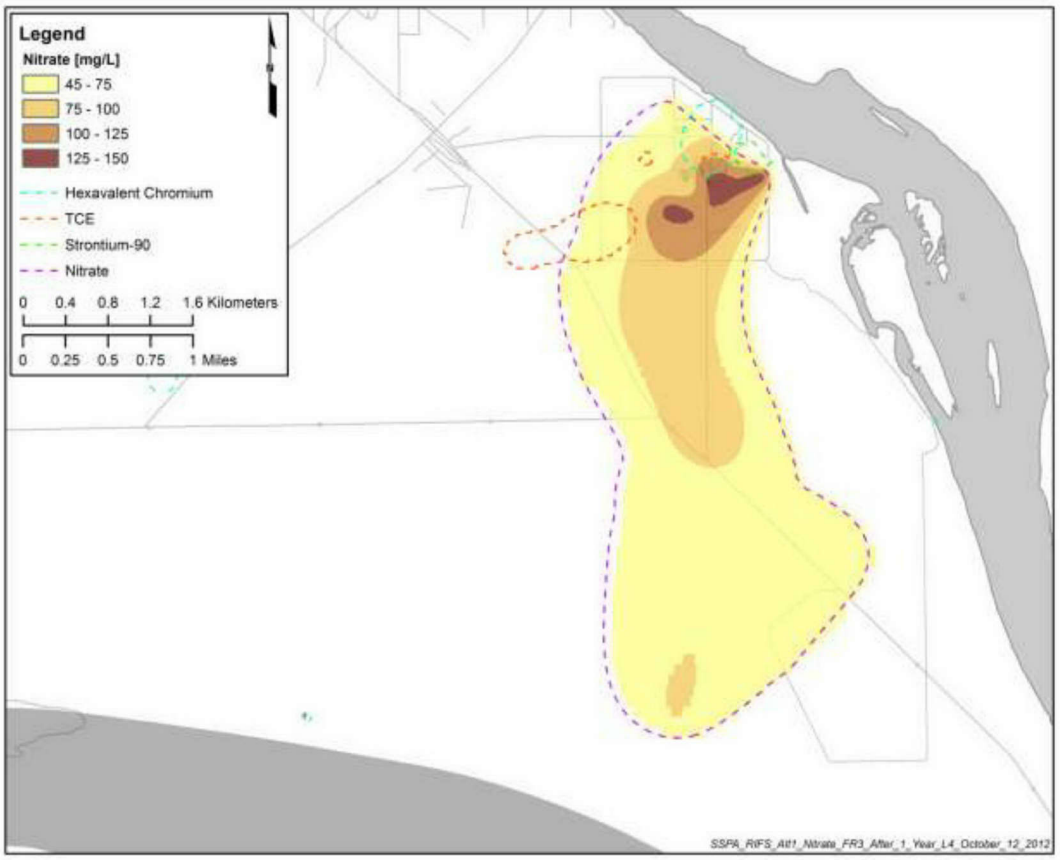

Figure 5-21. Simulated Distribution of Nitrate After 1 Year – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

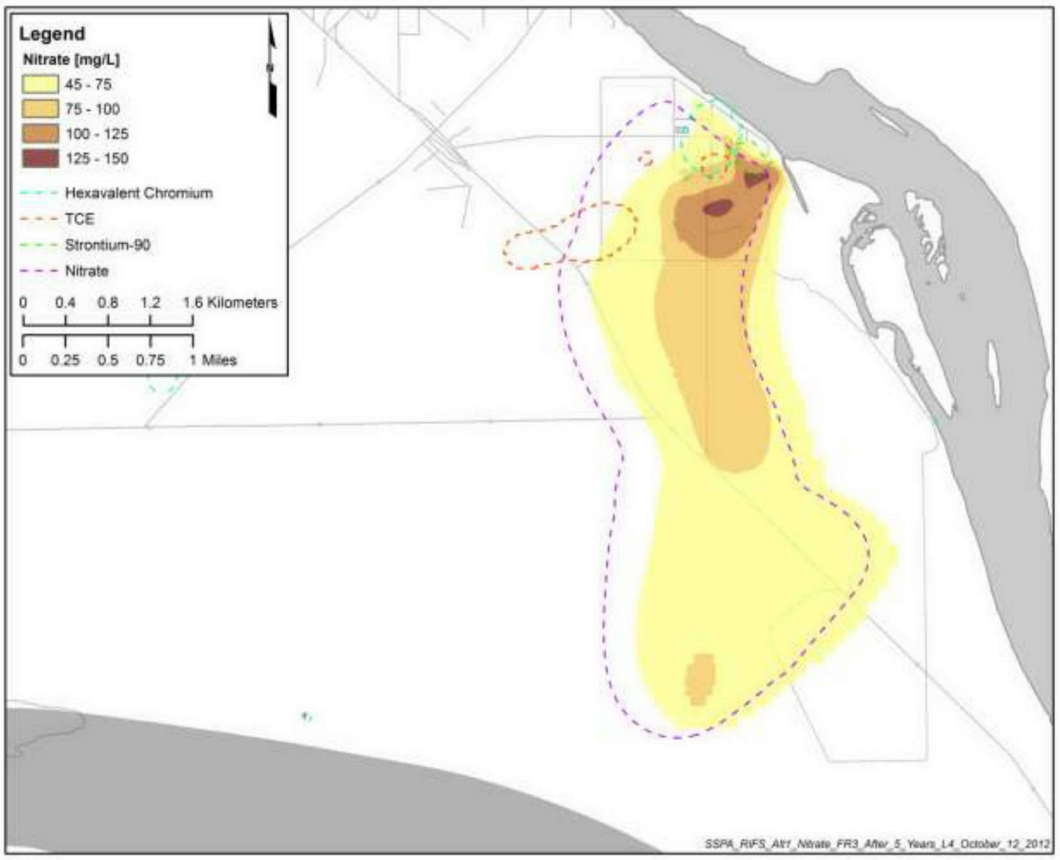

Figure 5-22. Simulated Distribution of Nitrate After 5 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

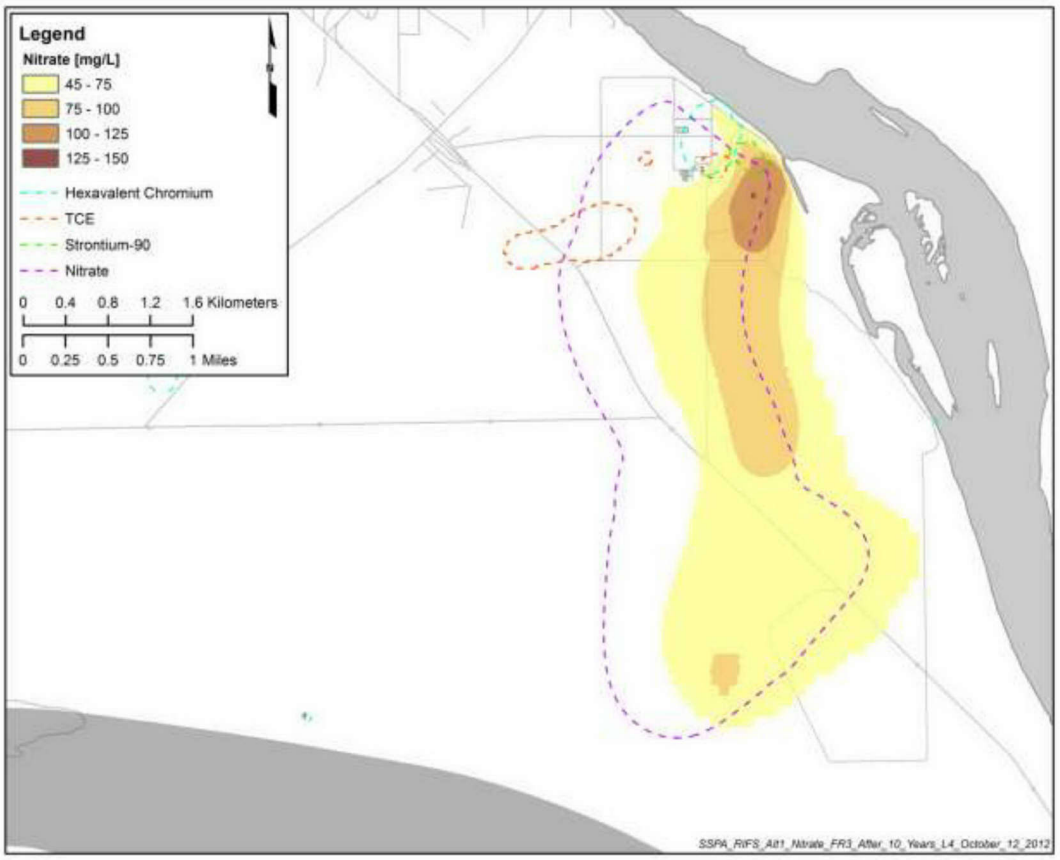

Figure 5-23. Simulated Distribution of Nitrate After 10 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

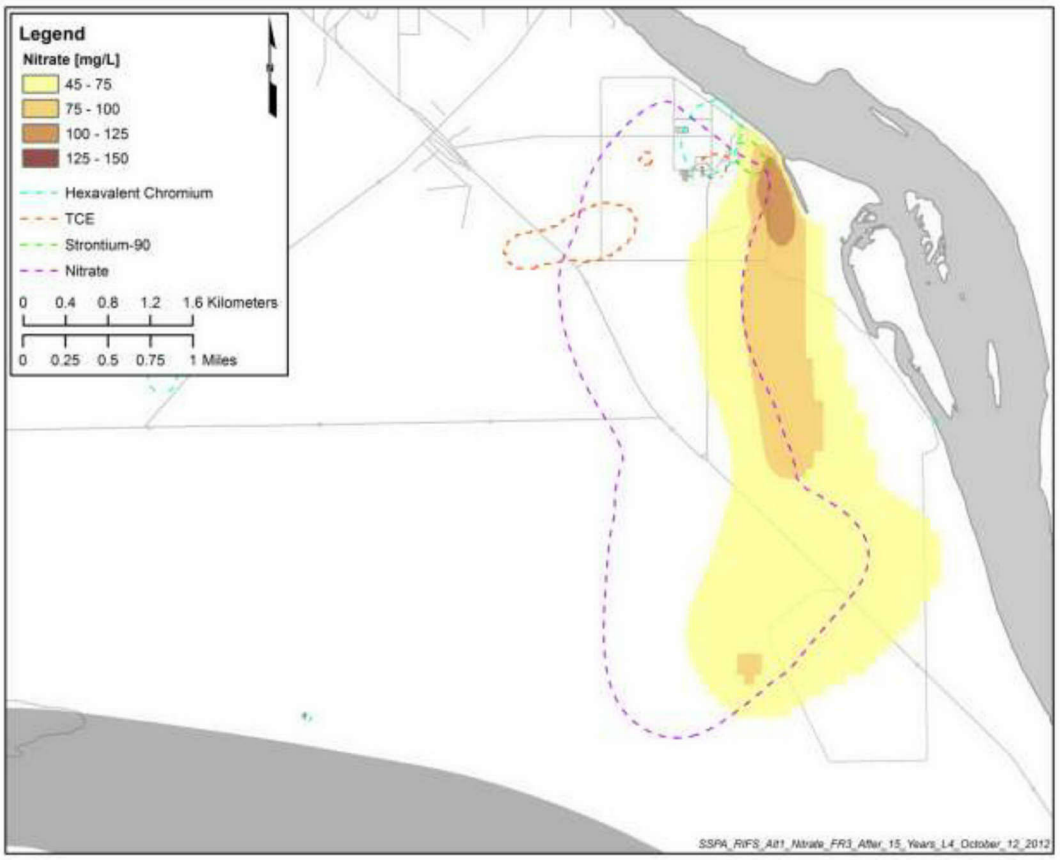

Figure 5-24. Simulated Distribution of Nitrate After 15 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

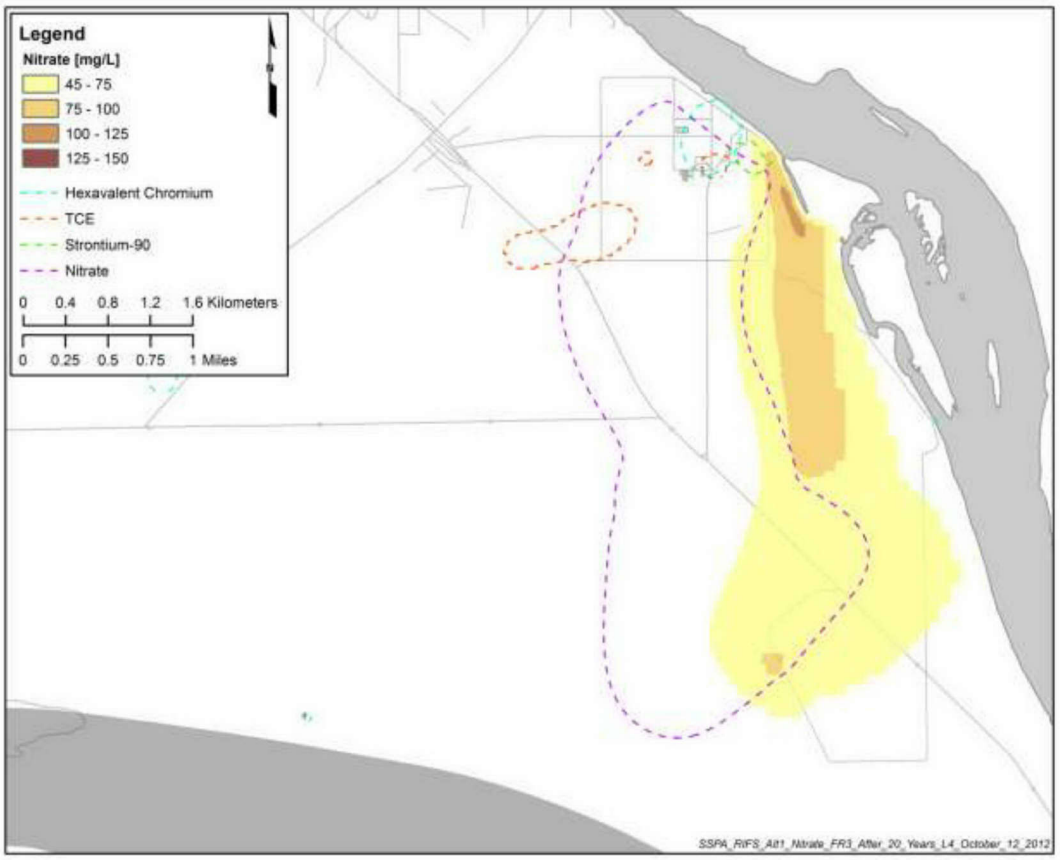

Figure 5-25. Simulated Distribution of Nitrate After 20 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

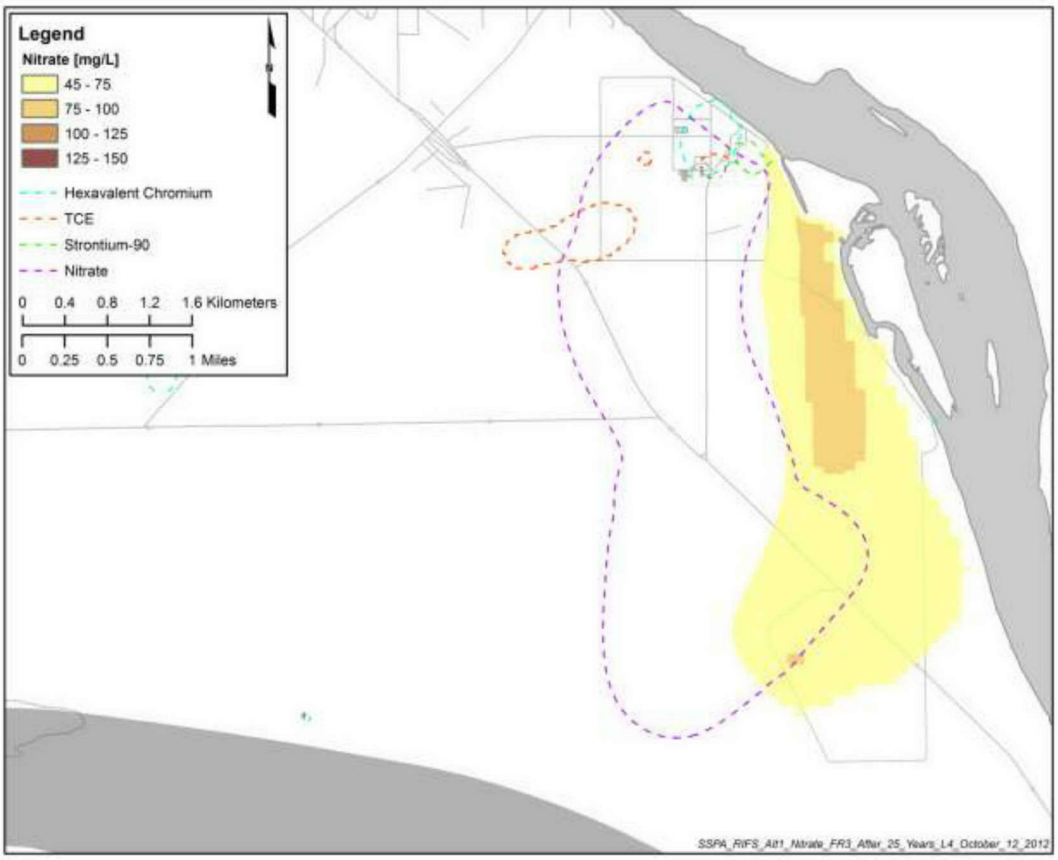

Figure 5-26. Simulated Distribution of Nitrate After 25 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

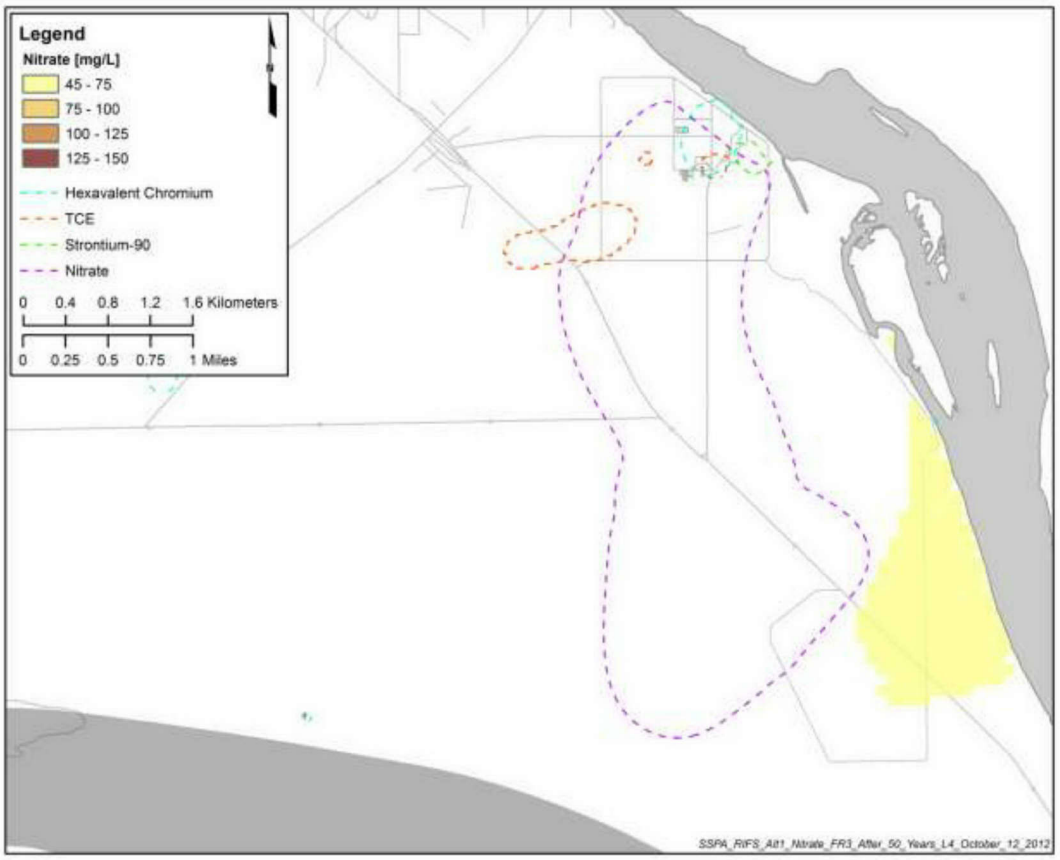

Figure 5-27. Simulated Distribution of Nitrate After 50 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

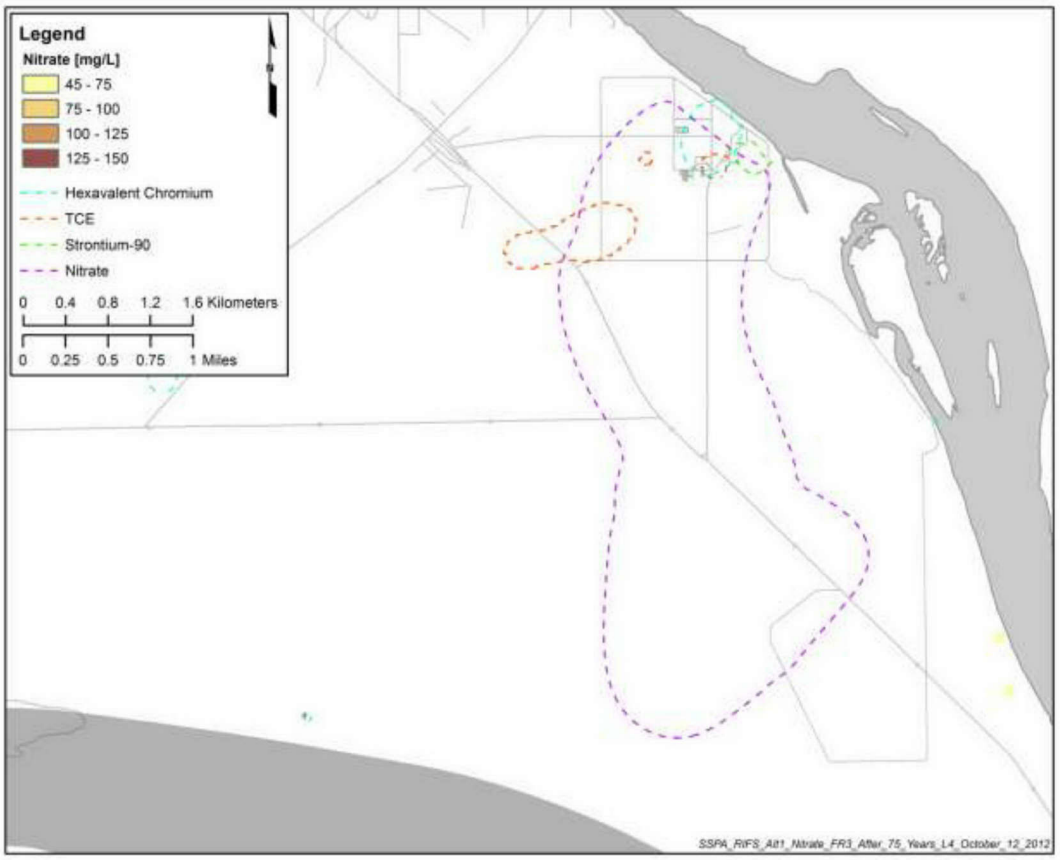

Figure 5-28. Simulated Distribution of Nitrate After 75 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

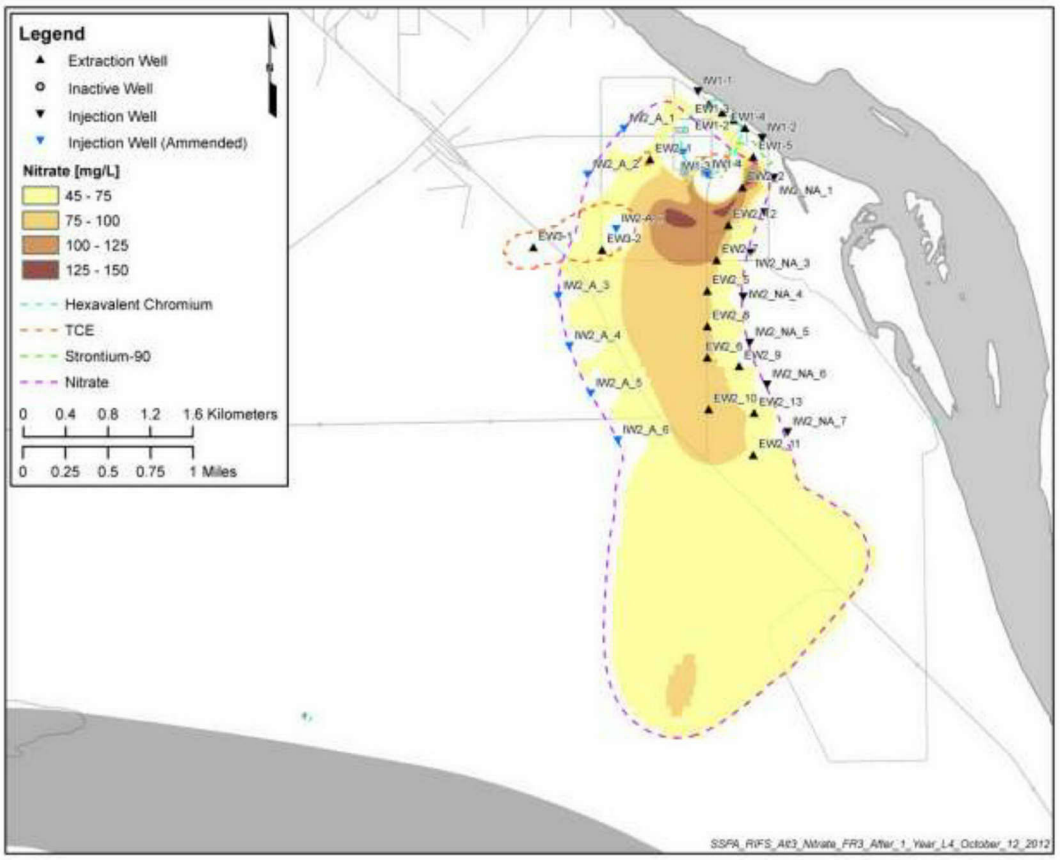

Figure 5-29. Simulated Distribution of Nitrate After 1 Year – Alternative 3

ECF-100FR3-11-0116 REV. 3

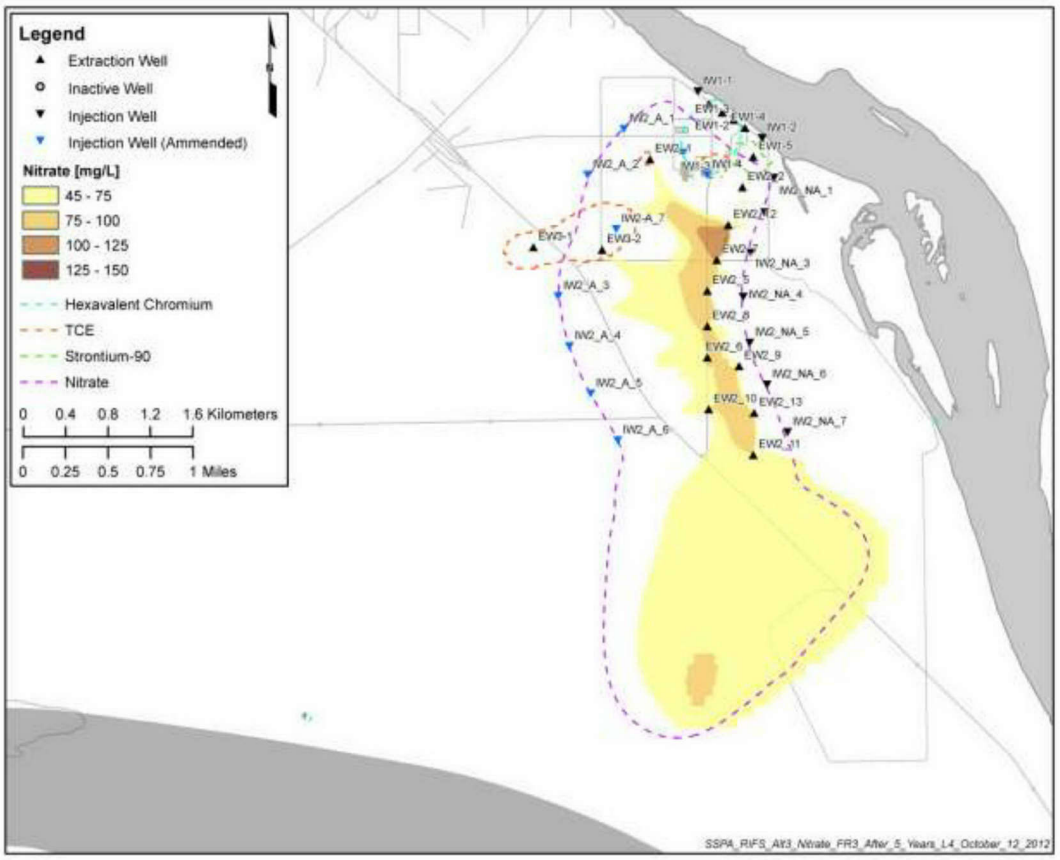

Figure 5-30. Simulated Distribution of Nitrate After 5 Years – Alternative 3

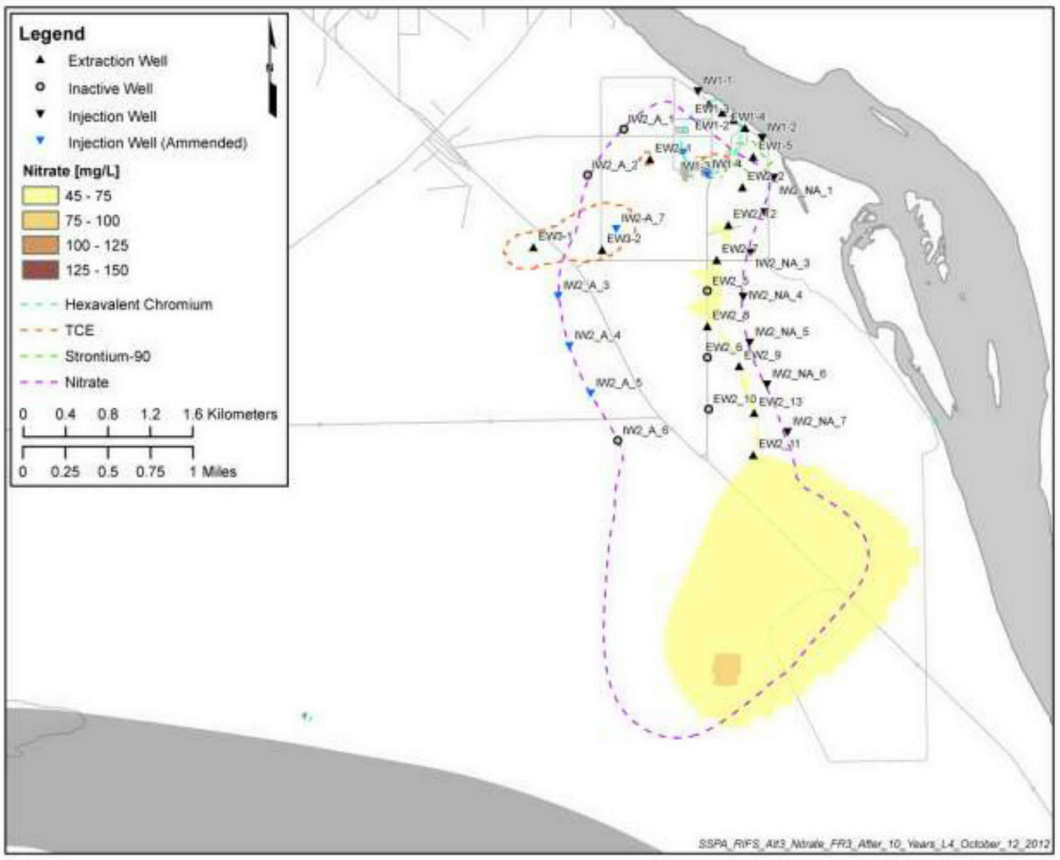

Figure 5-31. Simulated Distribution of Nitrate After 10 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

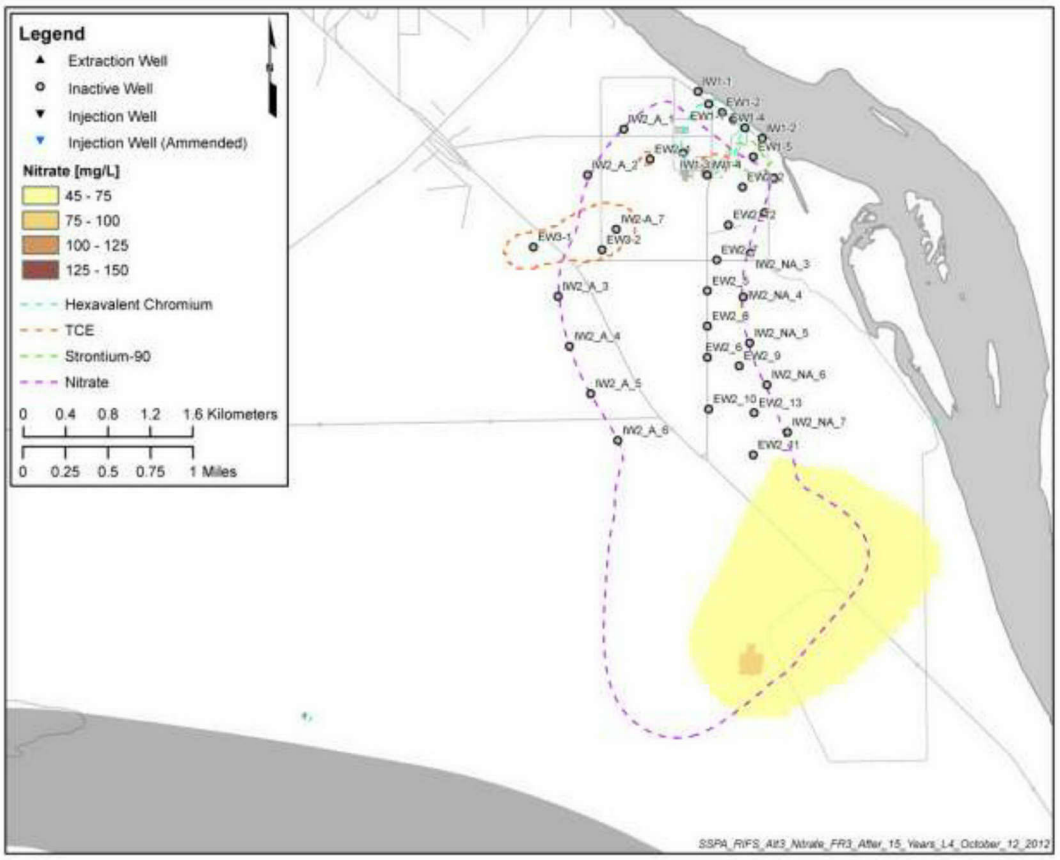

Figure 5-32. Simulated Distribution of Nitrate After 15 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

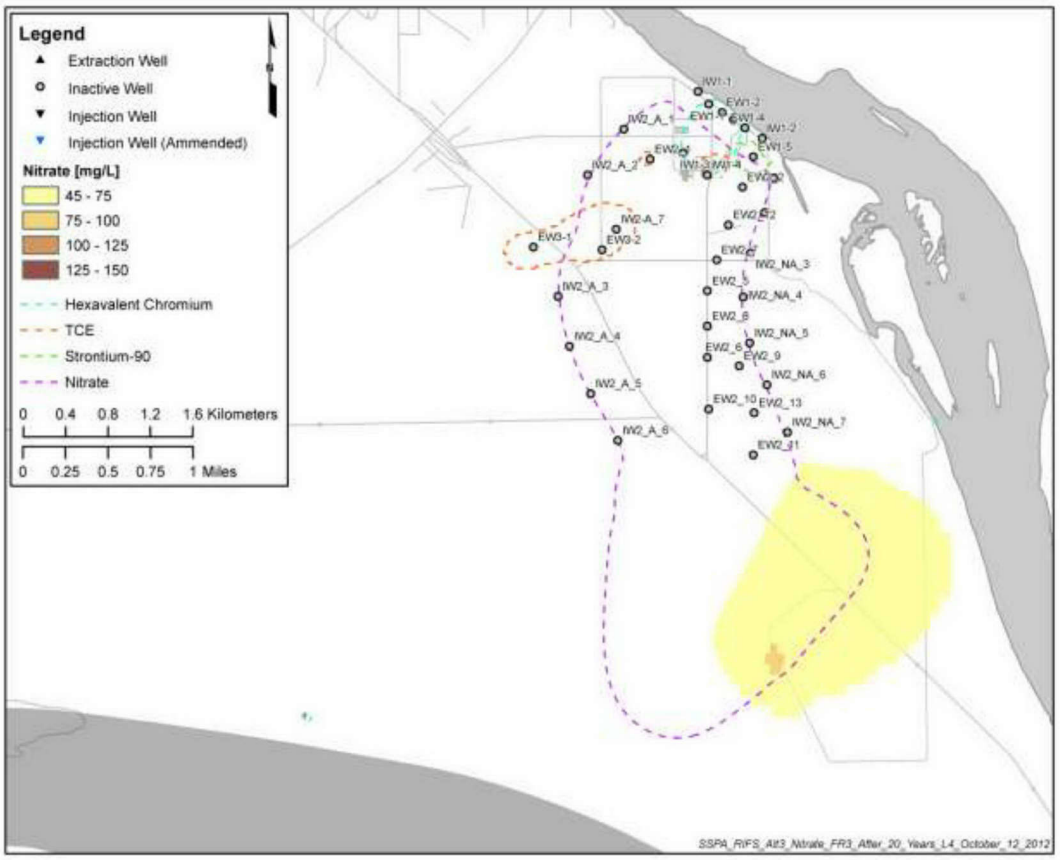

Figure 5-33. Simulated Distribution of Nitrate After 20 Years – Alternative 3

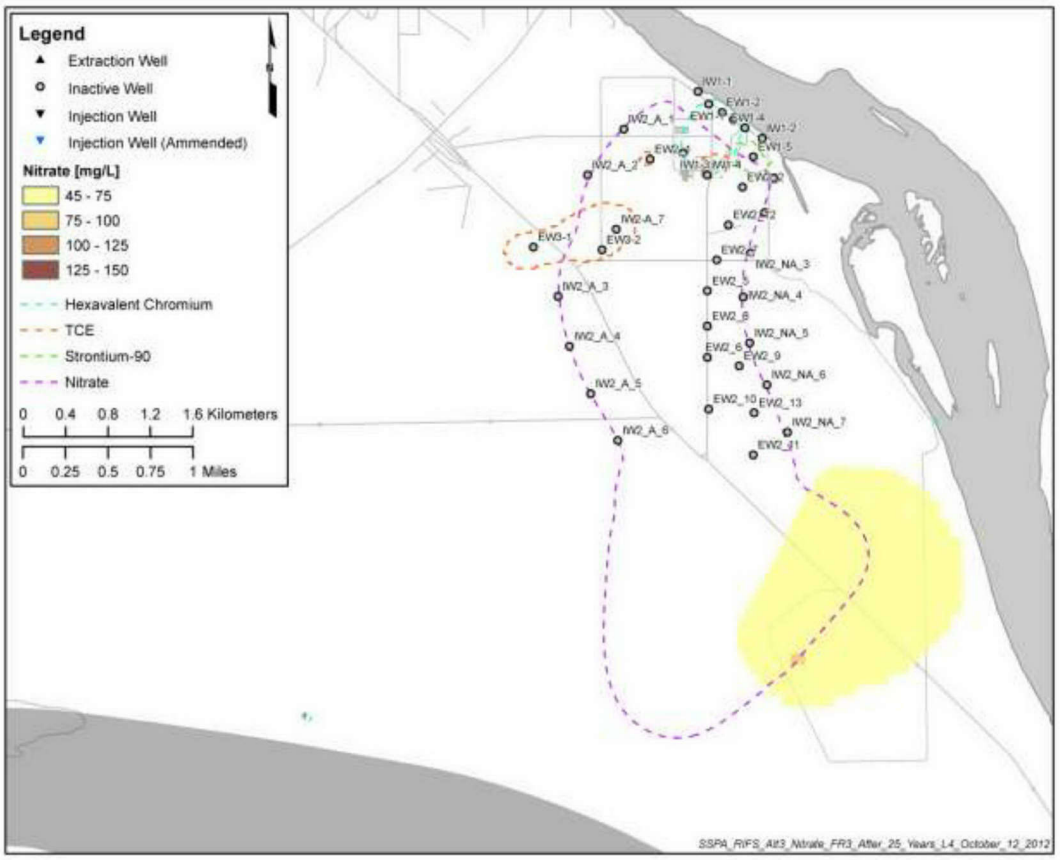

Figure 5-34. Simulated Distribution of Nitrate After 25 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

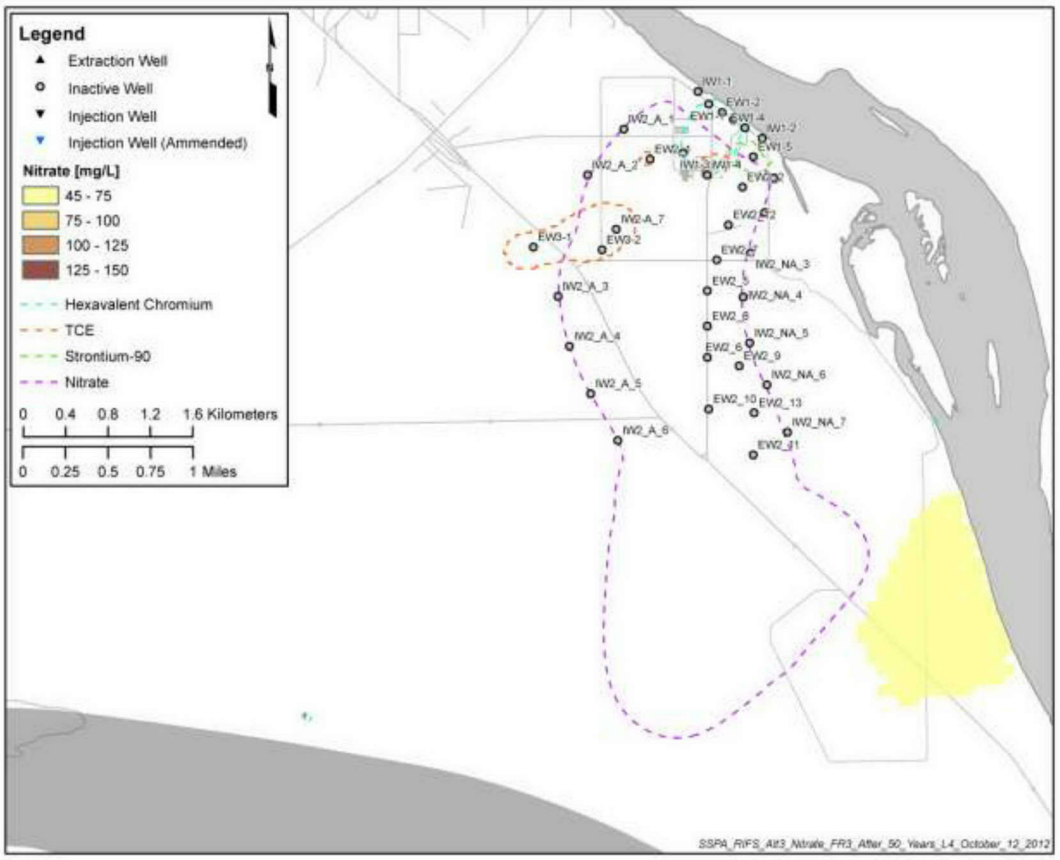

Figure 5-35. Simulated Distribution of Nitrate After 50 Years – Alternative 3

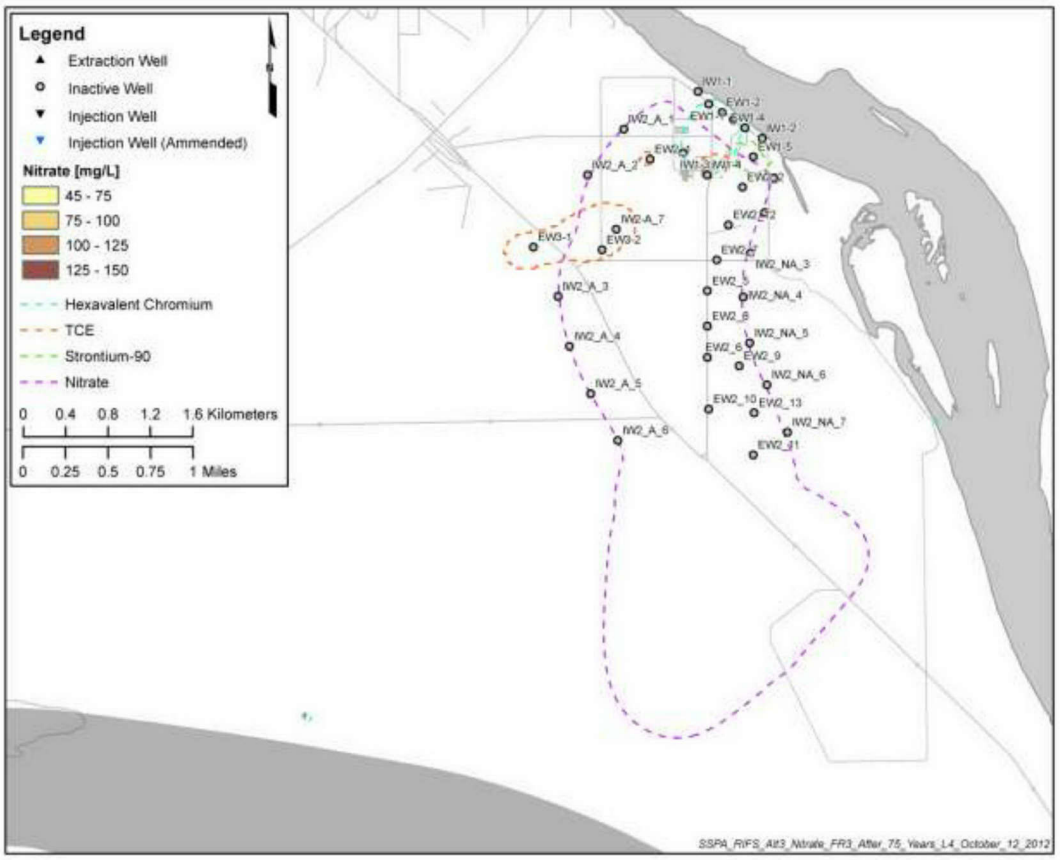

Figure 5-36. Simulated Distribution of Nitrate After 75 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

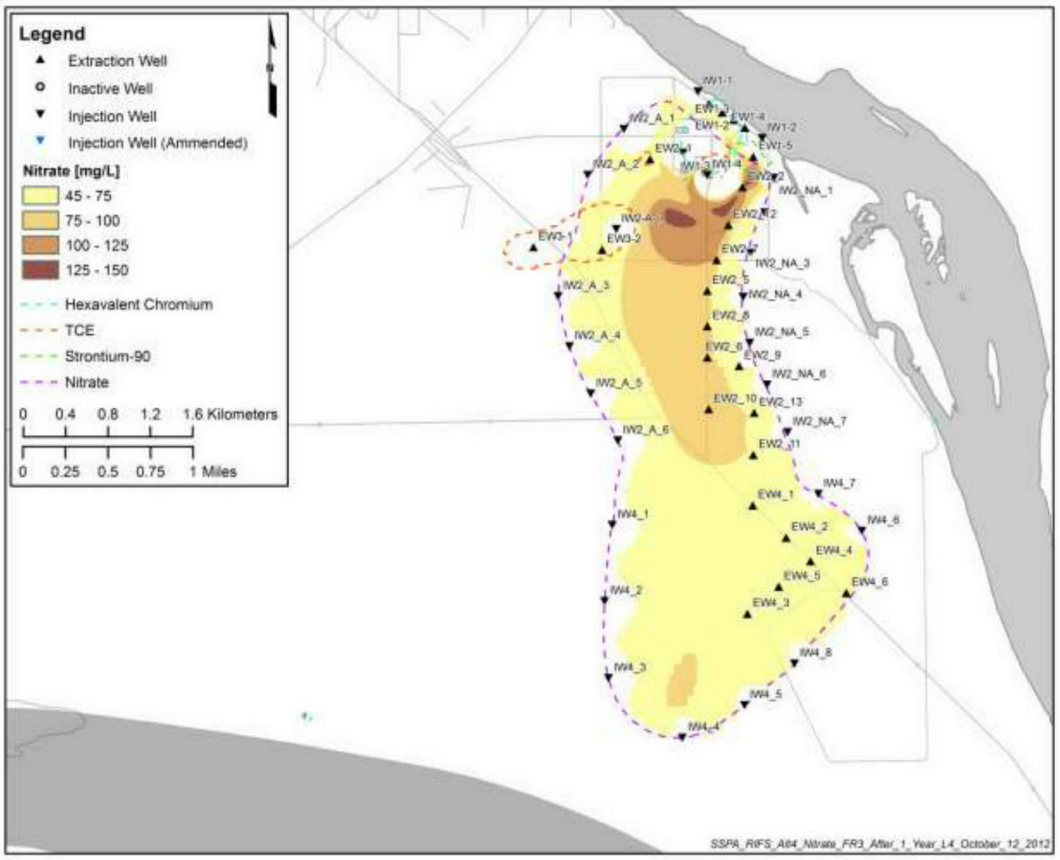

Figure 5-37. Simulated Distribution of Nitrate After 1 Year – Alternative 4

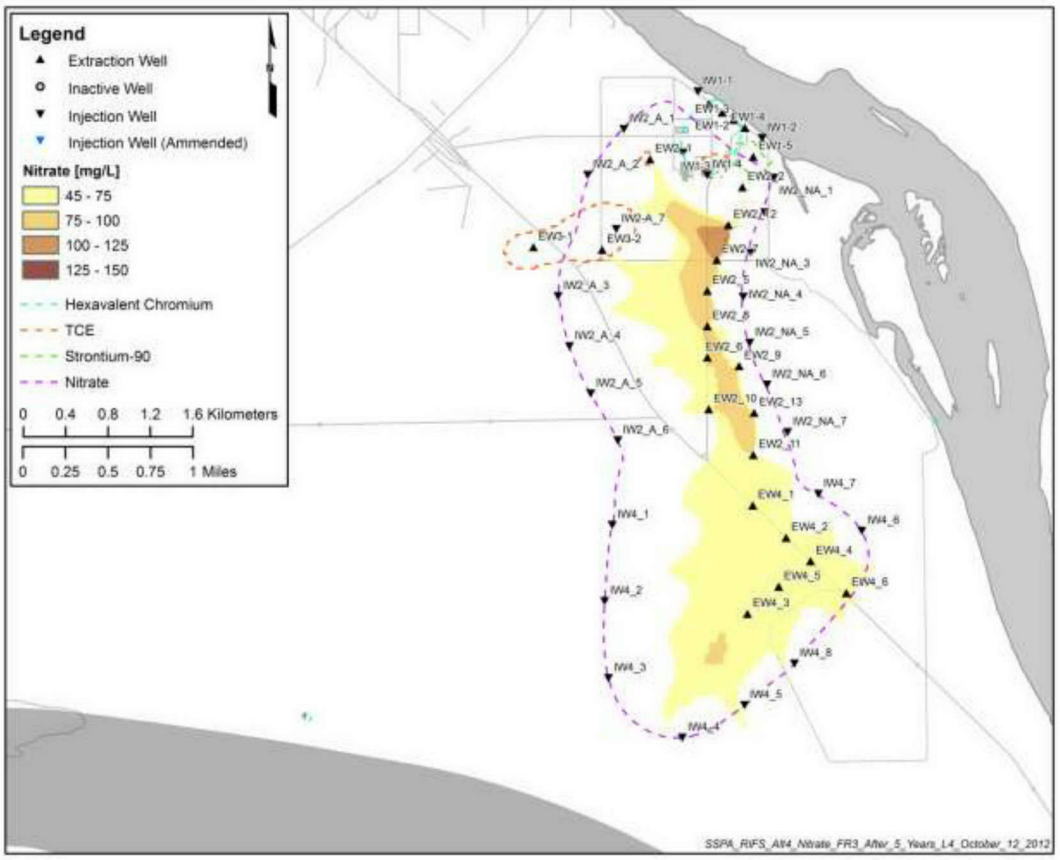

Figure 5-38. Simulated Distribution of Nitrate After 5 Years – Alternative 4

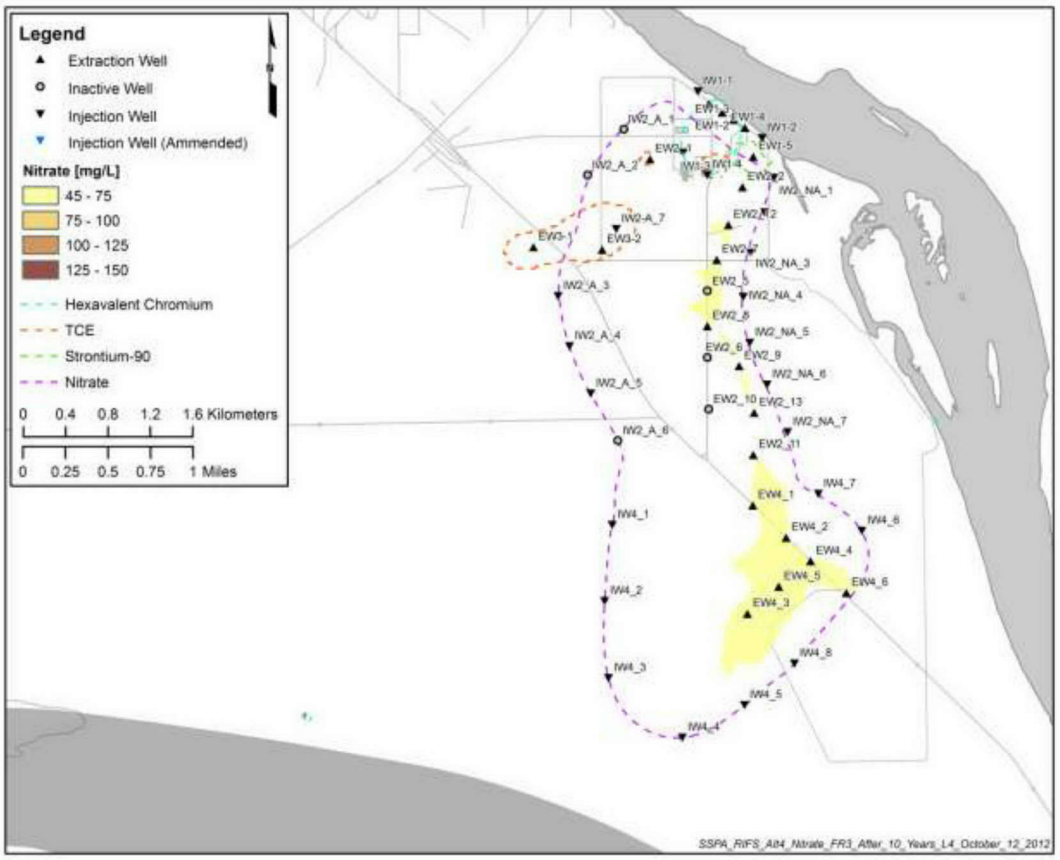

Figure 5-39. Simulated Distribution of Nitrate After 10 Years – Alternative 4

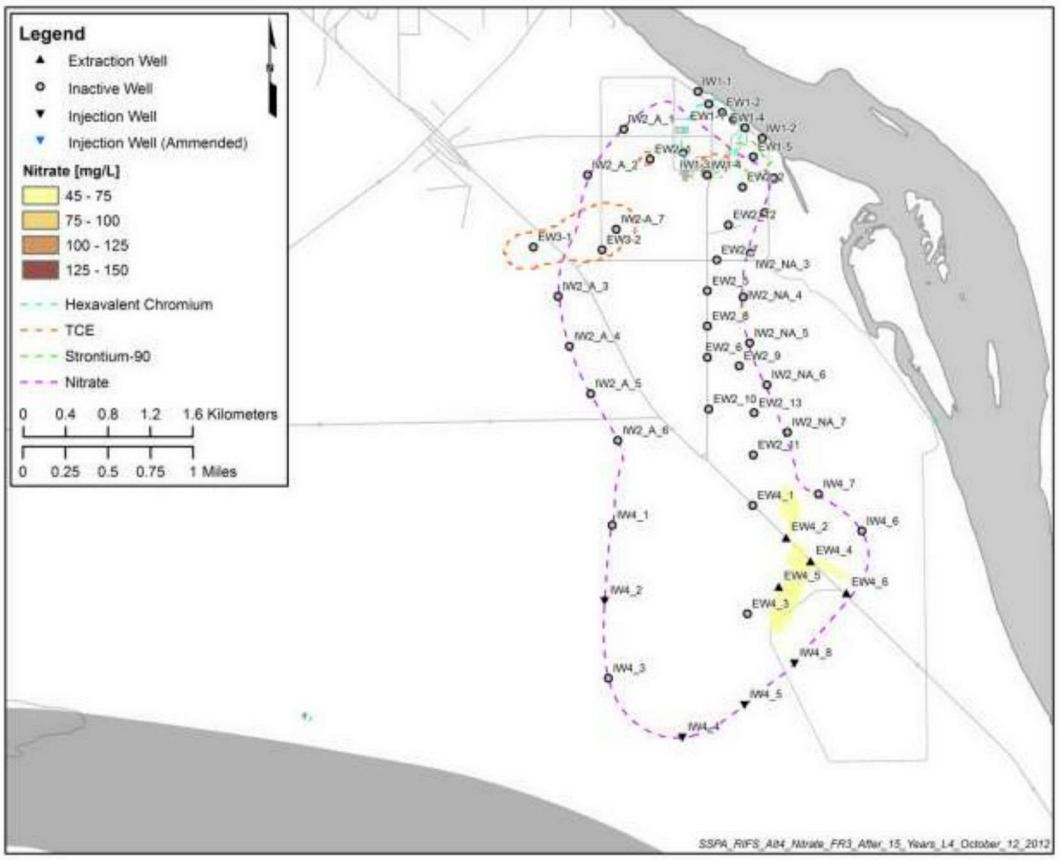

Figure 5-40. Simulated Distribution of Nitrate After 15 Years – Alternative 4

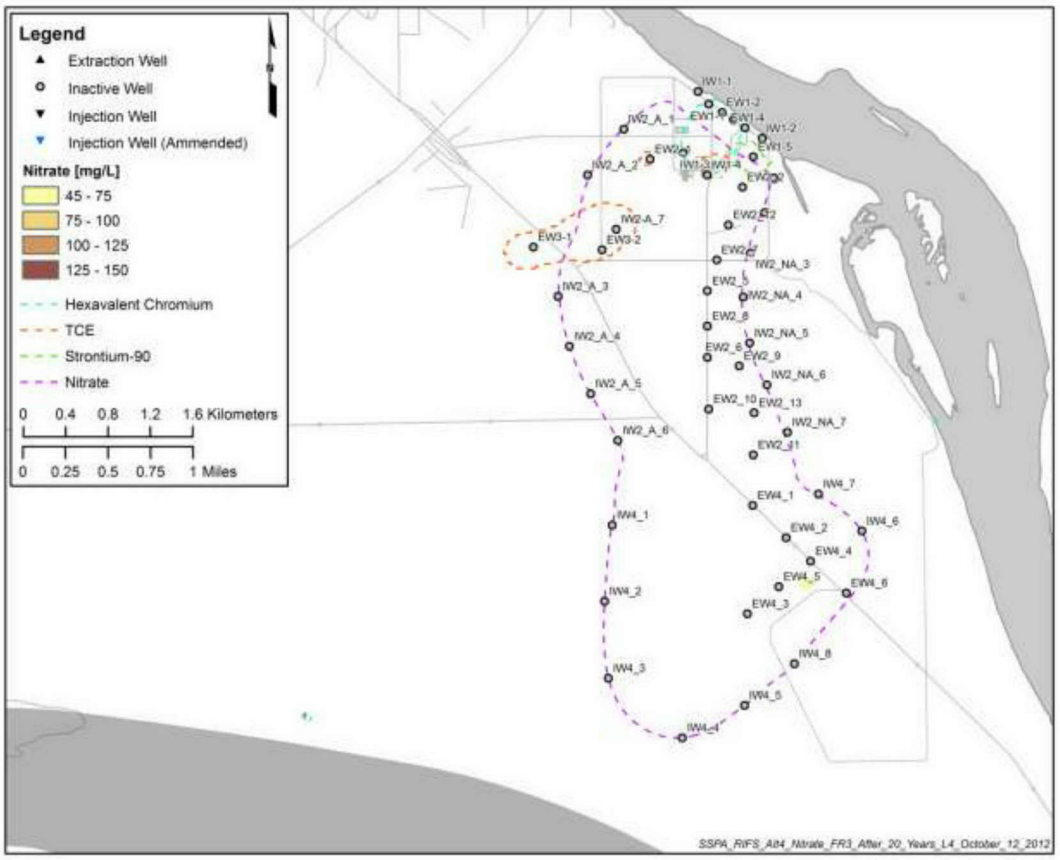

Figure 5-41. Simulated Distribution of Nitrate After 20 Years – Alternative 4

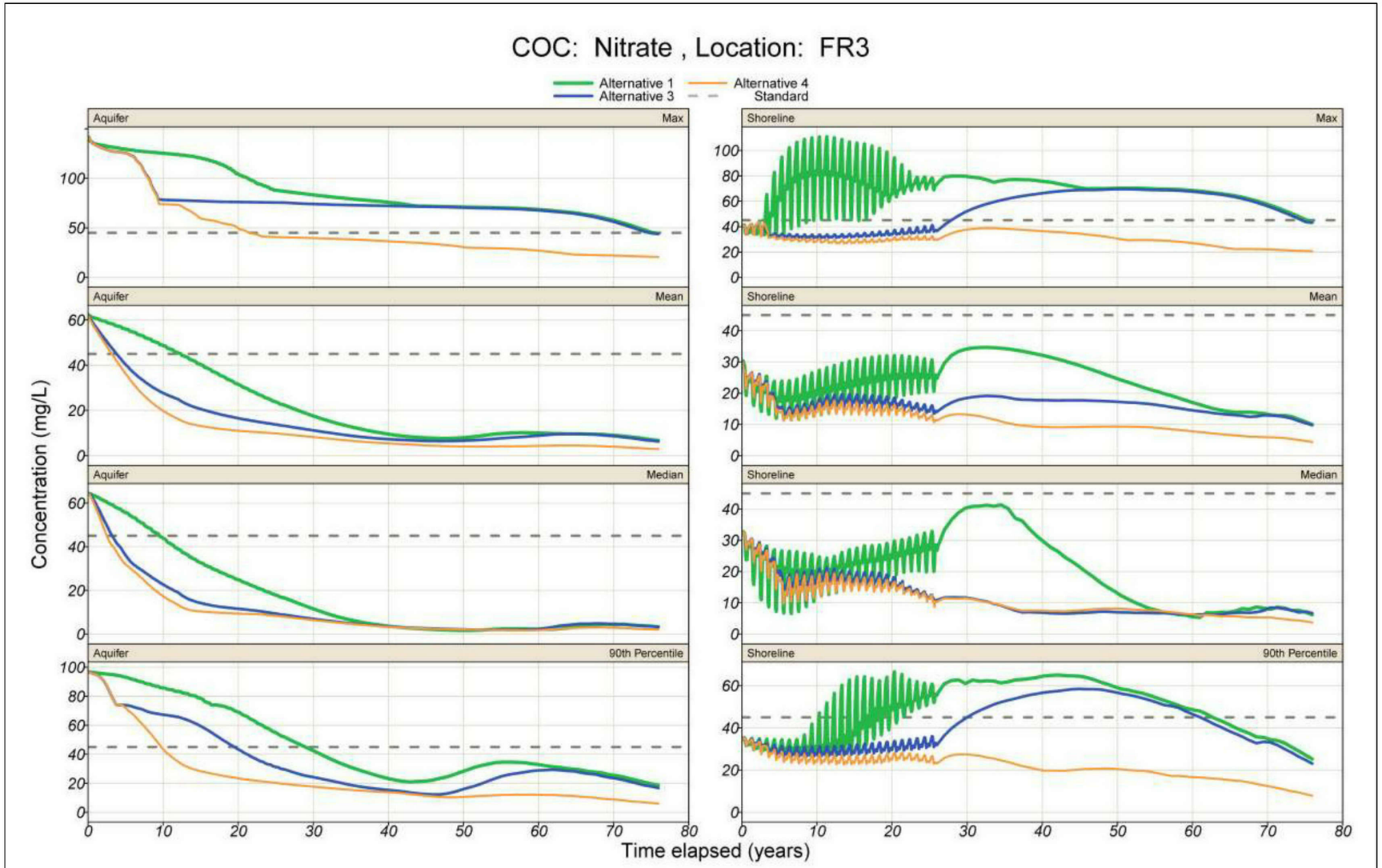

Figure 5-42. Nitrate: Concentration Statistics – All Alternatives

ECF-100FR3-11-0116 REV. 3

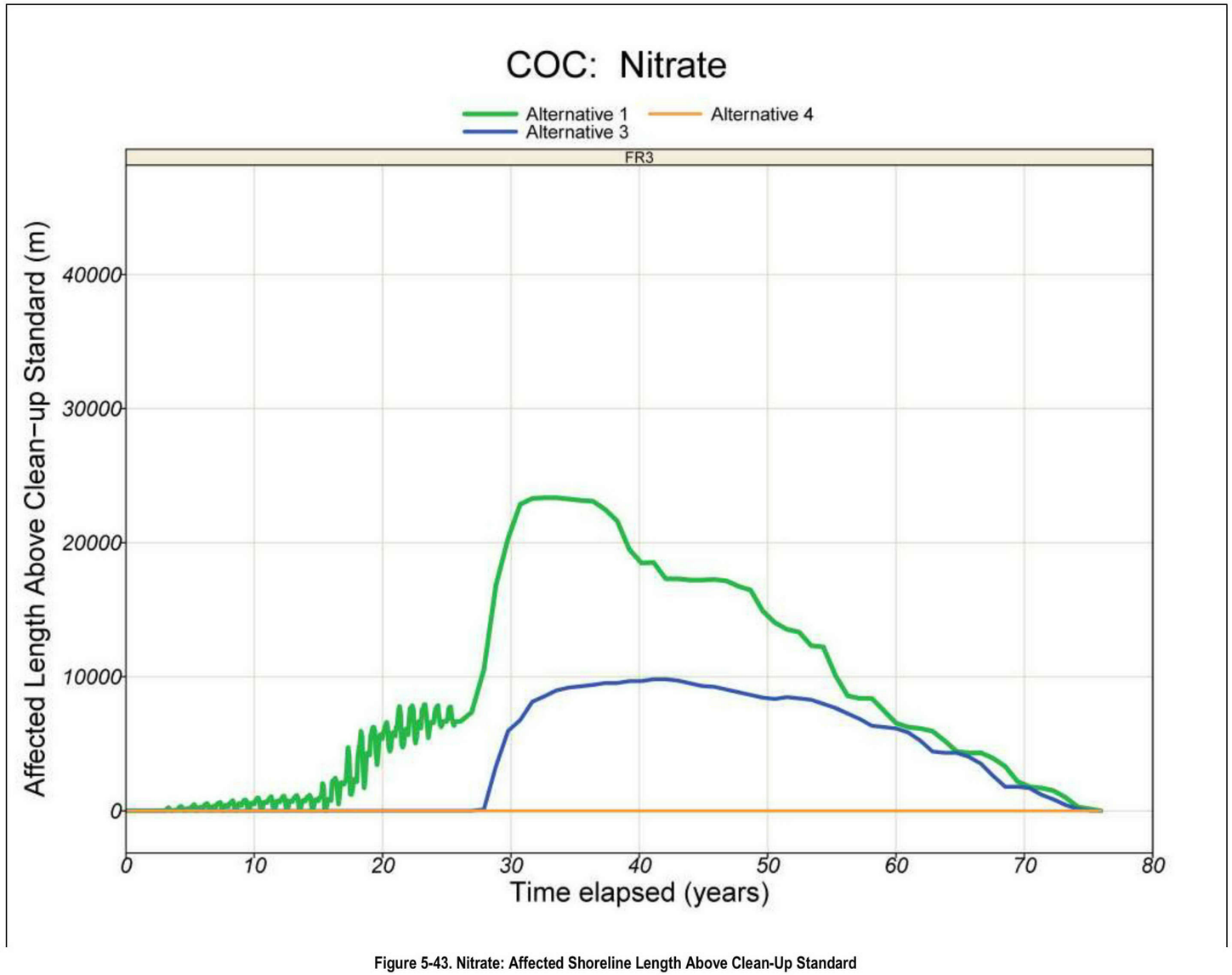

Figure 5-43. Nitrate: Affected Shoreline Length Above Clean-Up Standard

ECF-100FR3-11-0116 REV. 3

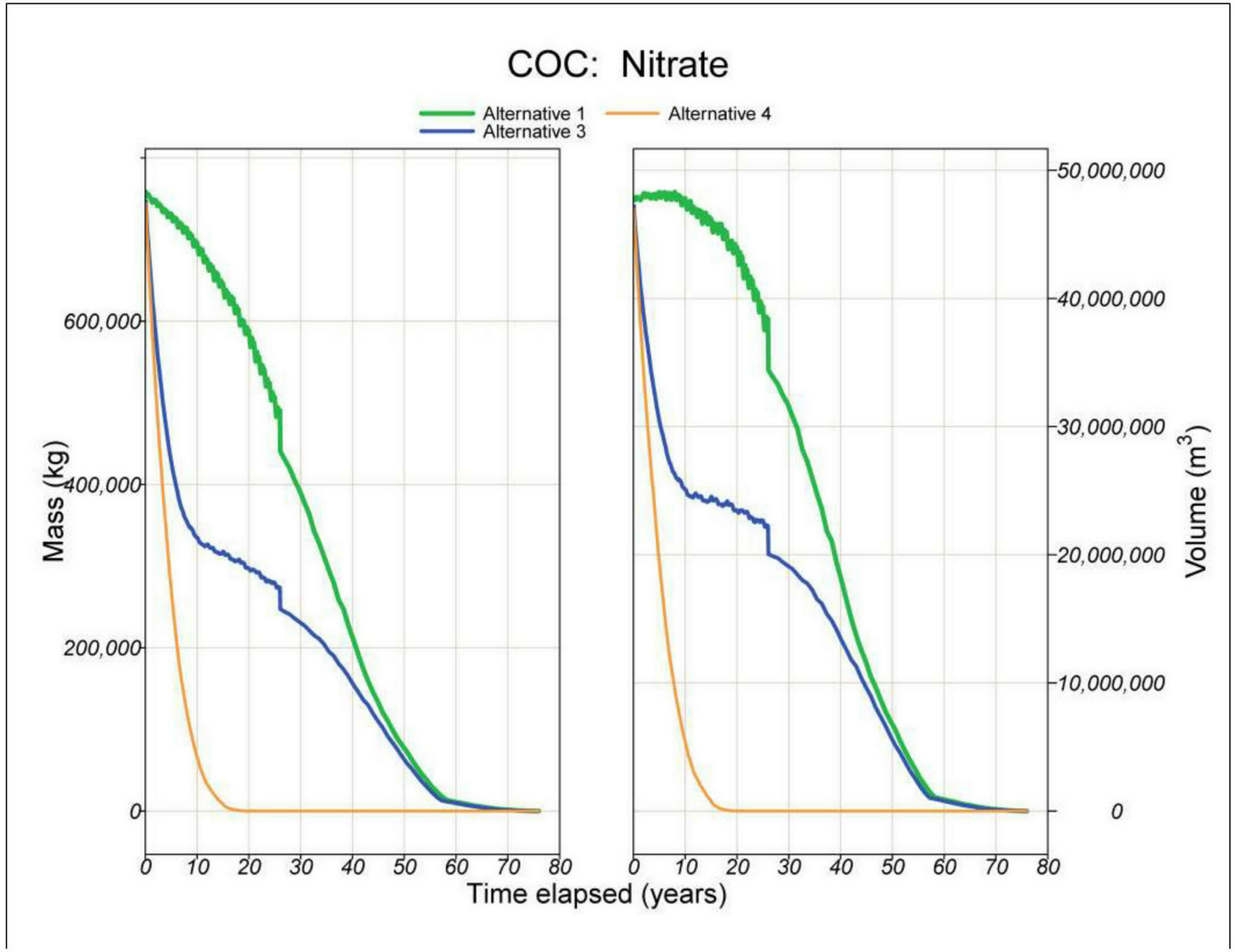

Figure 5-44. Nitrate: Calculated Mass and Volume

ECF-100FR3-11-0116 REV. 3

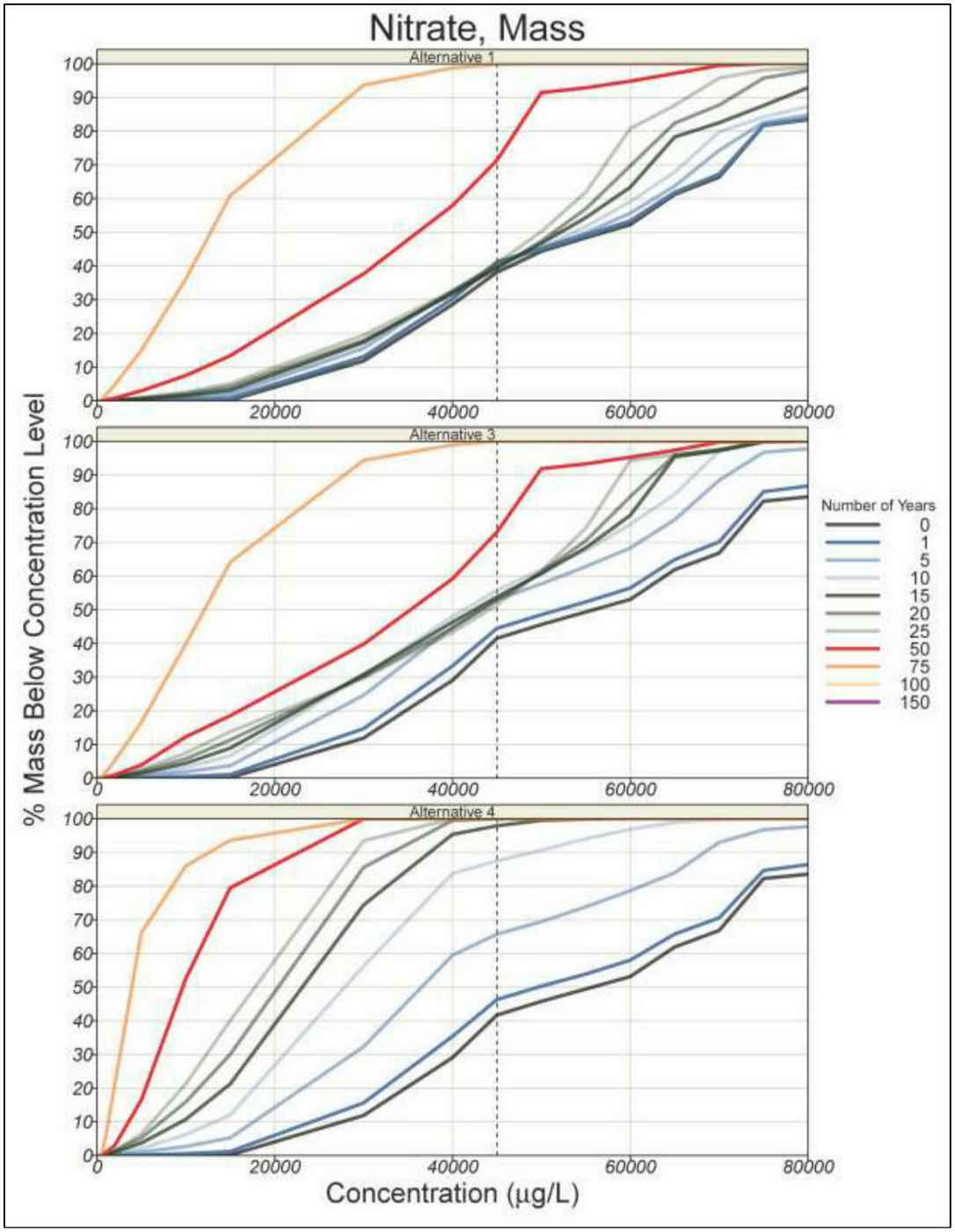

Figure 5-45. Nitrate: Calculated Mass Frequency Distribution at Selected Times

ECF-100FR3-11-0116 REV. 3

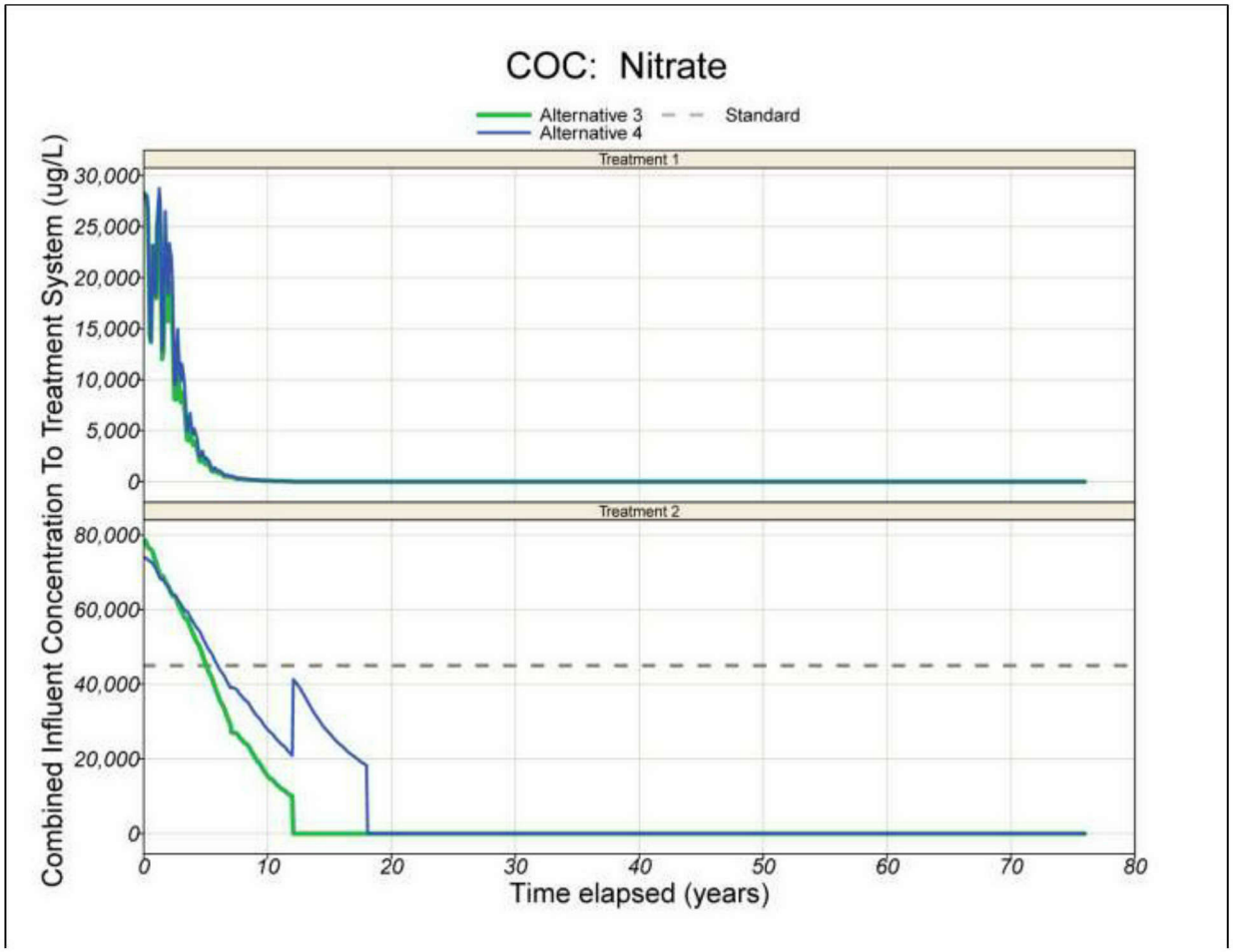

Figure 5-46. Nitrate: Calculated Influent Concentration at P&T

5.2.3 Simulated Contaminant Distributions – Concentration Statistics: Strontium-90

Table 5-4 summarizes aquifer remediation timeframes for each alternative on the basis of maximum concentration in the aquifer and the 90th percentile of the concentration distribution. Values in this Table are rounded up to 5-year increments for timeframes up to 100 years and 10-year increments for timeframes over 100 years. Remediation timeframes are calculated for strontium-90 to reflect if/when concentrations in the aquifer are below the PRG (8 pCi/L).

Figures 5-47 to 5-56 illustrate the simulated distribution of strontium-90 under Alternatives 1 and 2 after 1, 5, 10, 15, 20, 25, 50, 75, 100 and 150 years, respectively. Figures 5-57 to 5-64 illustrate the simulated distribution of strontium-90 under Alternative 3 after 1, 5, 10, 15, 20, 25, 50 and 75 years, respectively. Figures 5-65 to 5-72 illustrate the simulated distribution of strintium-90 under Alternative 4 after 1, 5, 10, 15, 20, 25, 50, and 75 years, respectively.

Figure 5-73 shows summary concentration statistics for each alternative in the aquifer and at the shoreline. Figure 5-74 shows the timeseries of affected shoreline length under each alternative. Figure 5-75 illustrates the plume mass and volume timeseries under each alternative. Mass frequency distributions for each alternative are shown in Figure 5-76. P&T influent concentrations are ahown in Figure 5-77.

Table 5-4. Remediation Timeframes for Strontium-90 (in Years)

	Alternative 1 and 2		Alternative 3		Alternative 4	
	Maximum Concentration	90th Percentile	Maximum Concentration	90th Percentile	Maximum Concentration	90th Percentile
Strontium-90 PRG: 8 pCi/L	150	90	150	85	150	85

ECF-100FR3-11-0116 REV. 3

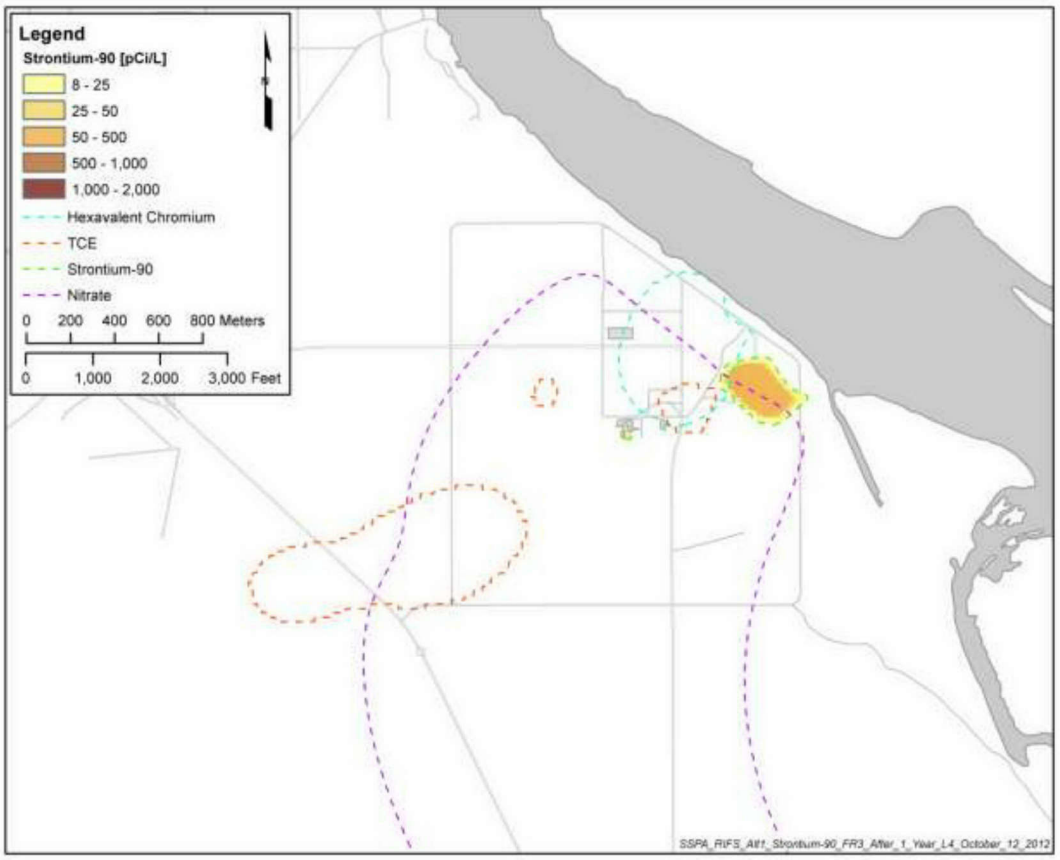

Figure 5-47. Simulated Distribution of Strontium-90 After 1 Year – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

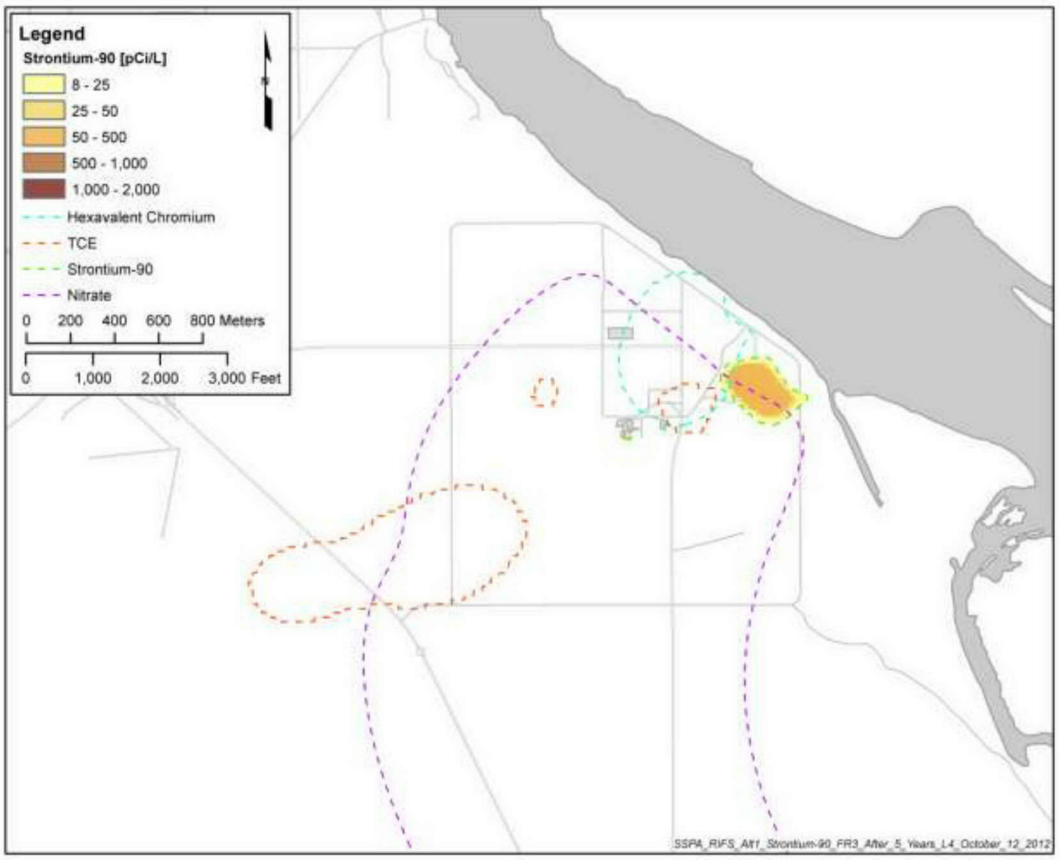

Figure 5-48. Simulated Distribution of Strontium-90 After 5 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

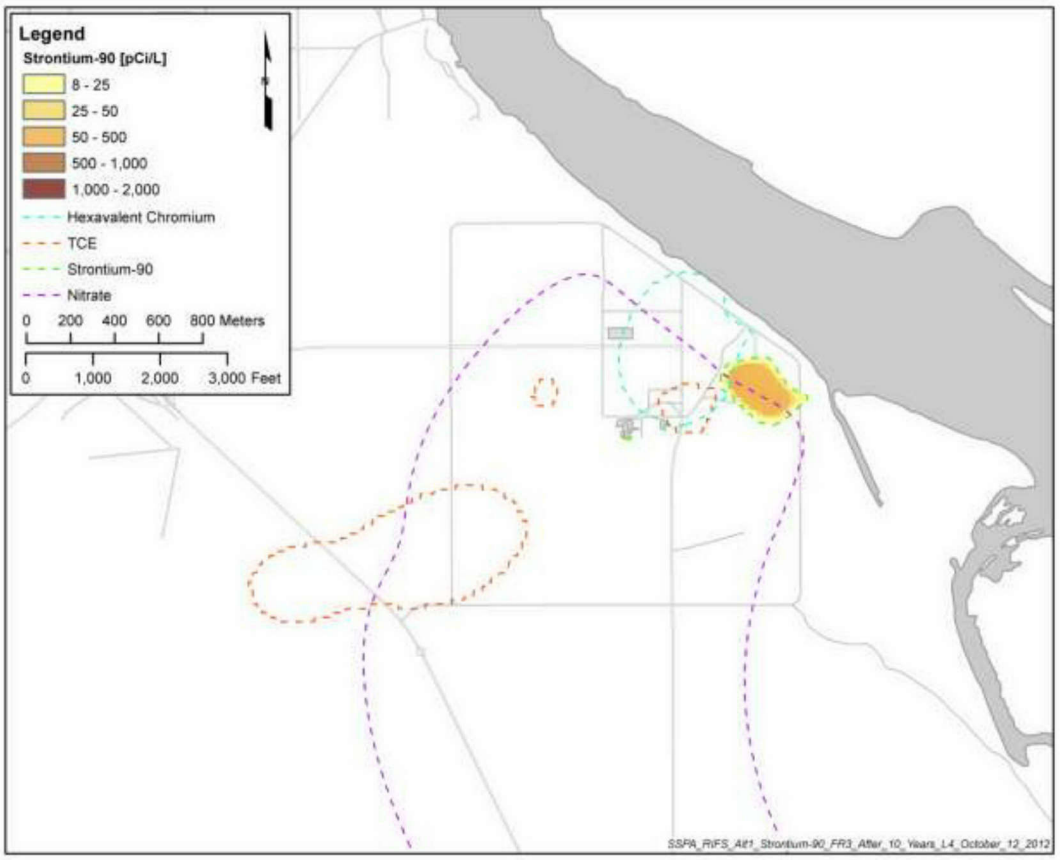

Figure 5-49. Simulated Distribution of Strontium-90 After 10 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

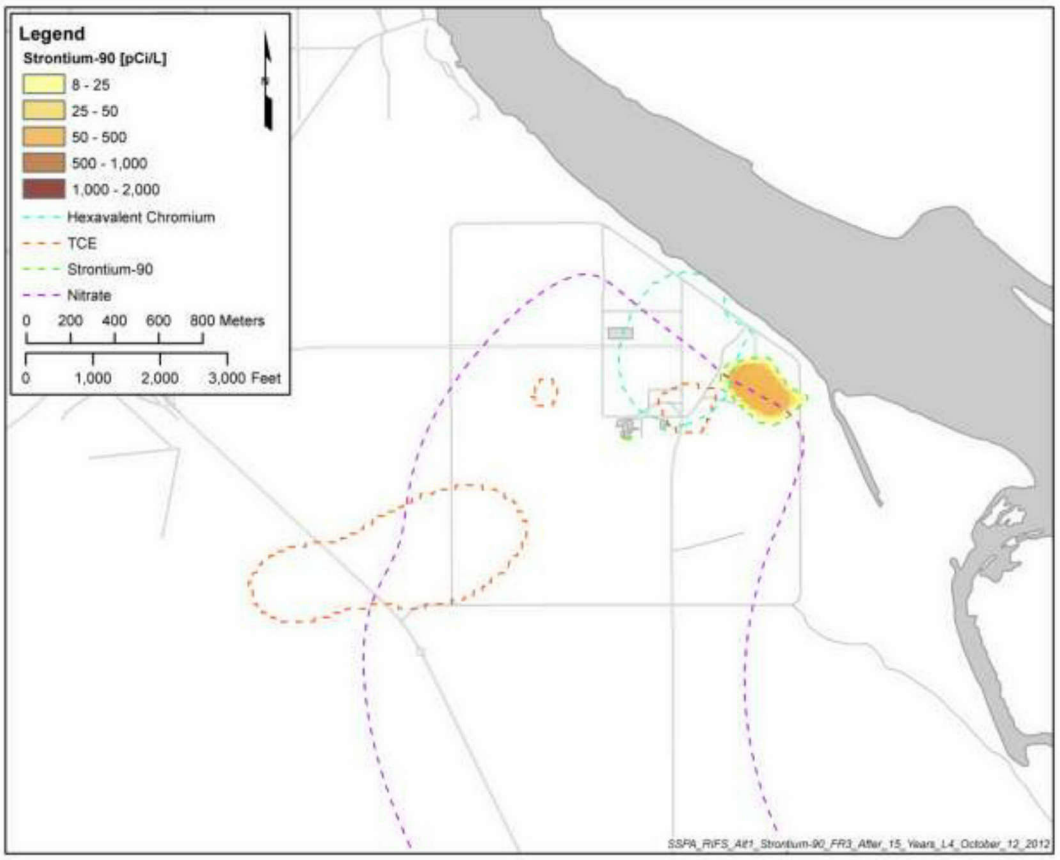

Figure 5-50. Simulated Distribution of Strontium-90 After 15 Years – Alternatives 1 & 2

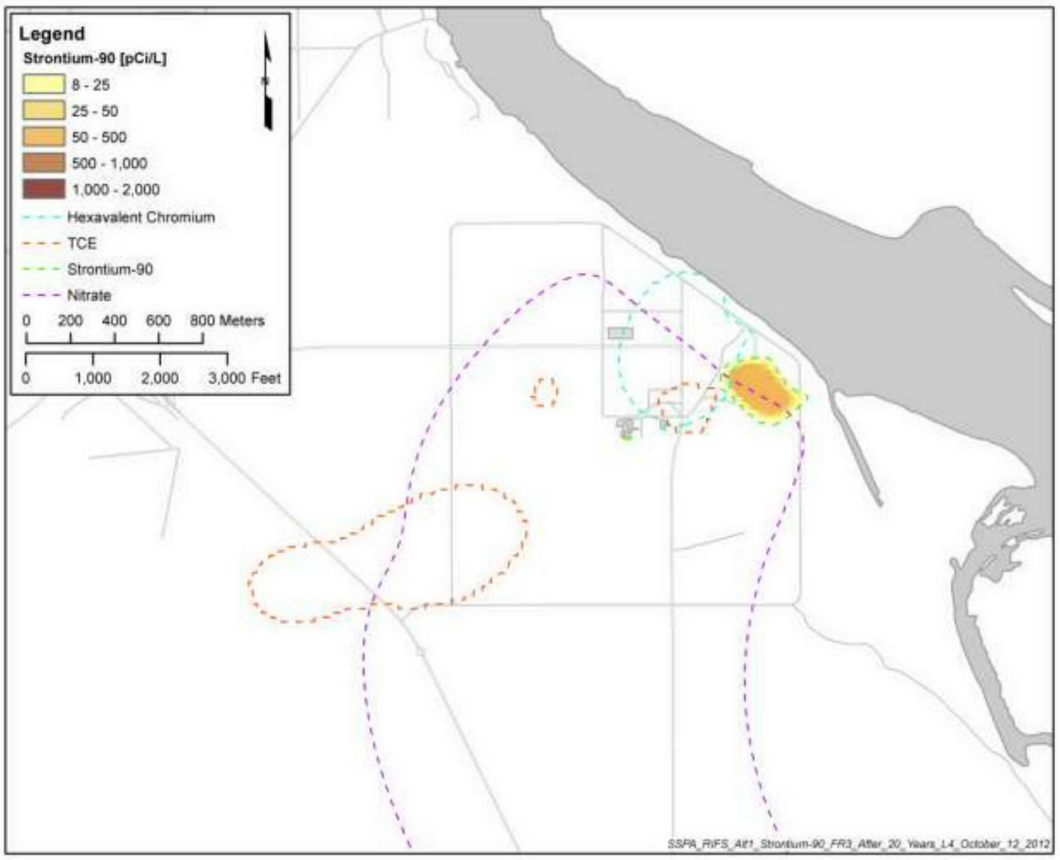

Figure 5-51. Simulated Distribution of Strontium-90 After 20 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

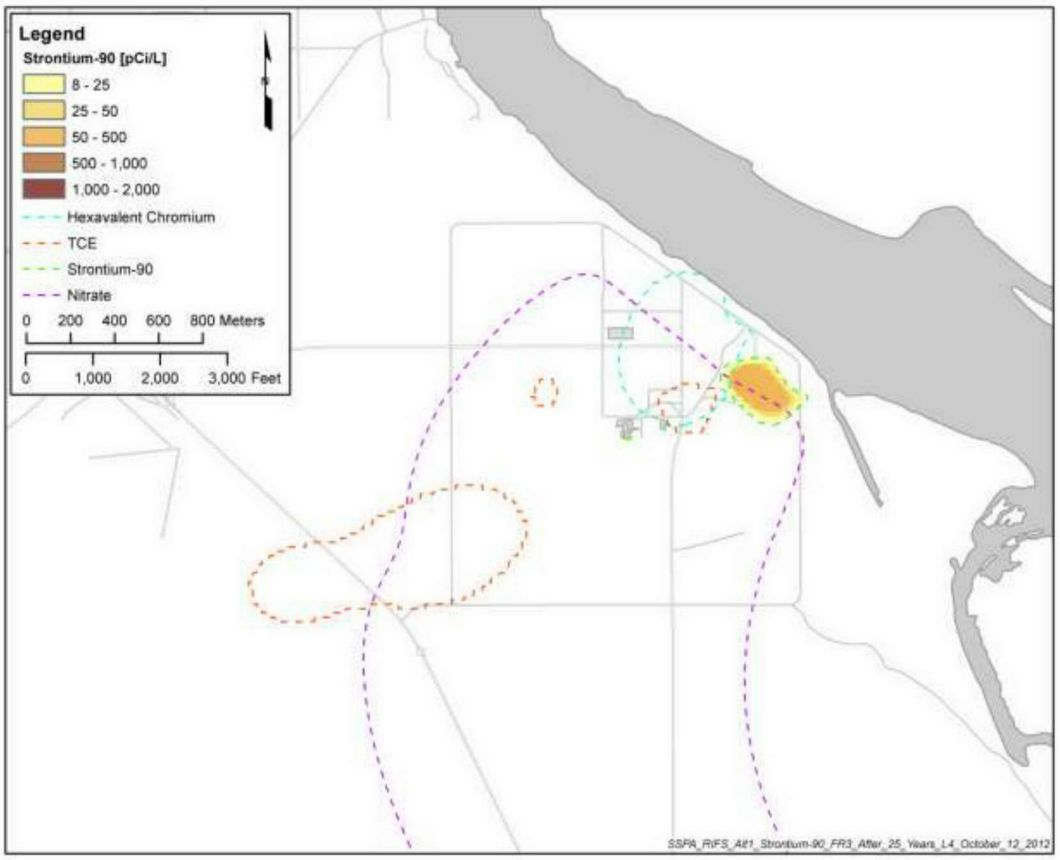

Figure 5-52. Simulated Distribution of Strontium-90 After 25 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

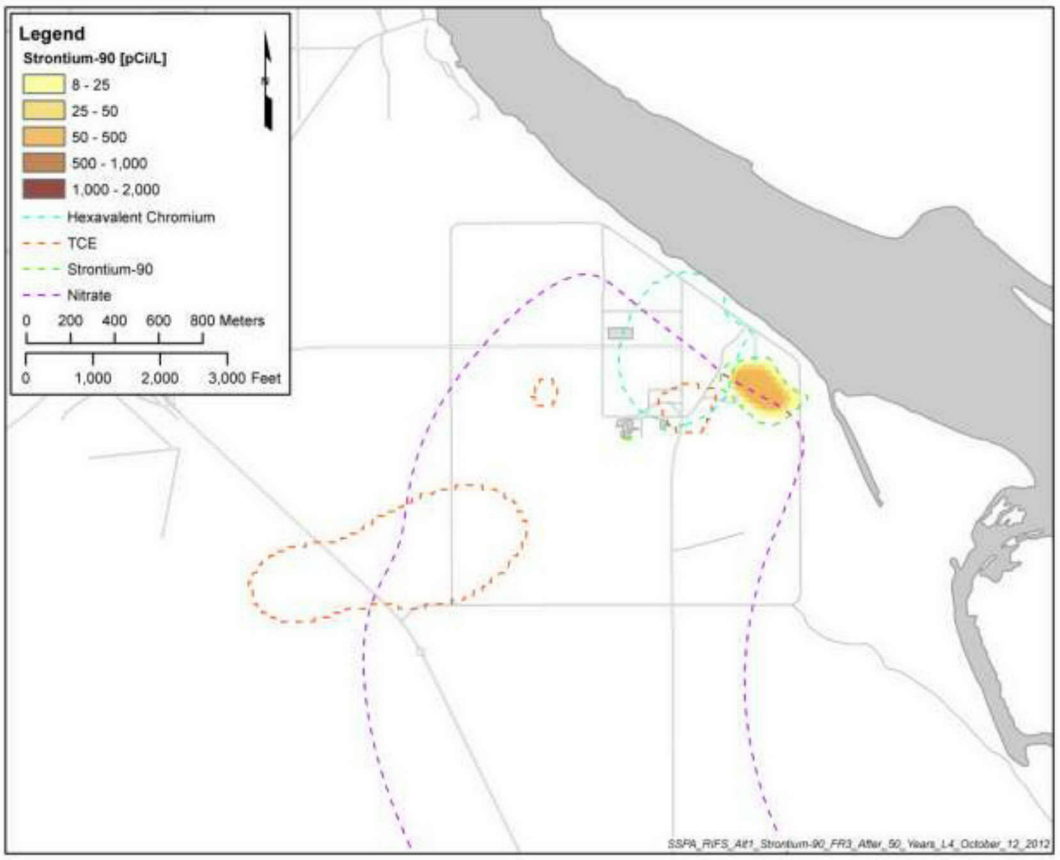

Figure 5-53. Simulated Distribution of Strontium-90 After 50 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

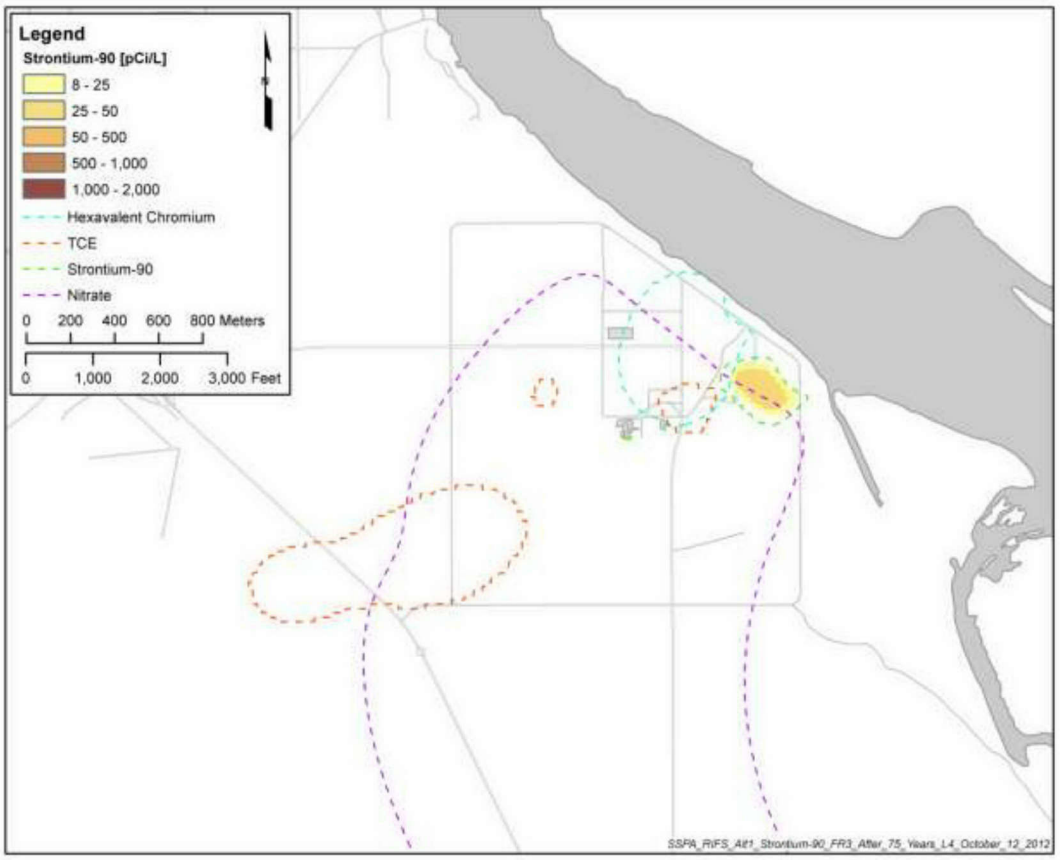

Figure 5-54. Simulated Distribution of Strontium-90 After 75 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

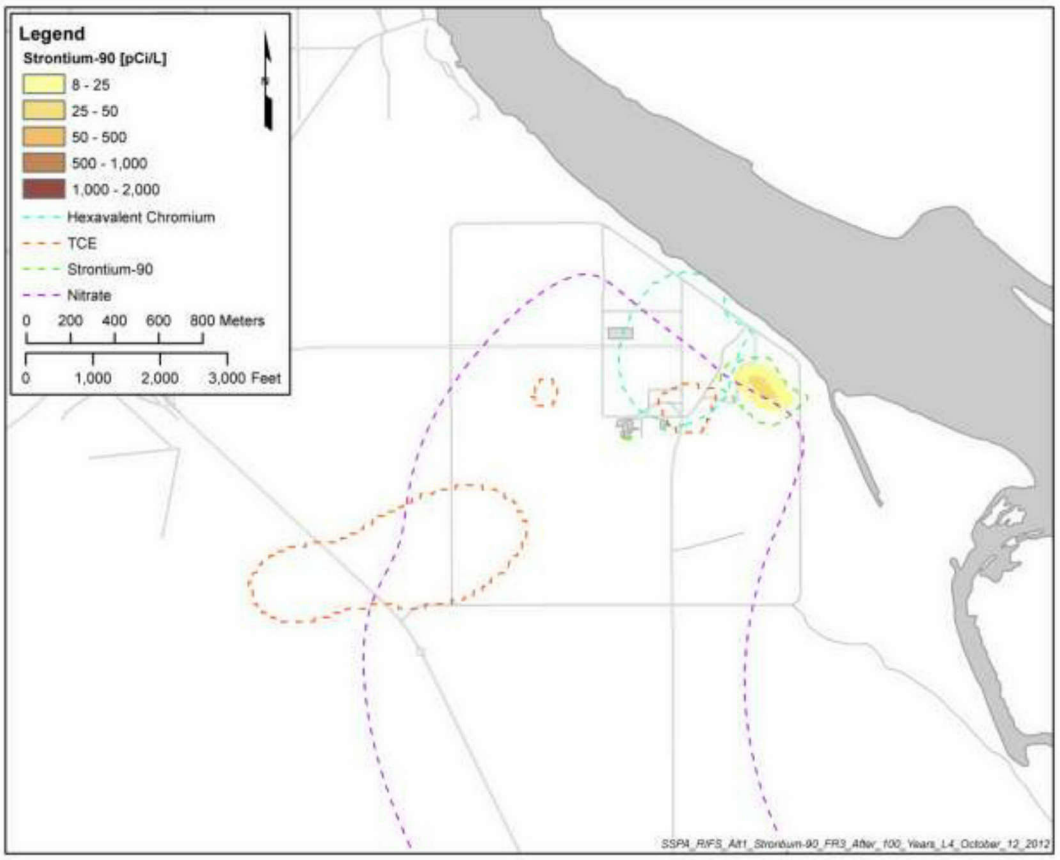

Figure 5-55. Simulated Distribution of Strontium-90 After 100 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

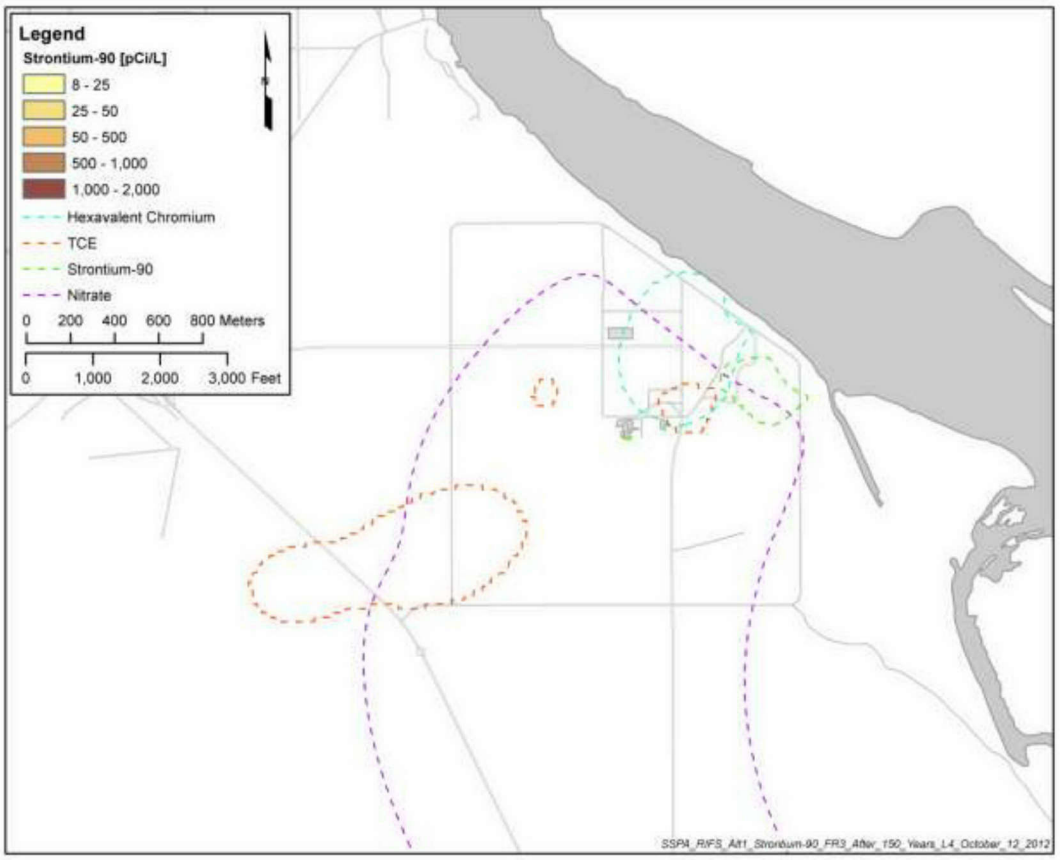

Figure 5-56. Simulated Distribution of Strontium-90 After 150 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

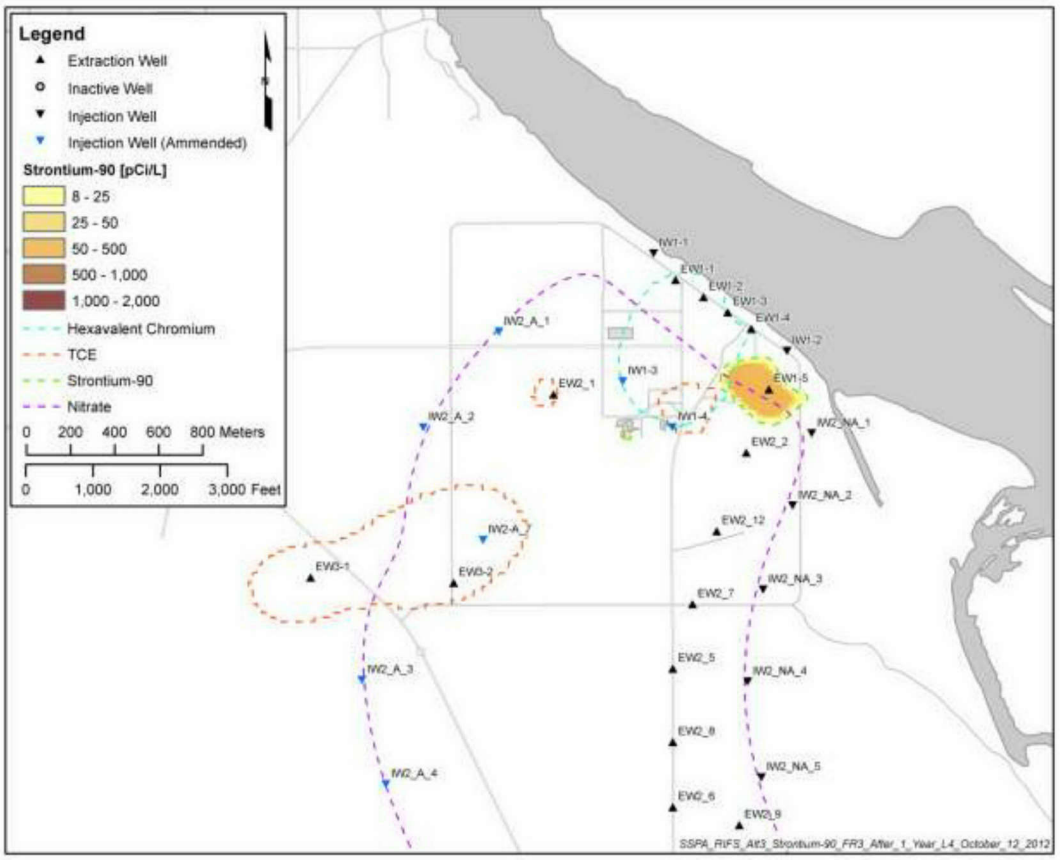

Figure 5-57. Simulated Distribution of Strontium-90 After 1 Year – Alternative 3

ECF-100FR3-11-0116 REV. 3

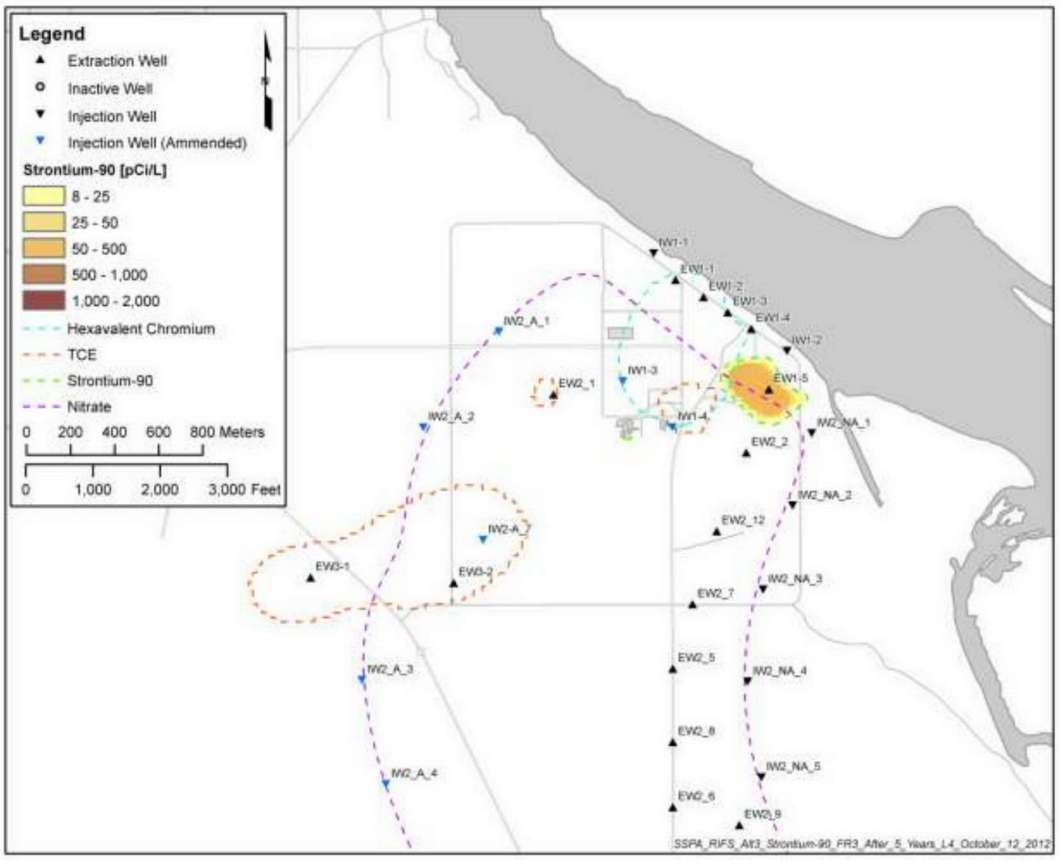

Figure 5-58. Simulated Distribution of Strontium-90 After 5 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

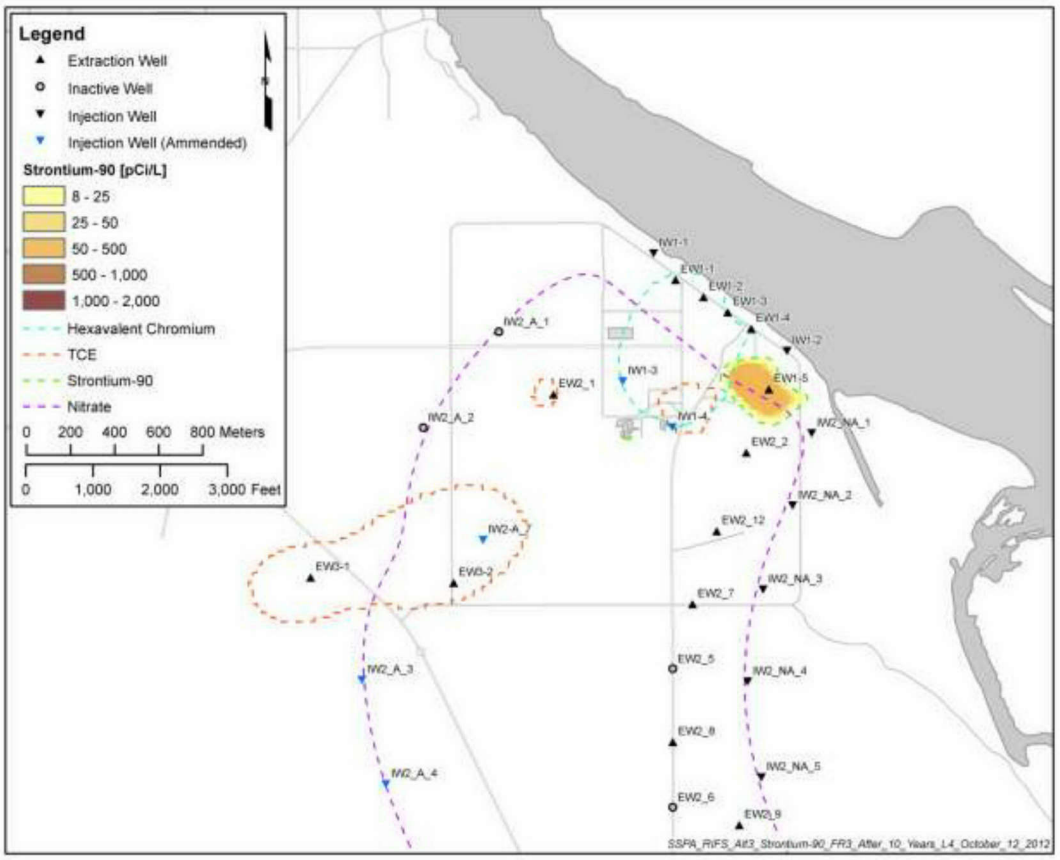

Figure 5-59. Simulated Distribution of Strontium-90 After 10 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

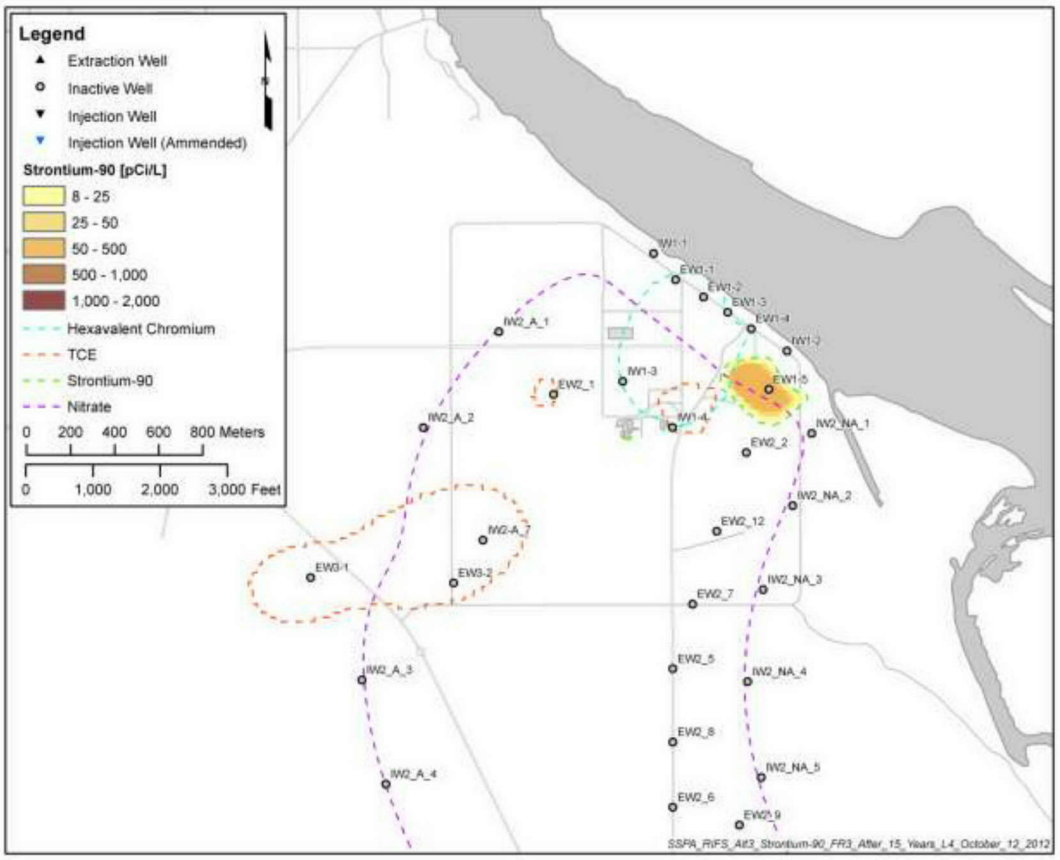

Figure 5-60. Simulated Distribution of Strontium-90 After 15 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

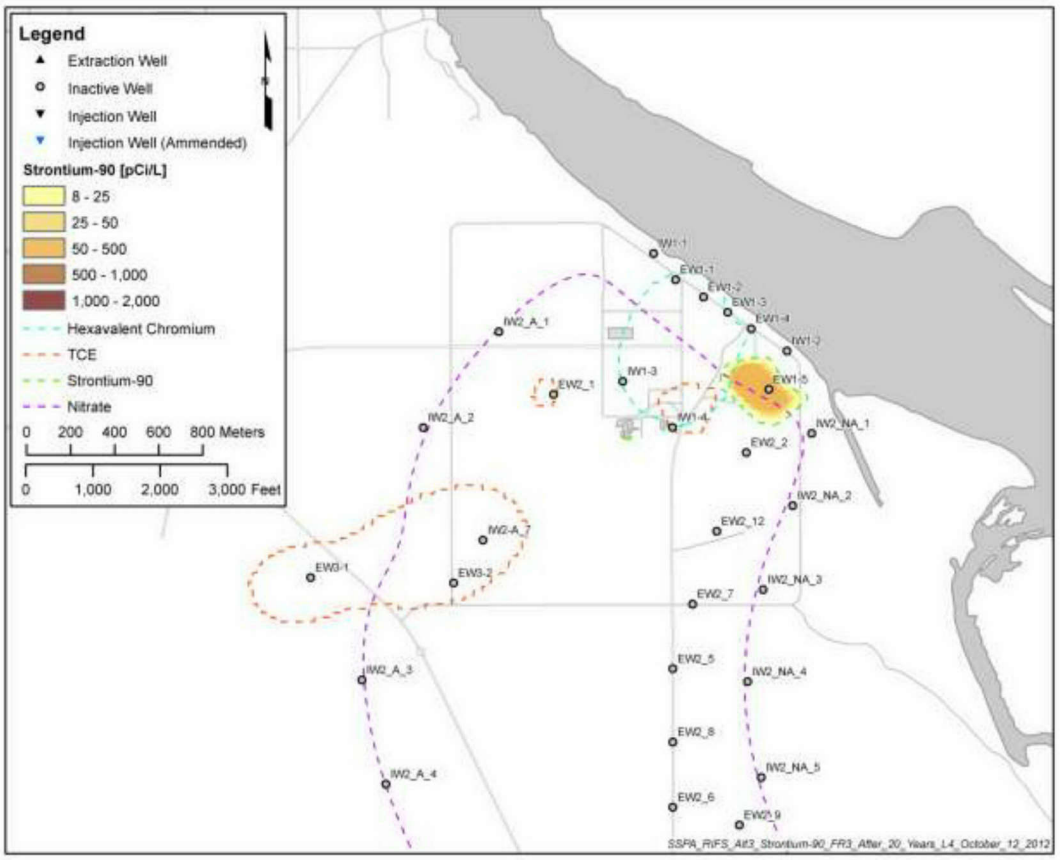

Figure 5-61. Simulated Distribution of Strontium-90 After 20 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

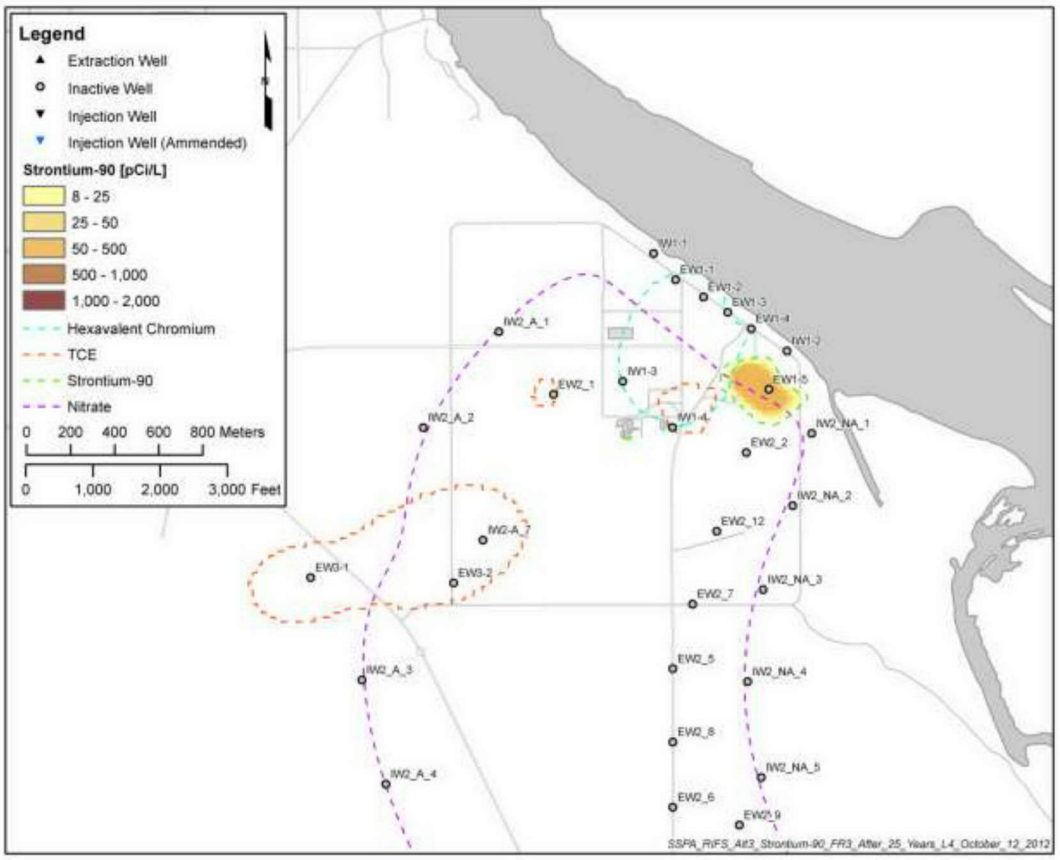

Figure 5-62. Simulated Distribution of Strontium-90 After 25 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

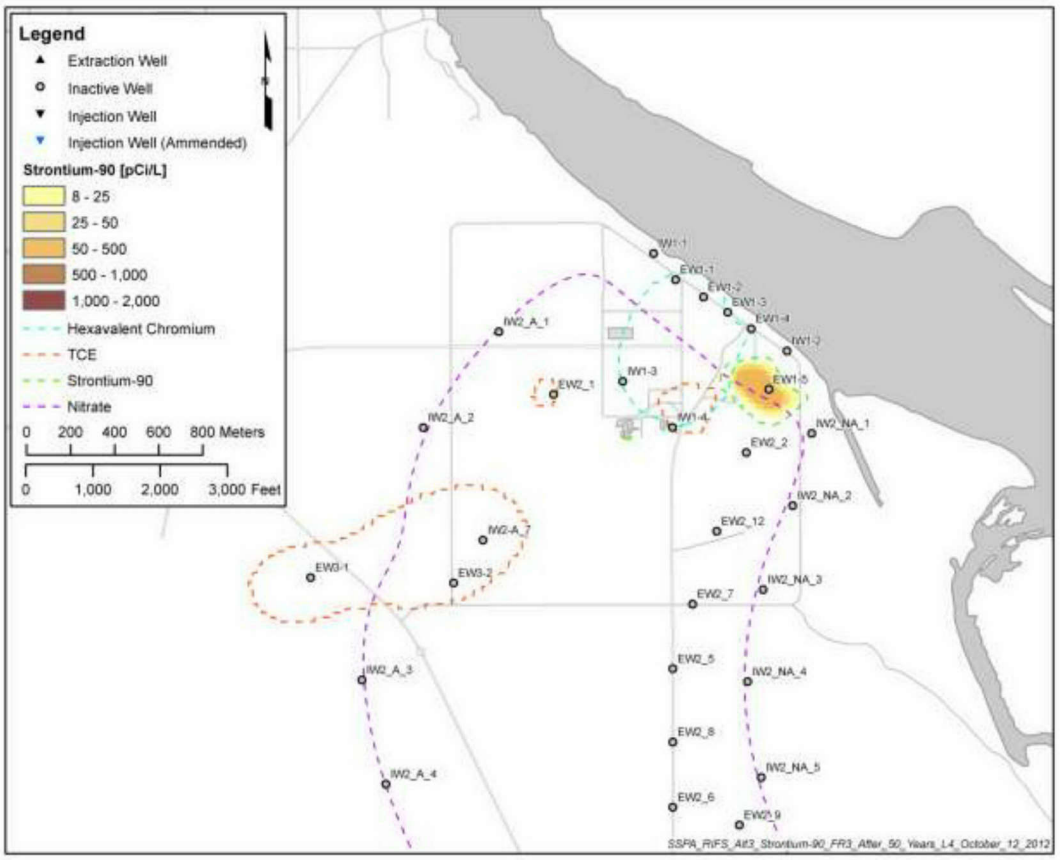

Figure 5-63. Simulated Distribution of Strontium-90 After 50 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

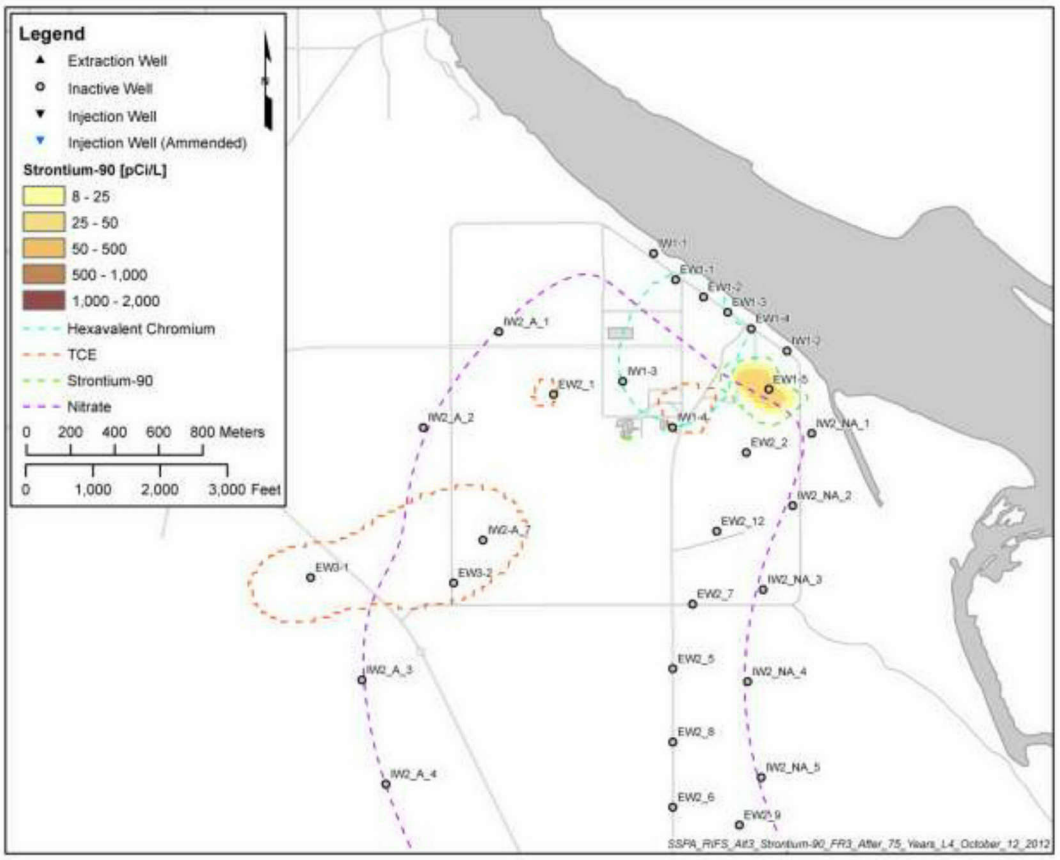

Figure 5-64. Simulated Distribution of Strontium-90 After 75 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

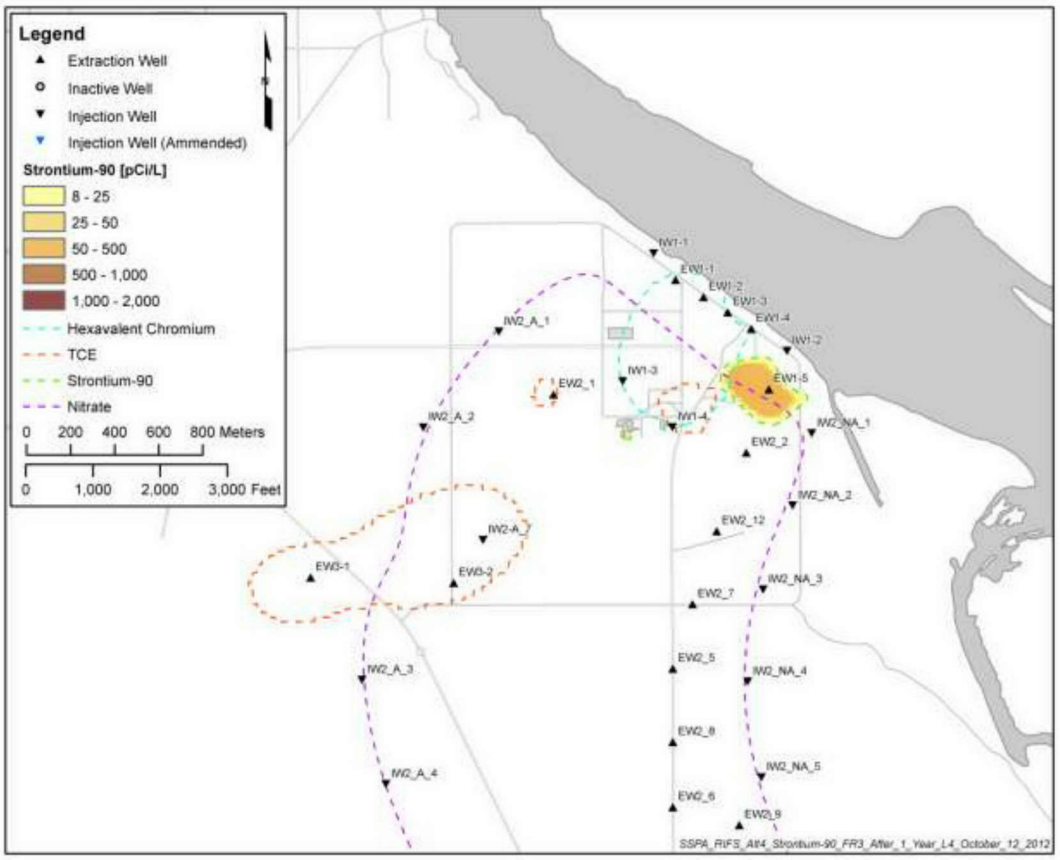

Figure 5-65. Simulated Distribution of Strontium-90 After 1 Year – Alternative 4

ECF-100FR3-11-0116 REV. 3

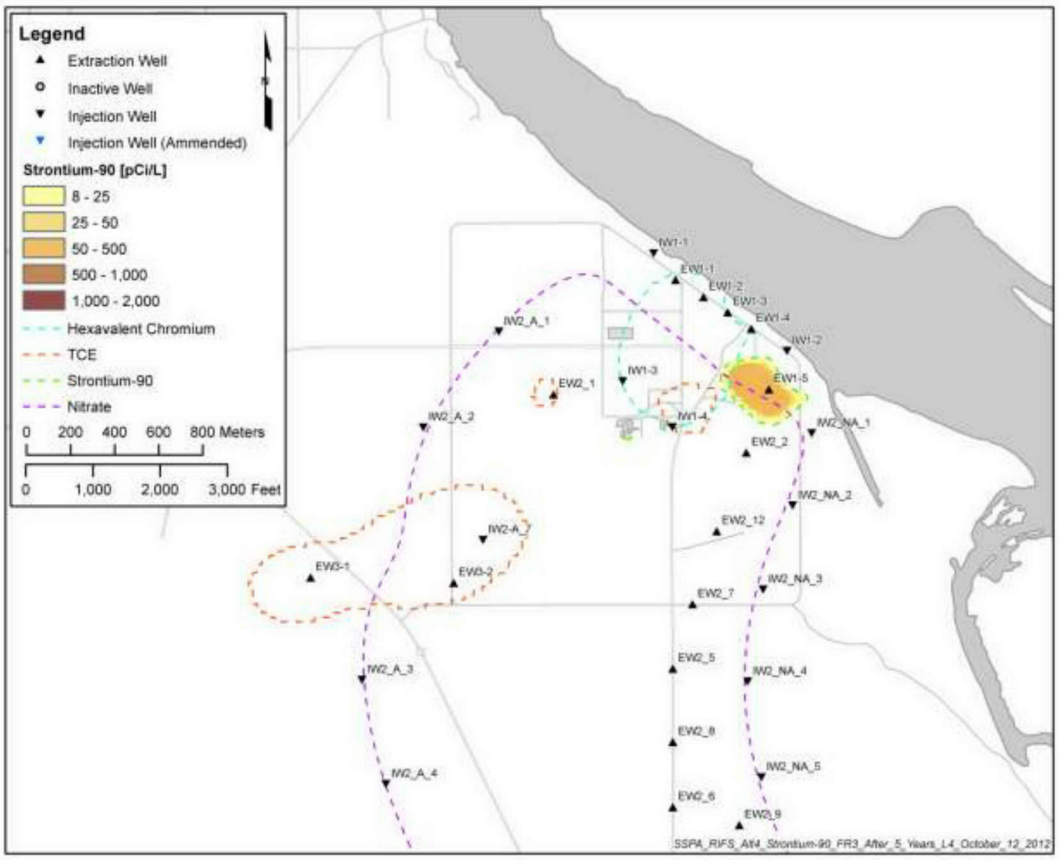

Figure 5-66. Simulated Distribution of Strontium-90 After 5 Years – Alternative 4

ECF-100FR3-11-0116 REV. 3

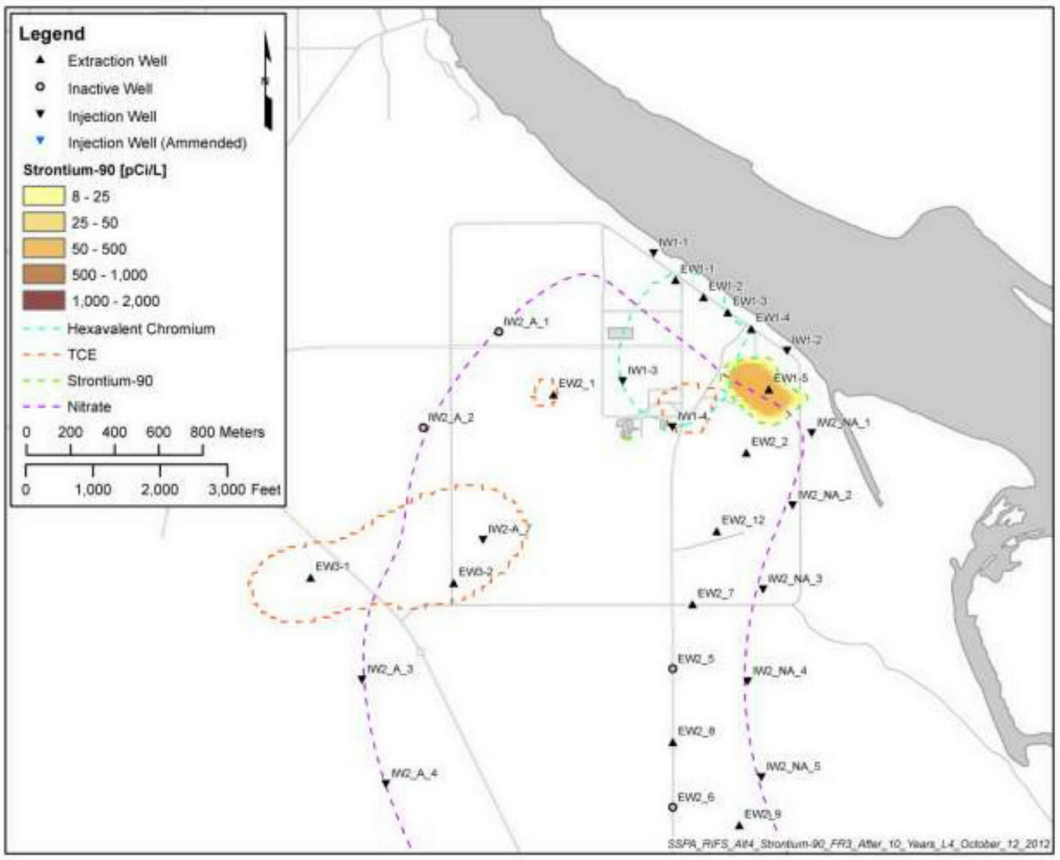

Figure 5-67. Simulated Distribution of Strontium-90 After 10 Years – Alternative 4

ECF-100FR3-11-0116 REV. 3

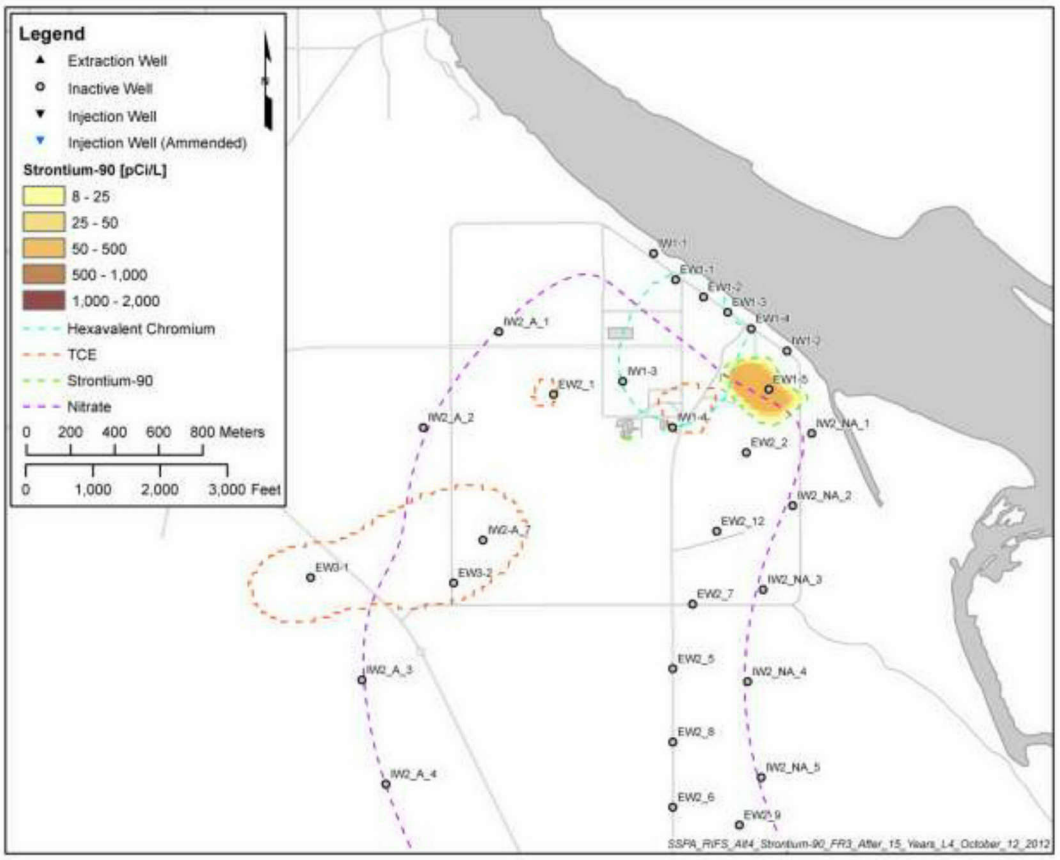

Figure 5-68. Simulated Distribution of Strontium-90 After 15 Years – Alternative 4

ECF-100FR3-11-0116 REV. 3

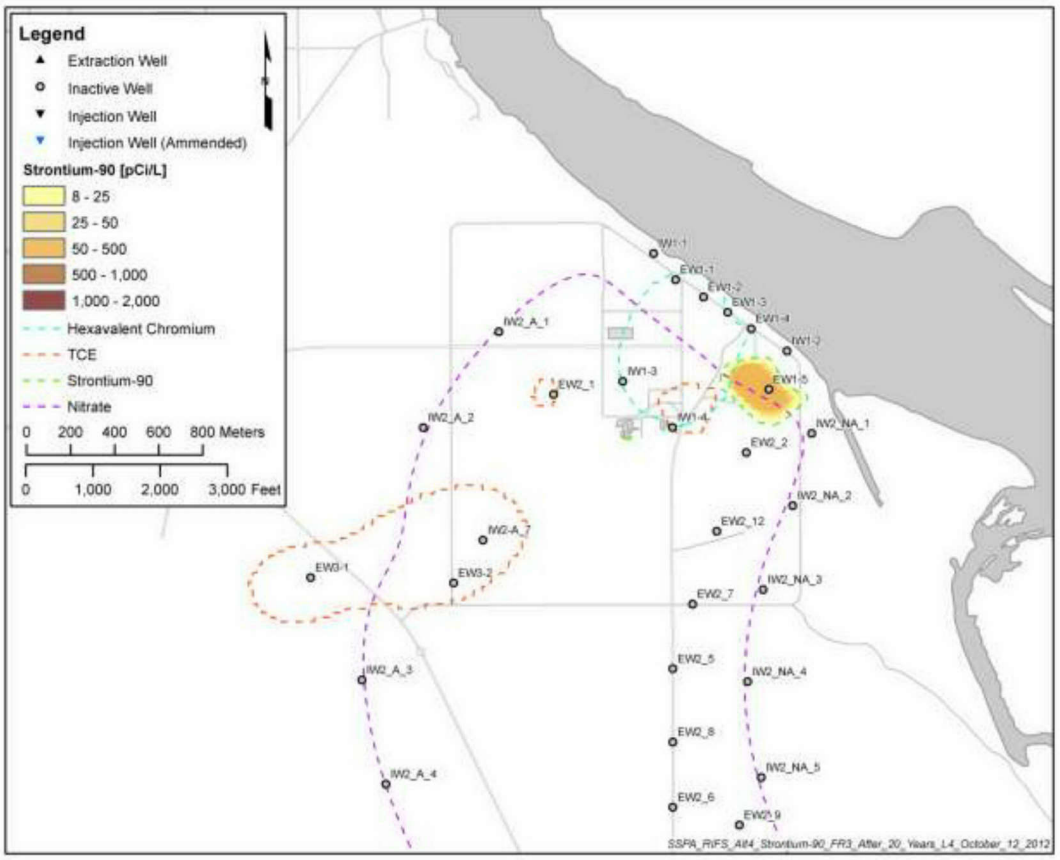

Figure 5-69. Simulated Distribution of Strontium-90 After 20 Years – Alternative 4

ECF-100FR3-11-0116 REV. 3

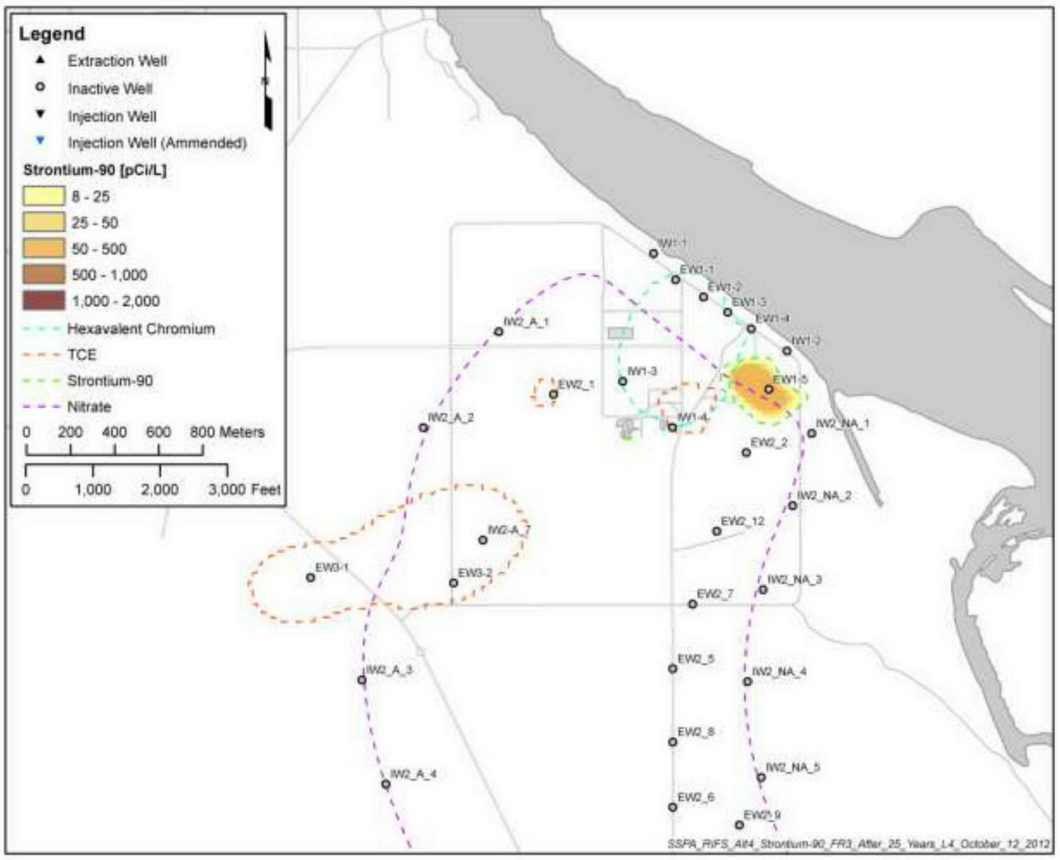

Figure 5-70. Simulated Distribution of Strontium-90 After 25 Years – Alternative 4

ECF-100FR3-11-0116 REV. 3

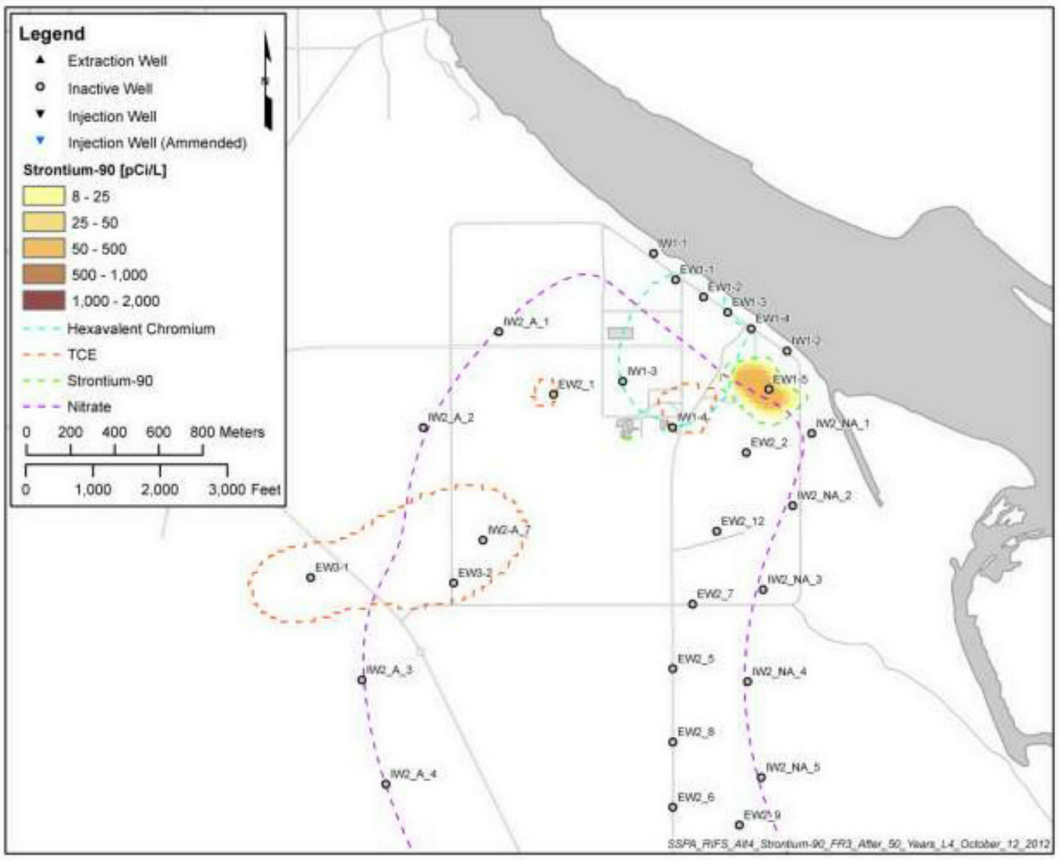

Figure 5-71. Simulated Distribution of Strontium-90 After 50 Years – Alternative 4

ECF-100FR3-11-0116 REV. 3

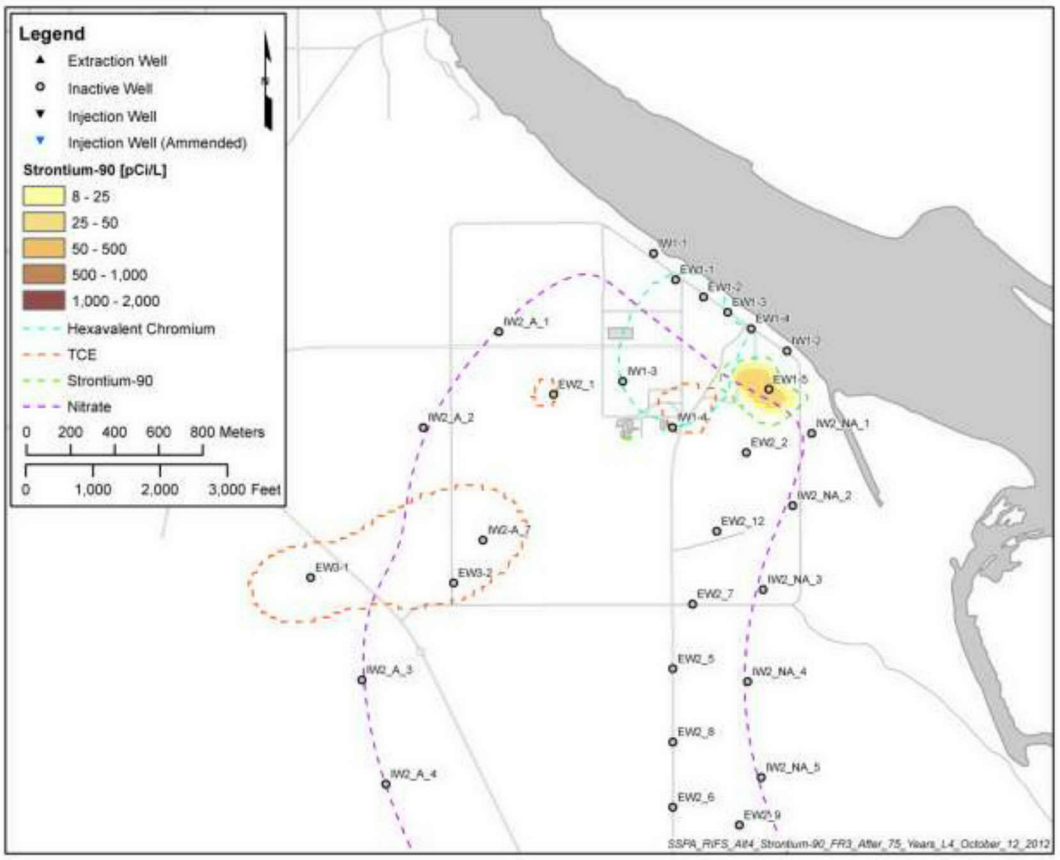

Figure 5-72. Simulated Distribution of Strontium-90 After 75 Years – Alternative 4

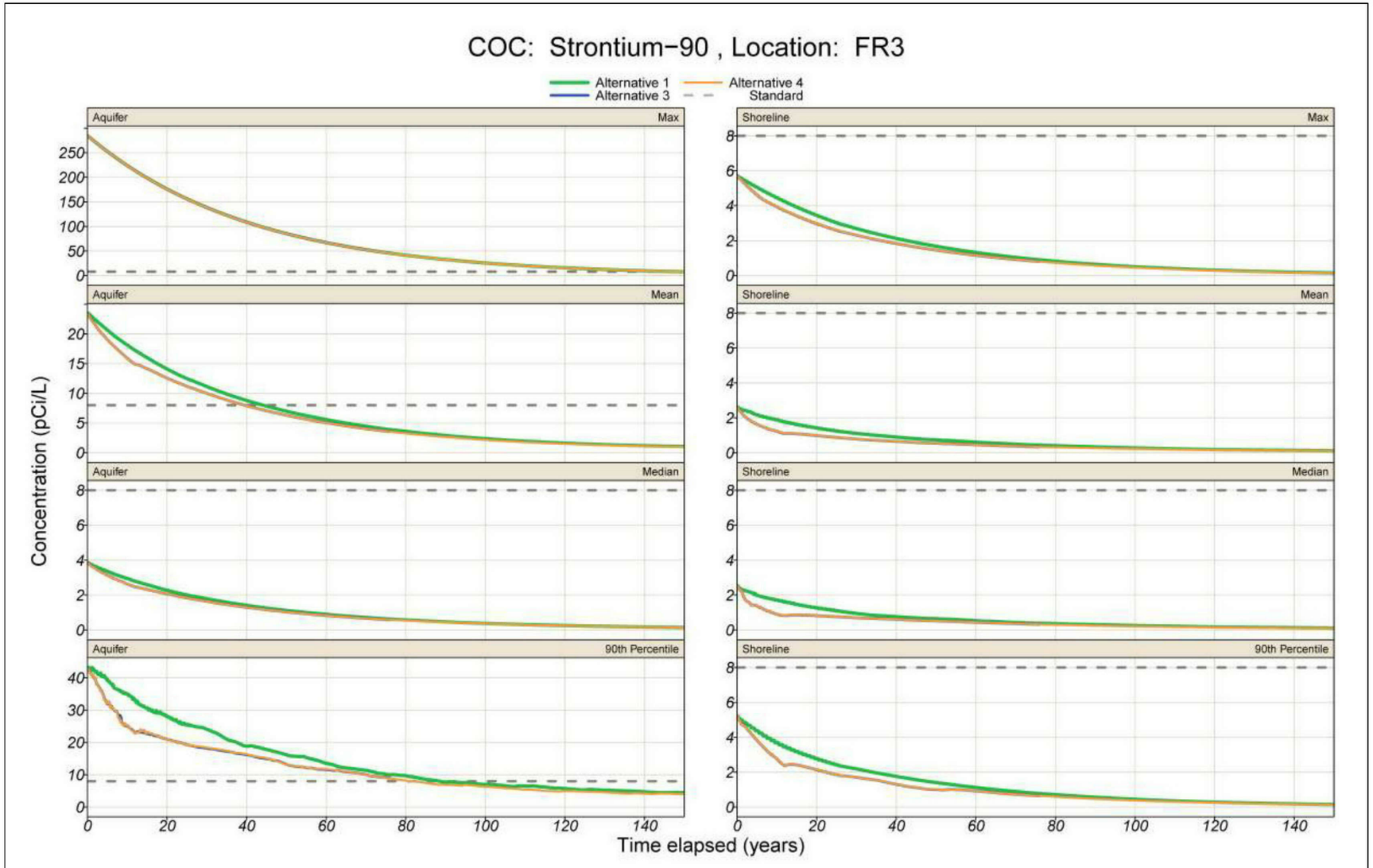

Figure 5-73. Strontium-90: Concentration Statistics – All Alternatives

ECF-100FR3-11-0116 REV. 3

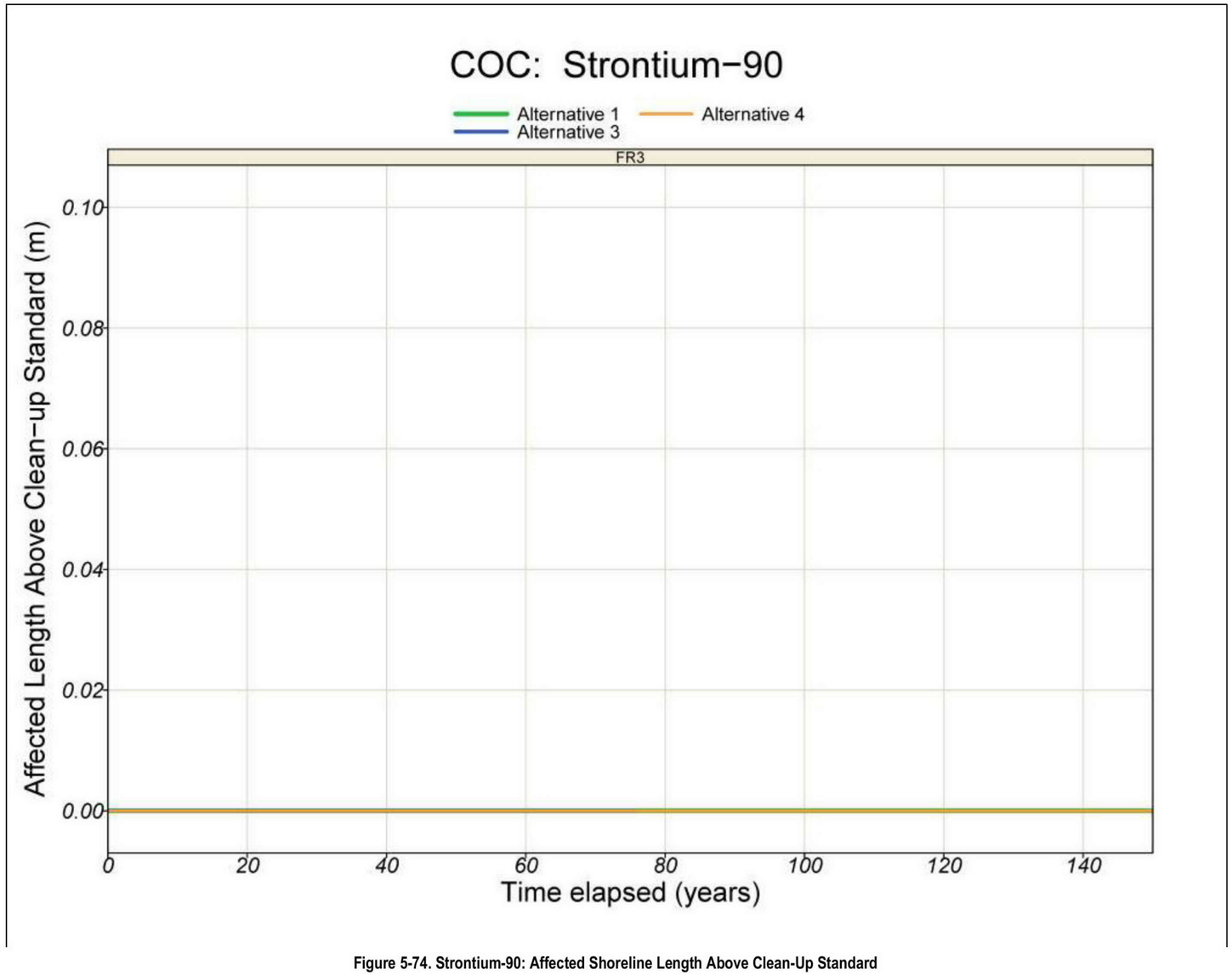

Figure 5-74. Strontium-90: Affected Shoreline Length Above Clean-Up Standard

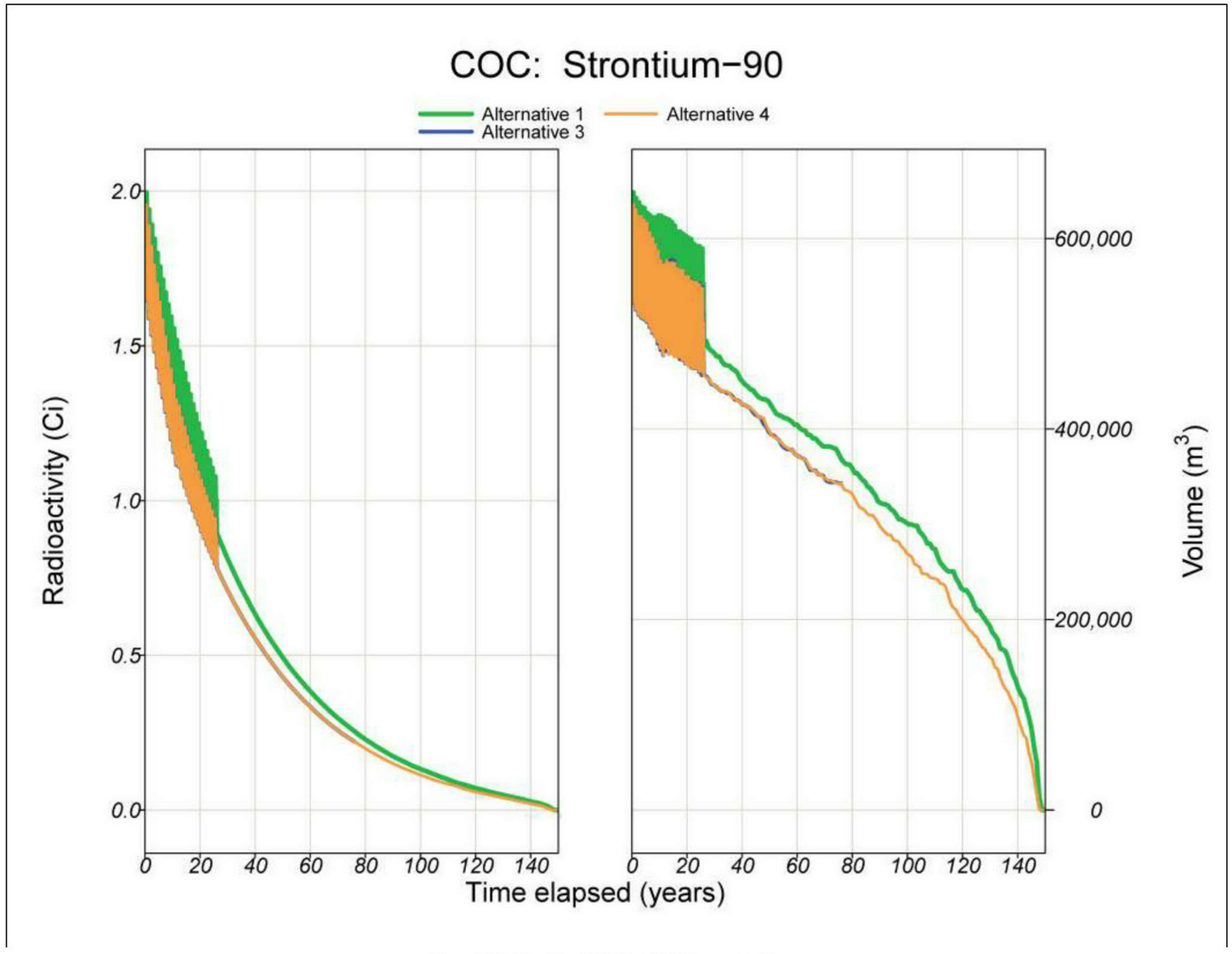

Figure 5-75. Strontium-90: Calculated Mass and Volume

ECF-100FR3-11-0116 REV. 3

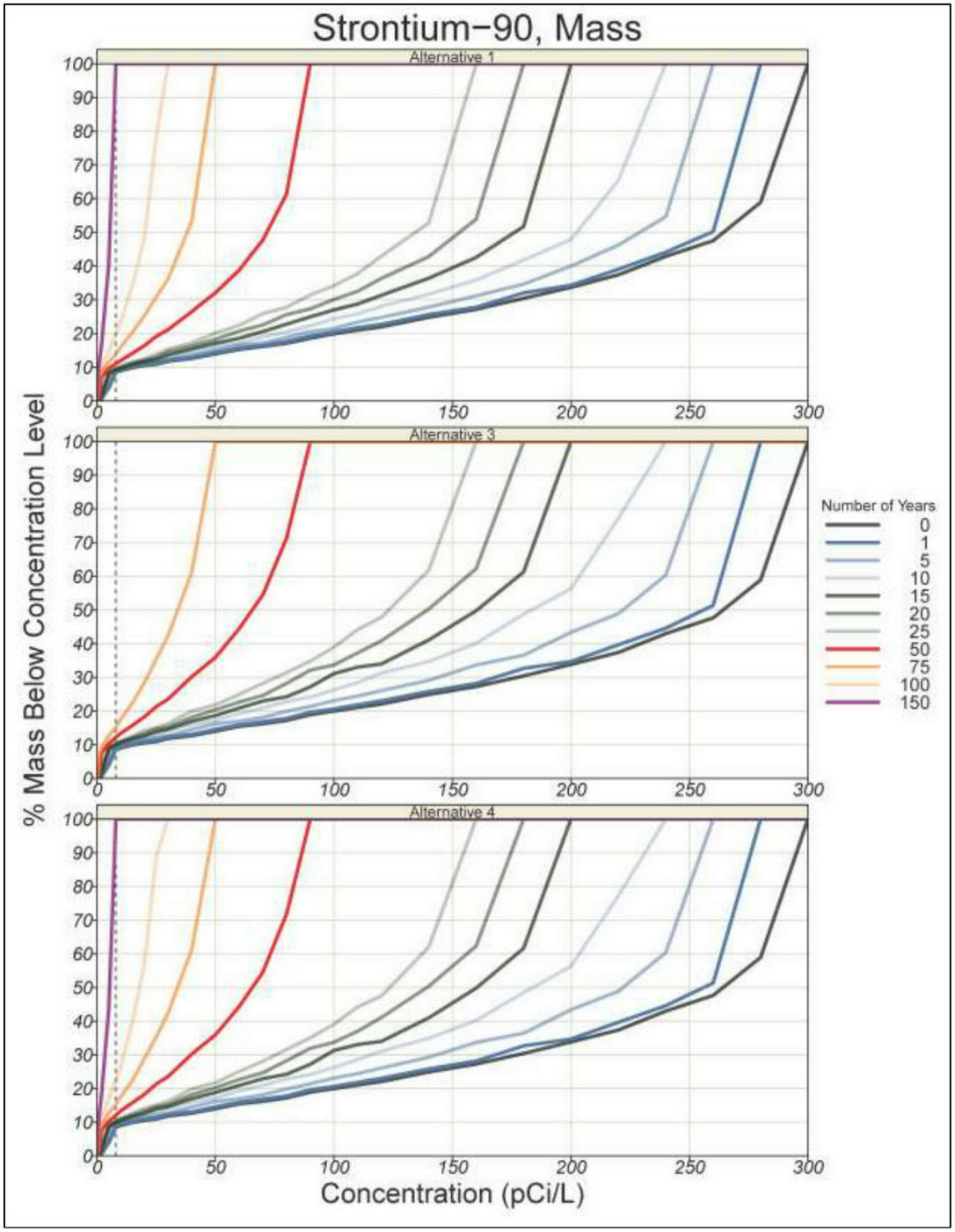

Figure 5-76. Strontium-90: Calculated Mass Frequency Distribution at Selected Times

ECF-100FR3-11-0116 REV. 3

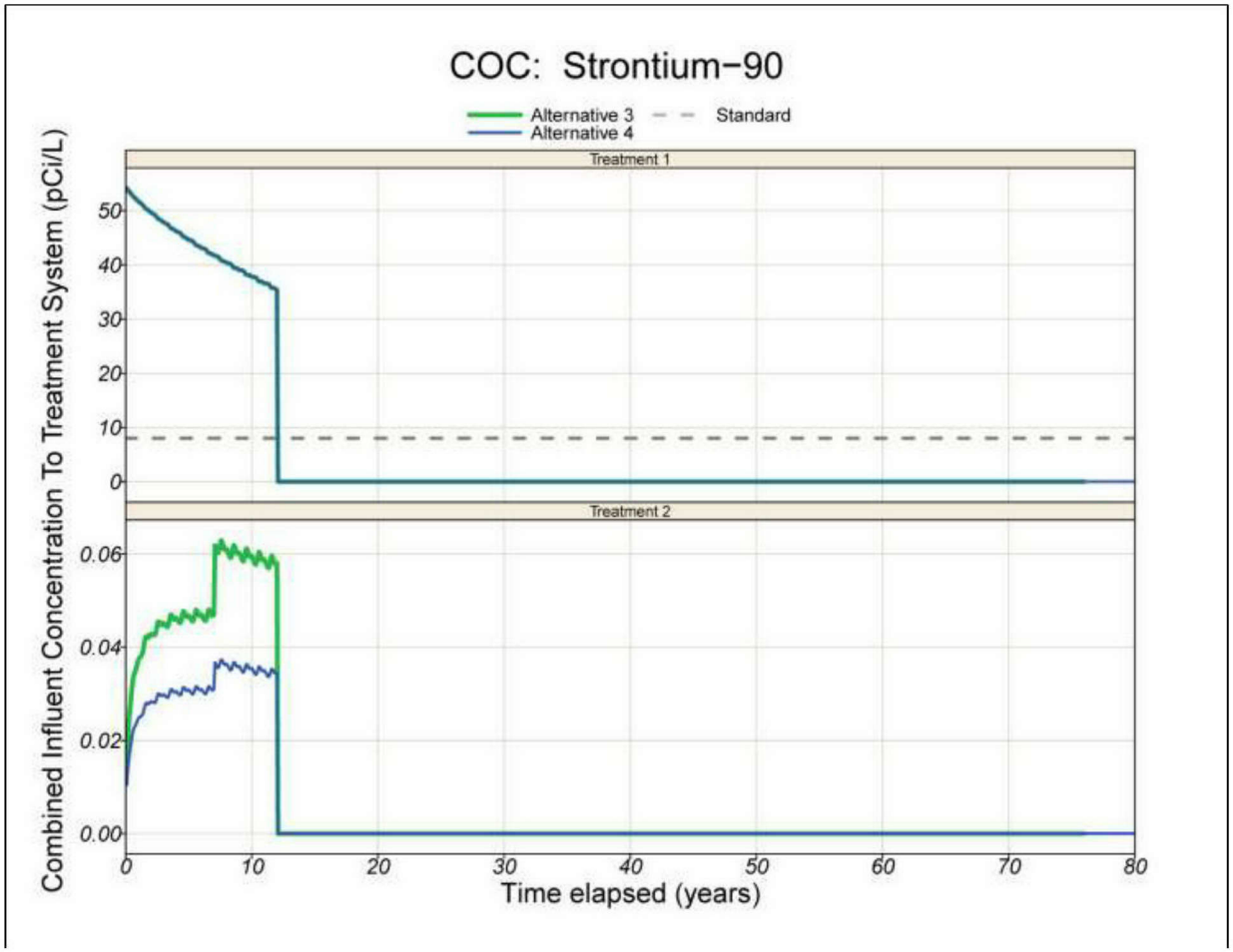

Figure 5-77. Strontium-90: Calculated Influent Concentration at P&T

5.2.4 Simulated Contaminant Distributions – Concentration Statistics: TCE

Table 5-5 summarizes aquifer remediation timeframes for each alternative on the basis of maximum concentration in the aquifer and the 90th percentile of the concentration distribution. Values in this Table are rounded up to 5-year increments. Remediation timeframes are calculated for TCE to reflect if/when concentrations in the aquifer are below the PRG (5 μg/L).

Figures 5-78 to 5-85 illustrate the simulated distribution of TCE under Alternatives 1 and 2 after 1, 5, 10, 15, 20, 25, 50 and 75 years, respectively. Figures 5-86 to 5-88 illustrate the simulated distribution of TCE under Alternative 3 after 1, 5 and 10 years, respectively. Figures 5-89 to 5-91 illustrate the simulated distribution of TCE under Alternative 4 after 1, 5 and 10 years, respectively.

Figure 5-92 shows summary concentration statistics for each alternative in the aquifer and at the shoreline. Figure 5-93 shows the timeseries of affected shoreline length under each alternative. Figure 5-94 illustrates the plume mass and volume timeseries under each alternative. Mass frequency distributions for each alternative are shown in Figure 5-95. P&T influent concentrations are ahown in Figure 5-96.

Table 5-5. Remediation Timeframes for TCE (in Years)

	Alternative 1 and 2		Alternative 3		Alternative 4	
	Maximum Concentration	90th Percentile	Maximum Concentration	90th Percentile	Maximum Concentration	90th Percentile
TCE PRG: 5 μg/L	45	Always Below PRG	10	Always Below PRG	10	Always Below PRG

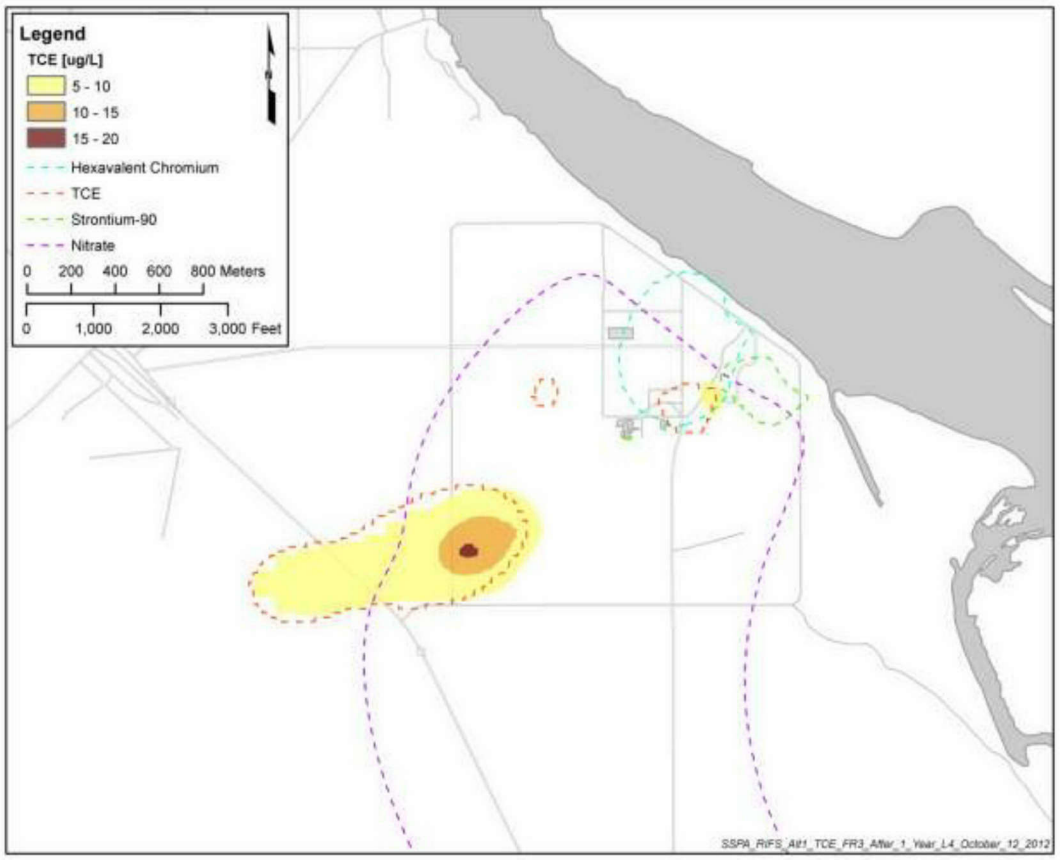

Figure 5-78. Simulated Distribution of TCE After 1 Year – Alternatives 1 & 2

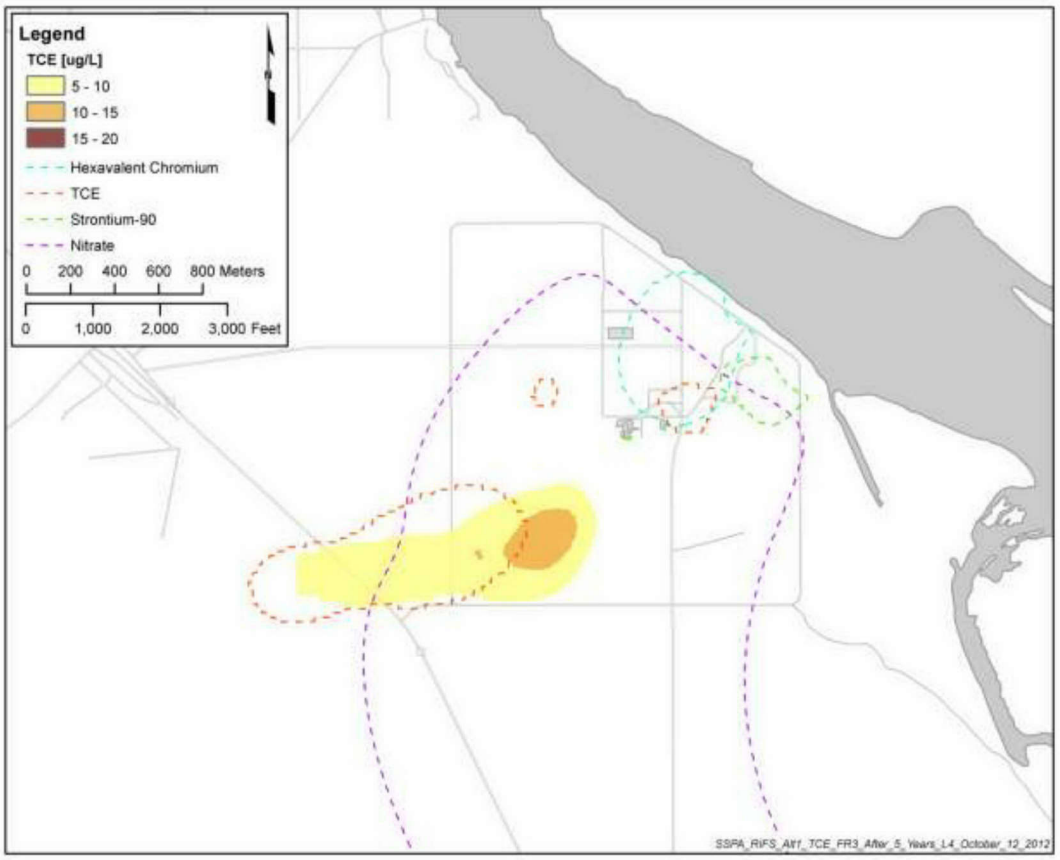

Figure 5-79. Simulated Distribution of TCE After 5 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

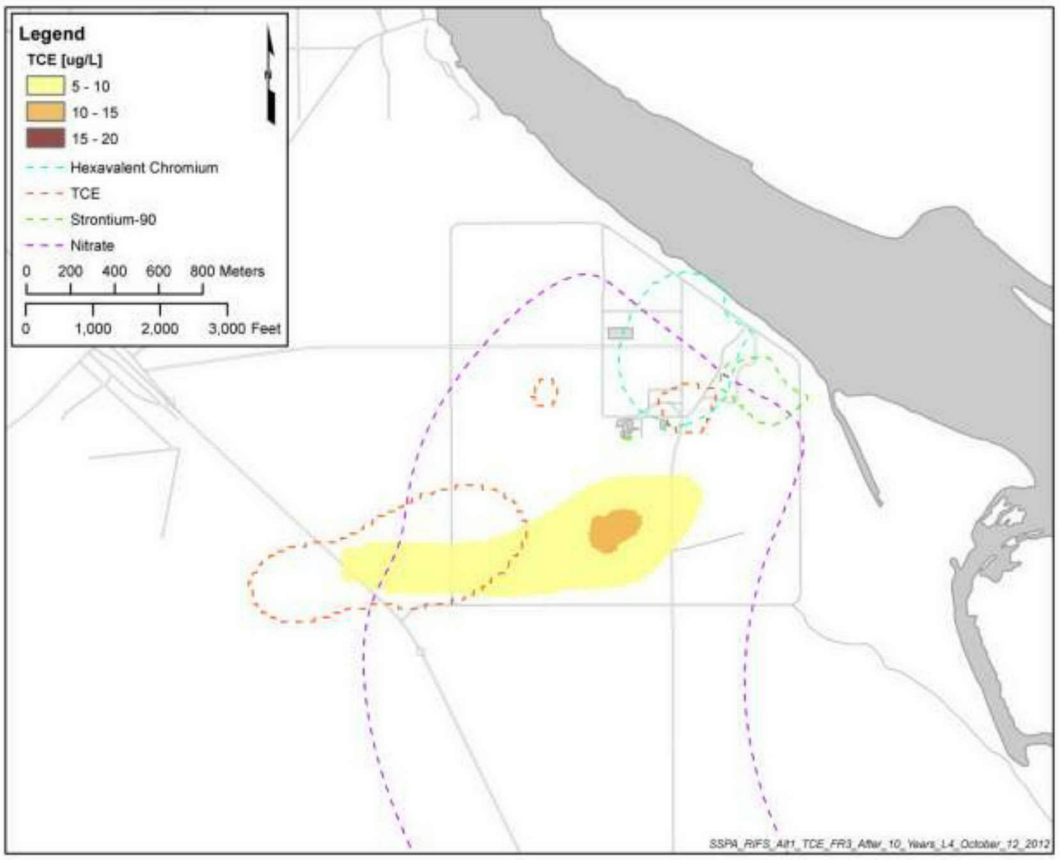

Figure 5-80. Simulated Distribution of TCE After 10 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

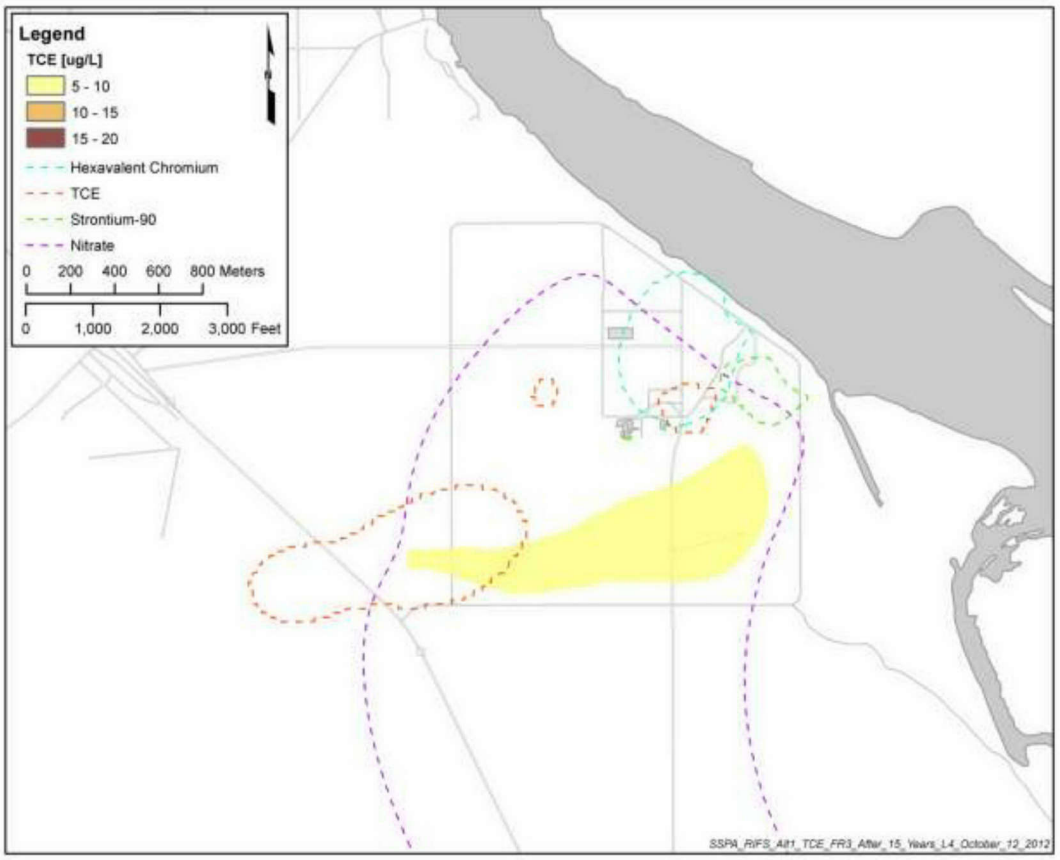

Figure 5-81. Simulated Distribution of TCE After 15 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

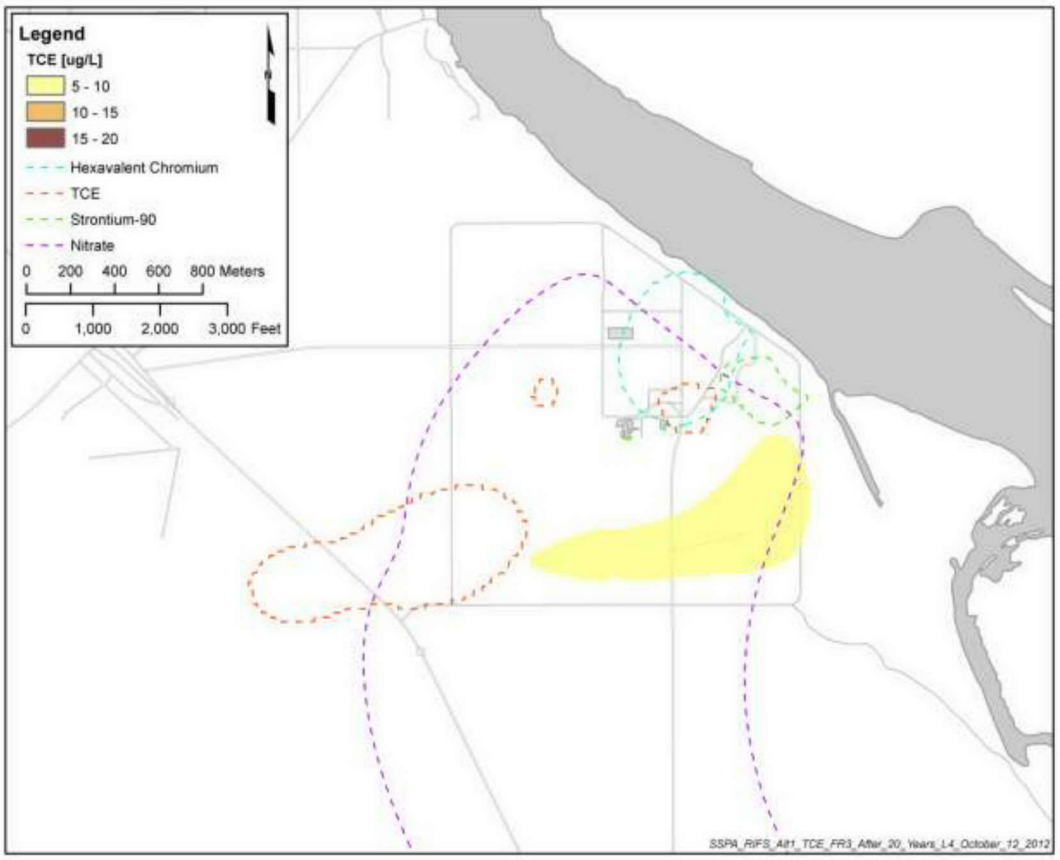

Figure 5-82. Simulated Distribution of TCE After 20 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

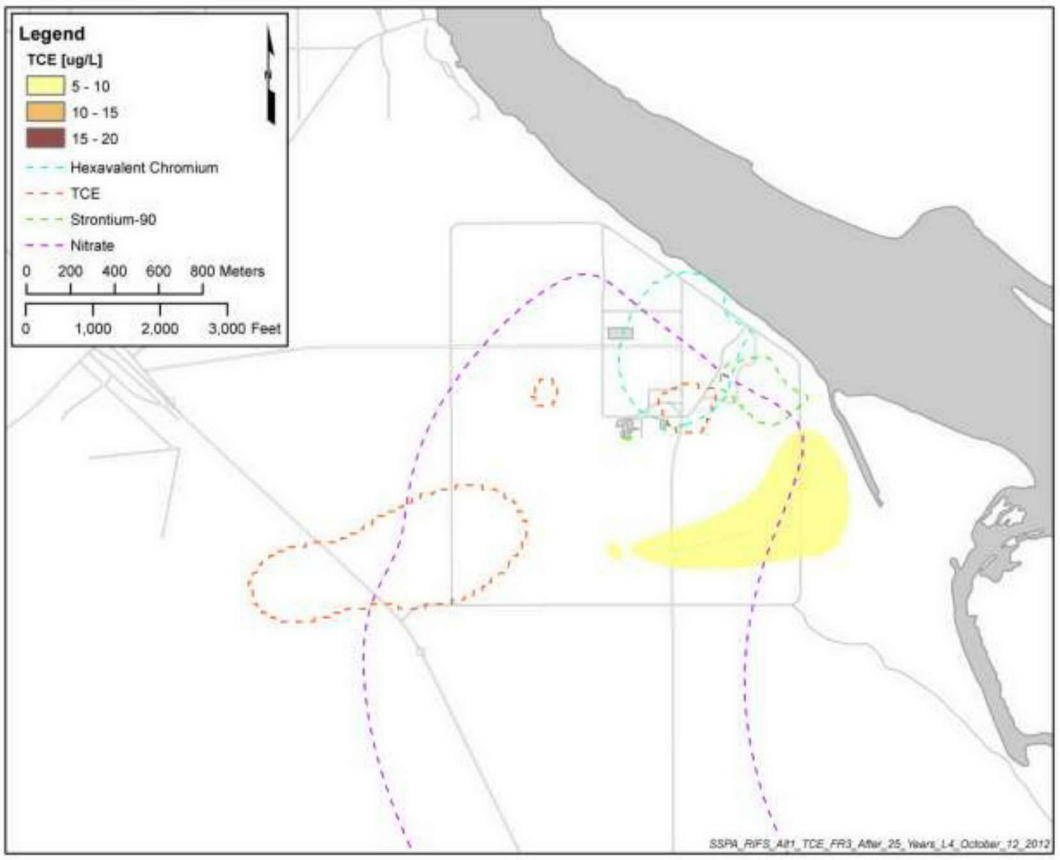

Figure 5-83. Simulated Distribution of TCE After 25 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

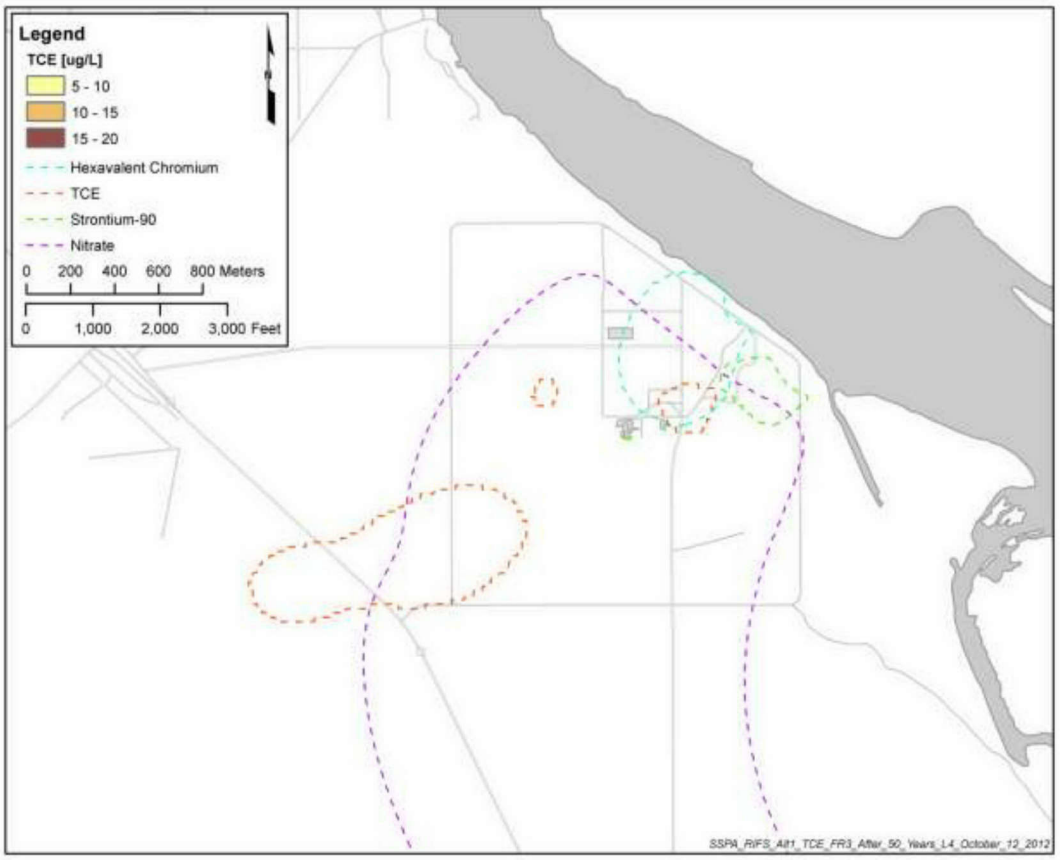

Figure 5-84. Simulated Distribution of TCE After 50 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

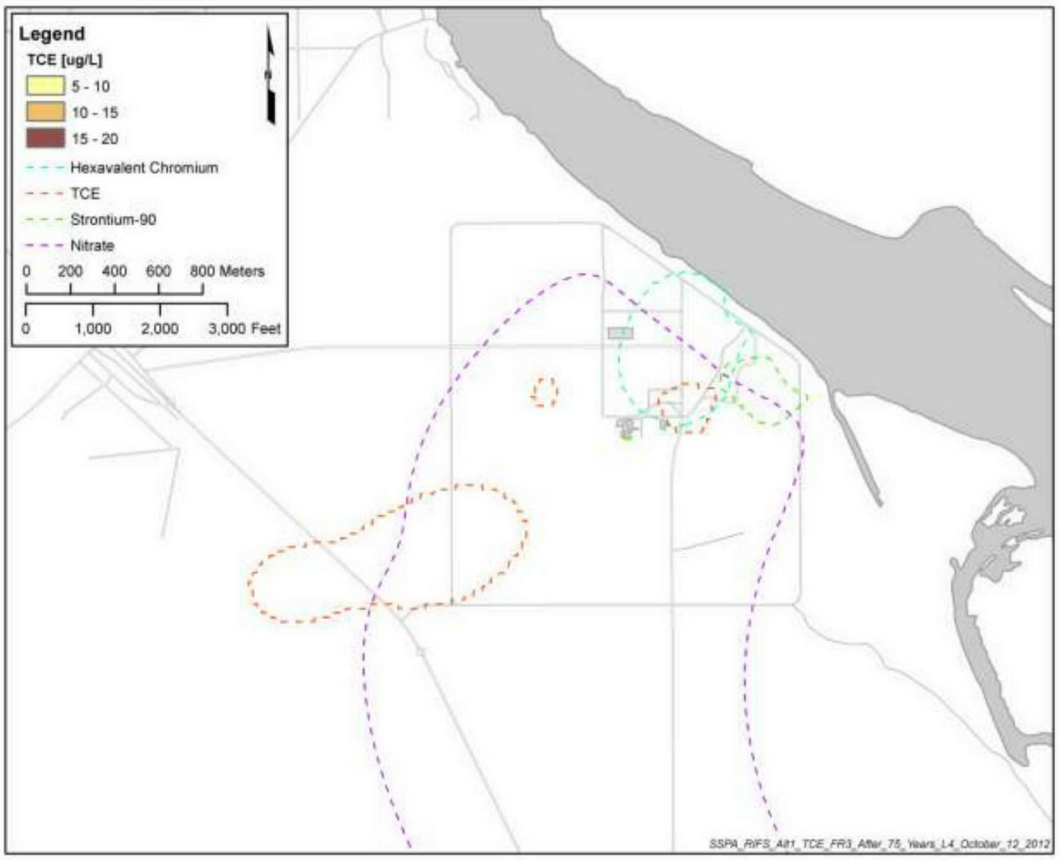

Figure 5-85. Simulated Distribution of TCE After 75 Years – Alternatives 1 & 2

ECF-100FR3-11-0116 REV. 3

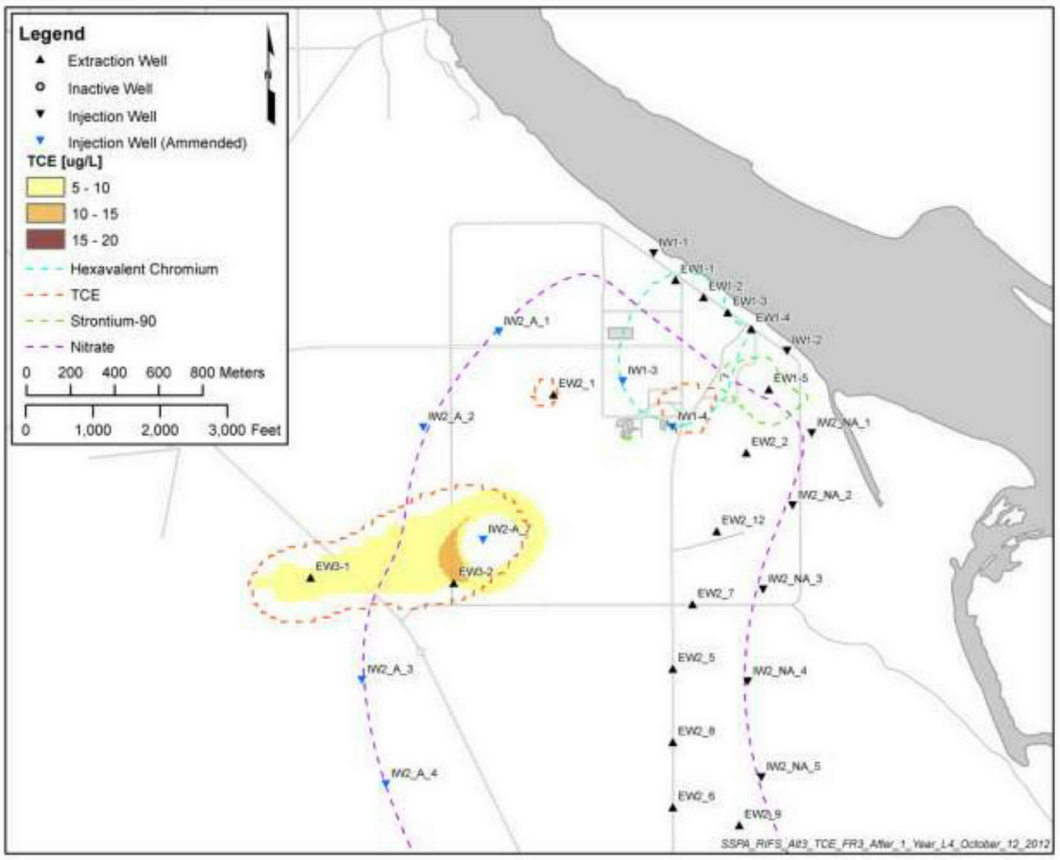

Figure 5-86. Simulated Distribution of TCE After 1 Year – Alternative 3

ECF-100FR3-11-0116 REV. 3

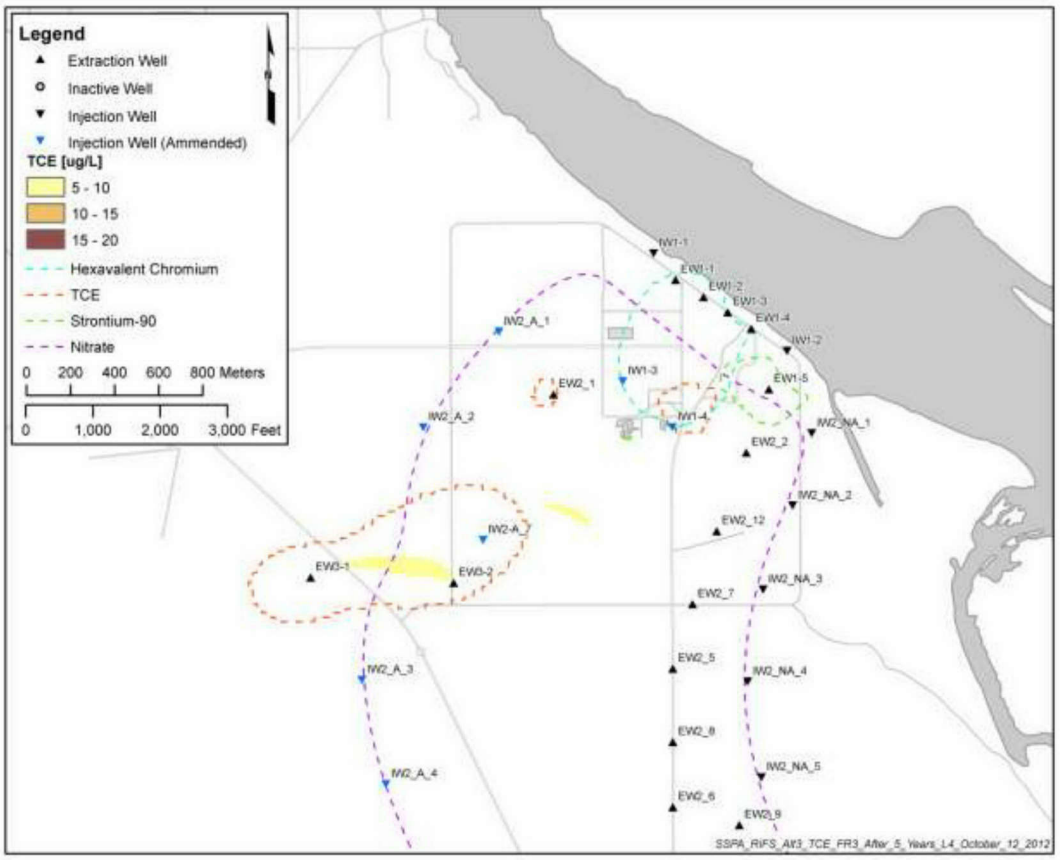

Figure 5-87. Simulated Distribution of TCE After 5 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

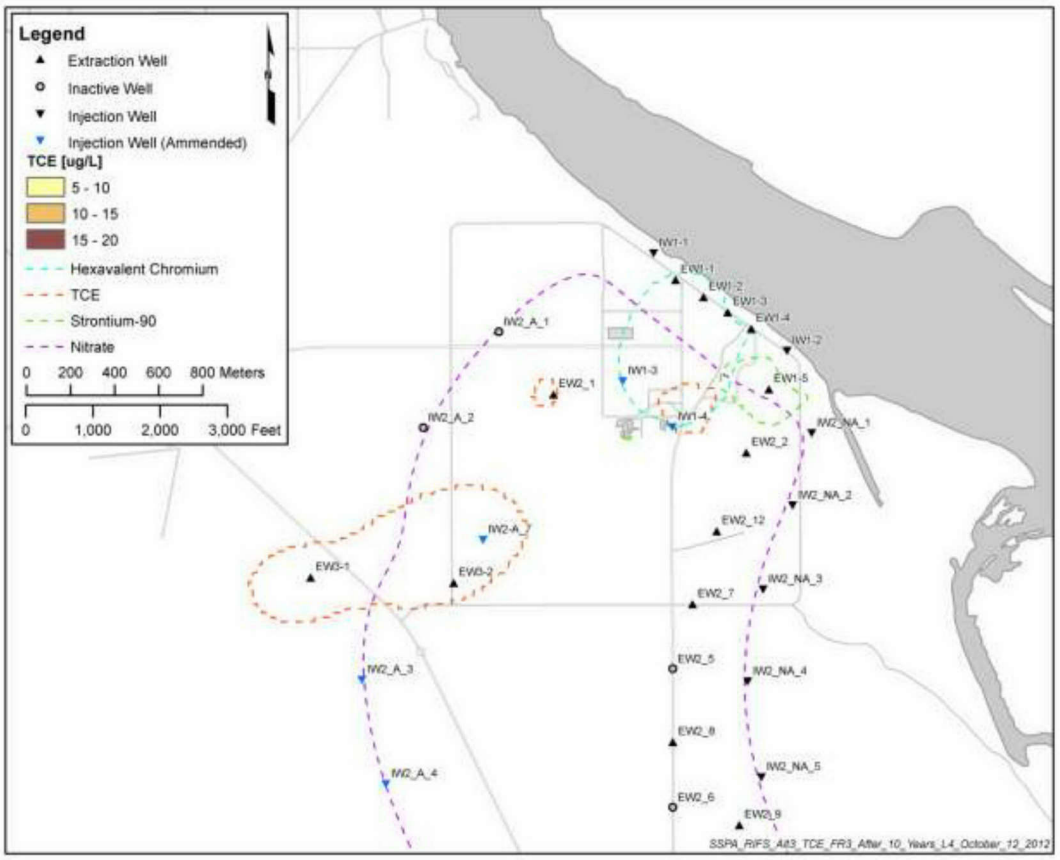

Figure 5-88. Simulated Distribution of TCE After 10 Years – Alternative 3

ECF-100FR3-11-0116 REV. 3

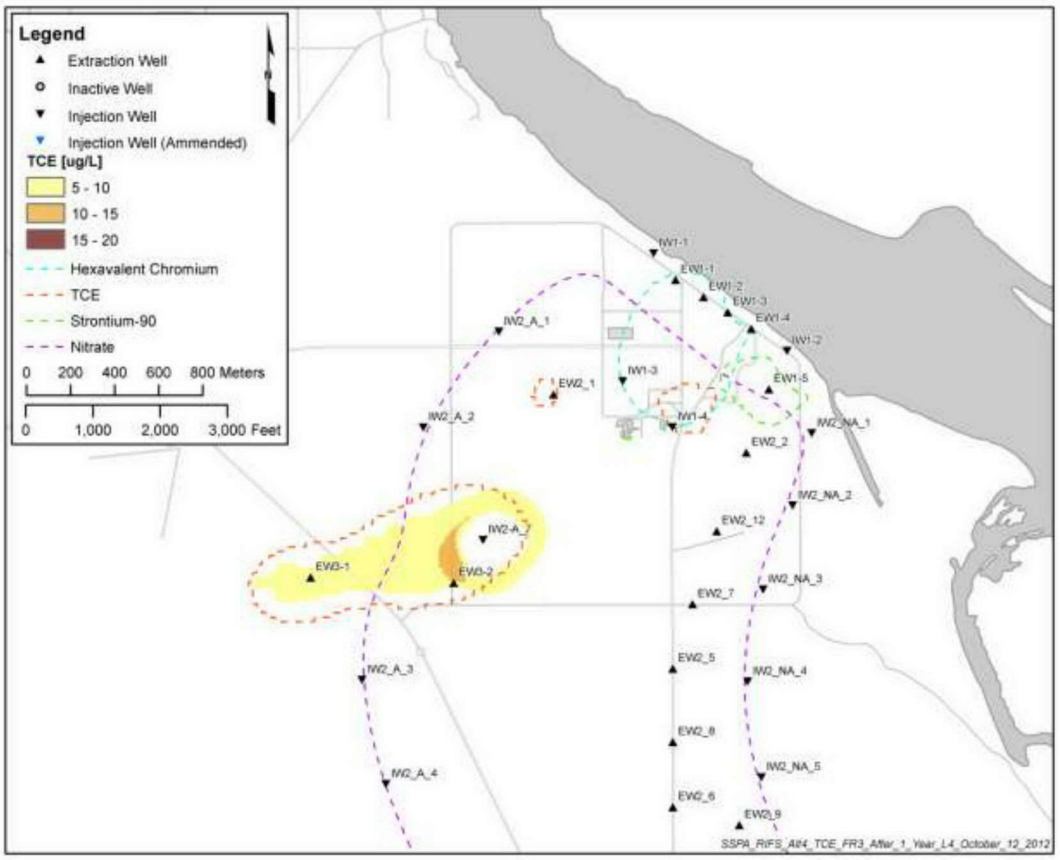

Figure 5-89. Simulated Distribution of TCE After 1 Year – Alternative 4

ECF-100FR3-11-0116 REV. 3

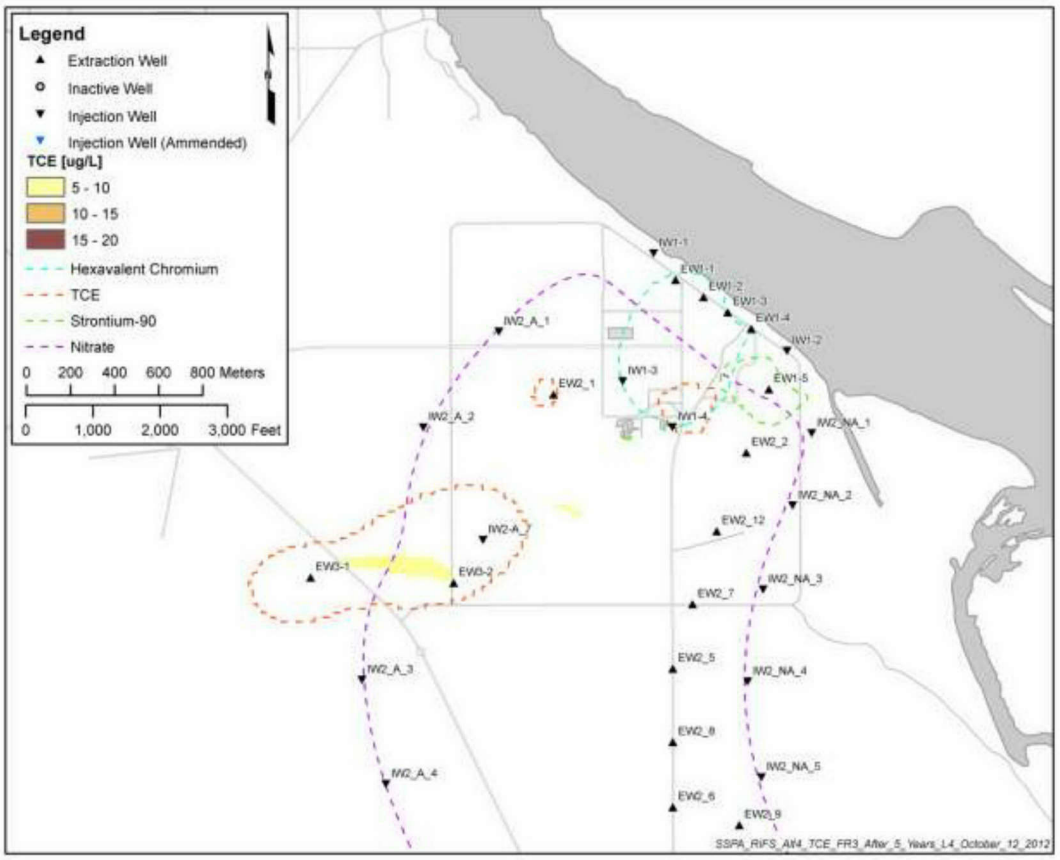

Figure 5-90. Simulated Distribution of TCE After 5 Years – Alternative 4

ECF-100FR3-11-0116 REV. 3

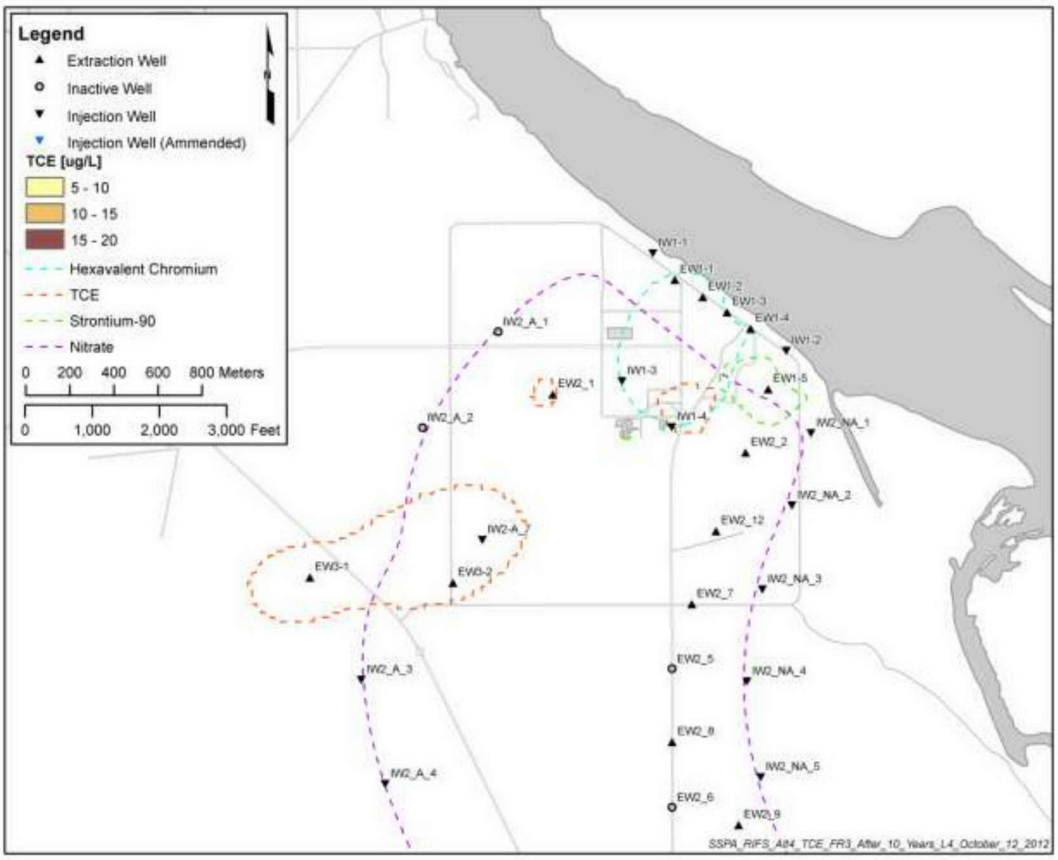

Figure 5-91. Simulated Distribution of TCE After 10 Years – Alternative 4

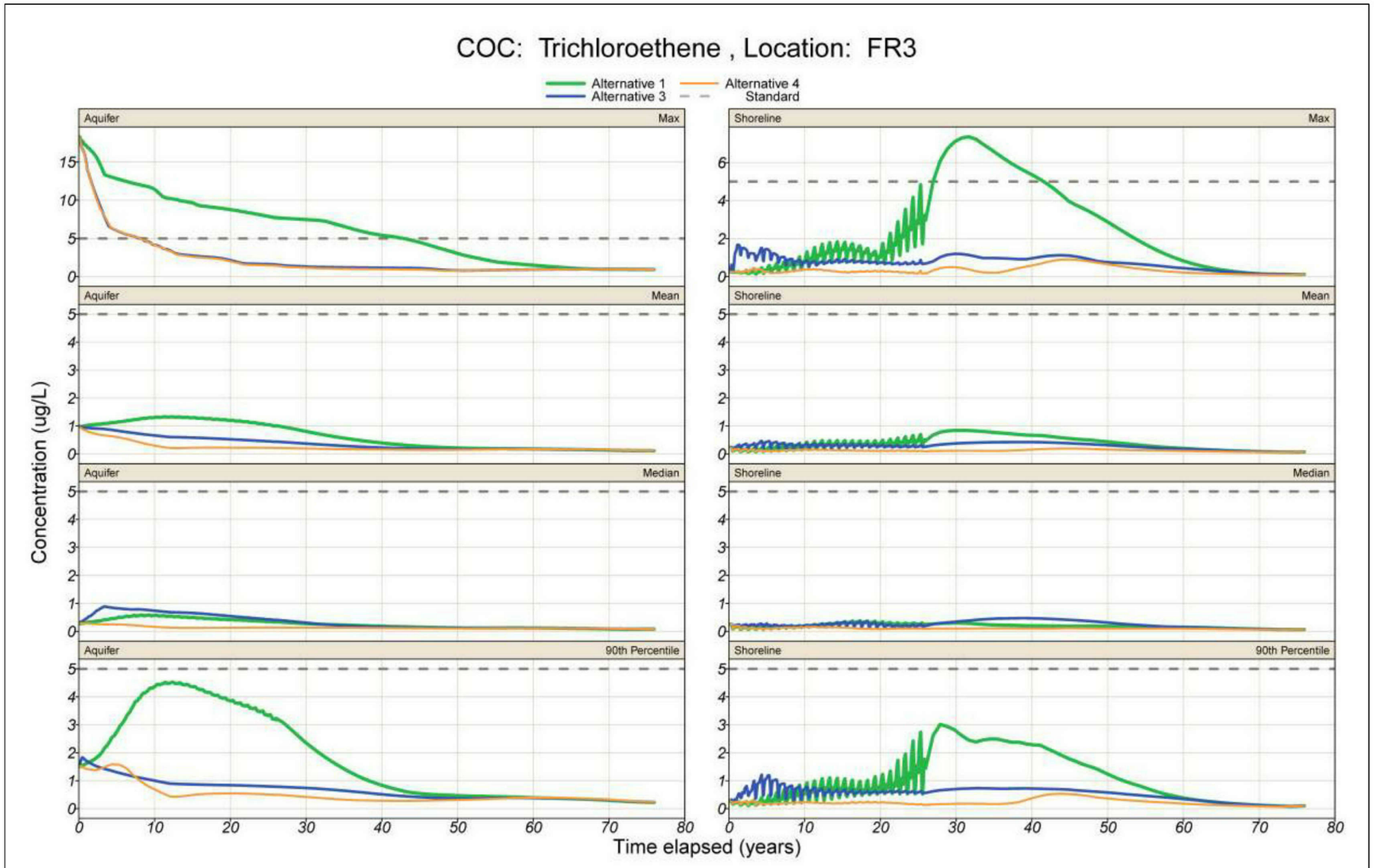

Figure 5-92. TCE: Concentration Statistics – All Alternatives

ECF-100FR3-11-0116 REV. 3

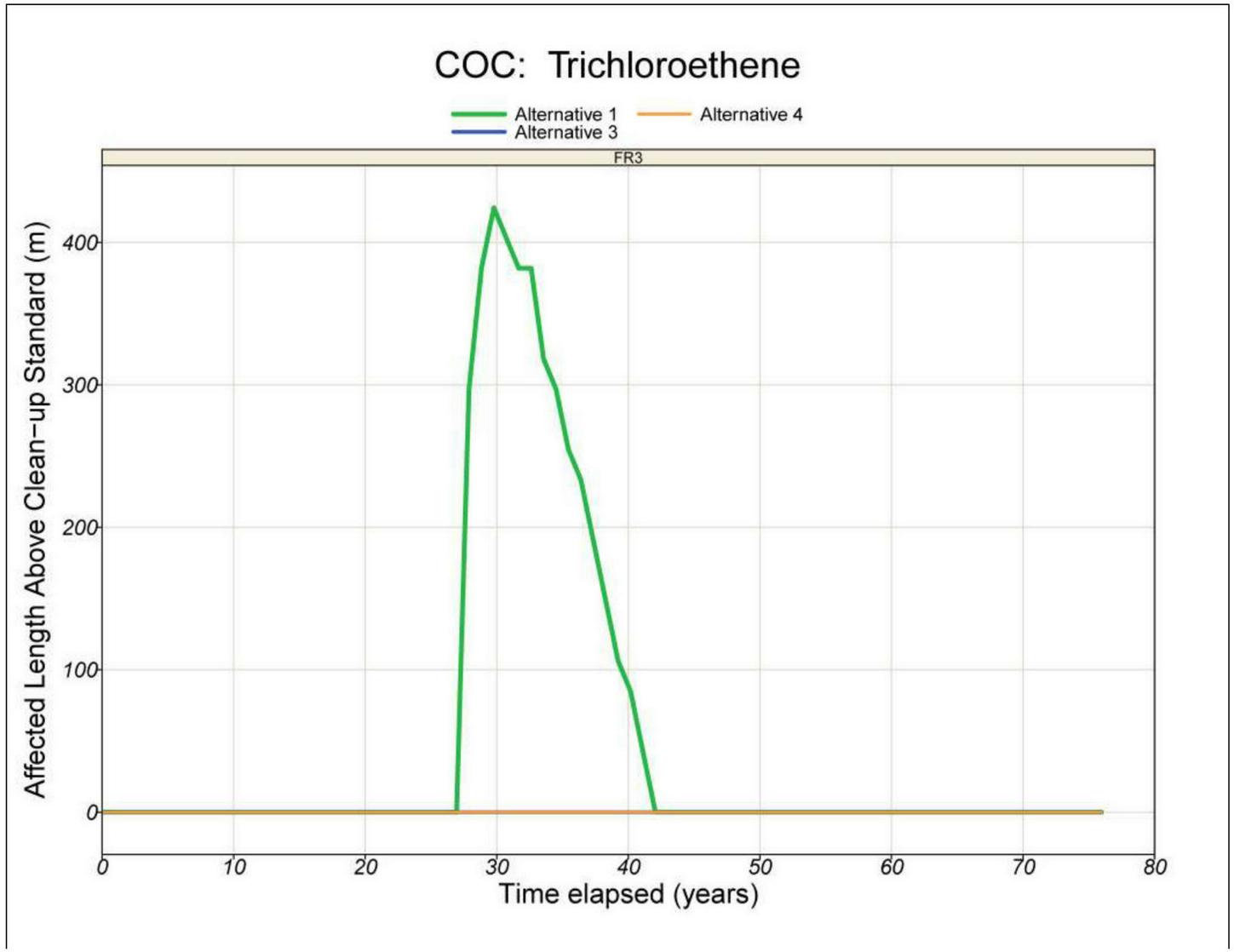

Figure 5-93. TCE: Affected Shoreline Length Above Clean-Up Standard

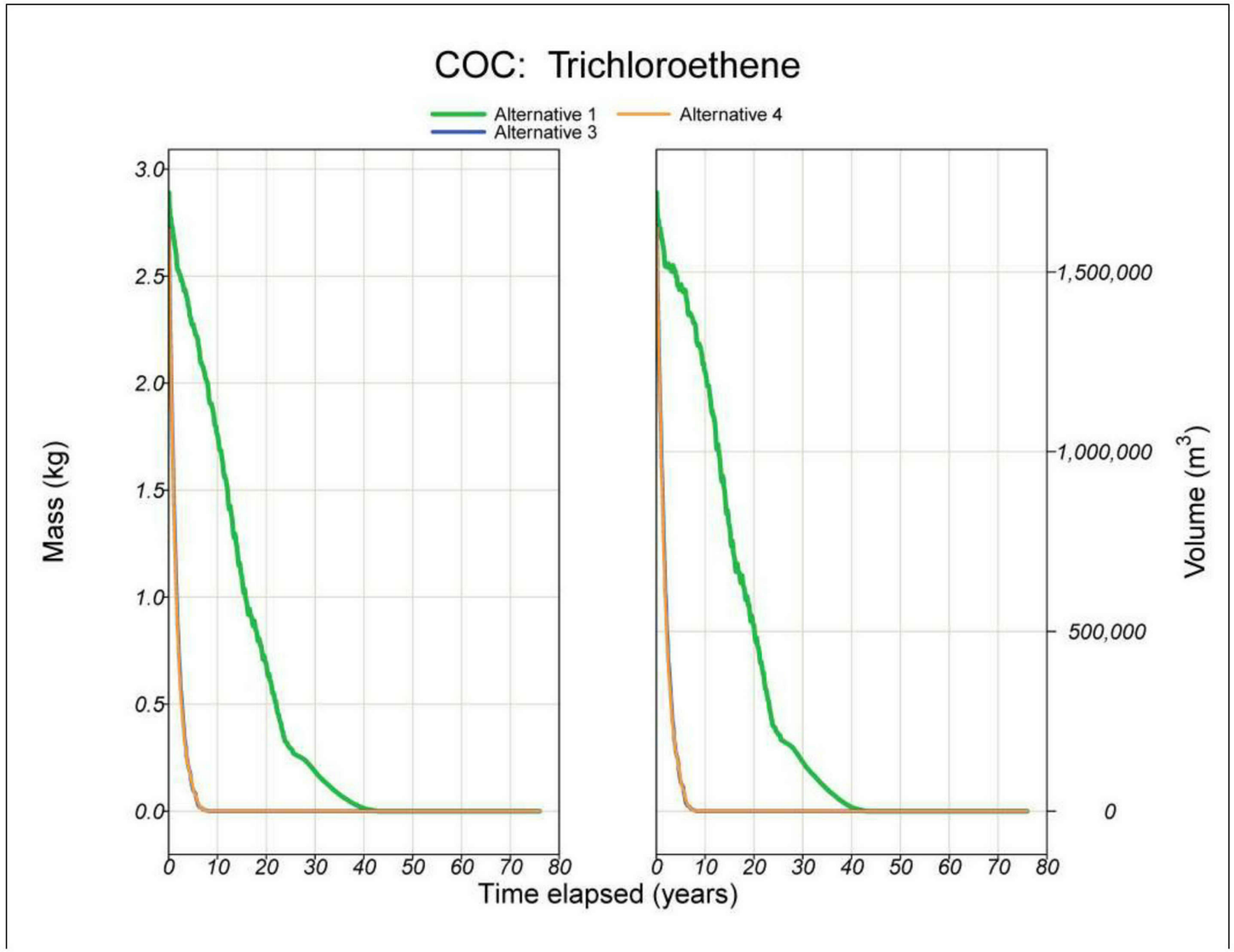

Figure 5-94. TCE: Calculated Mass and Volume

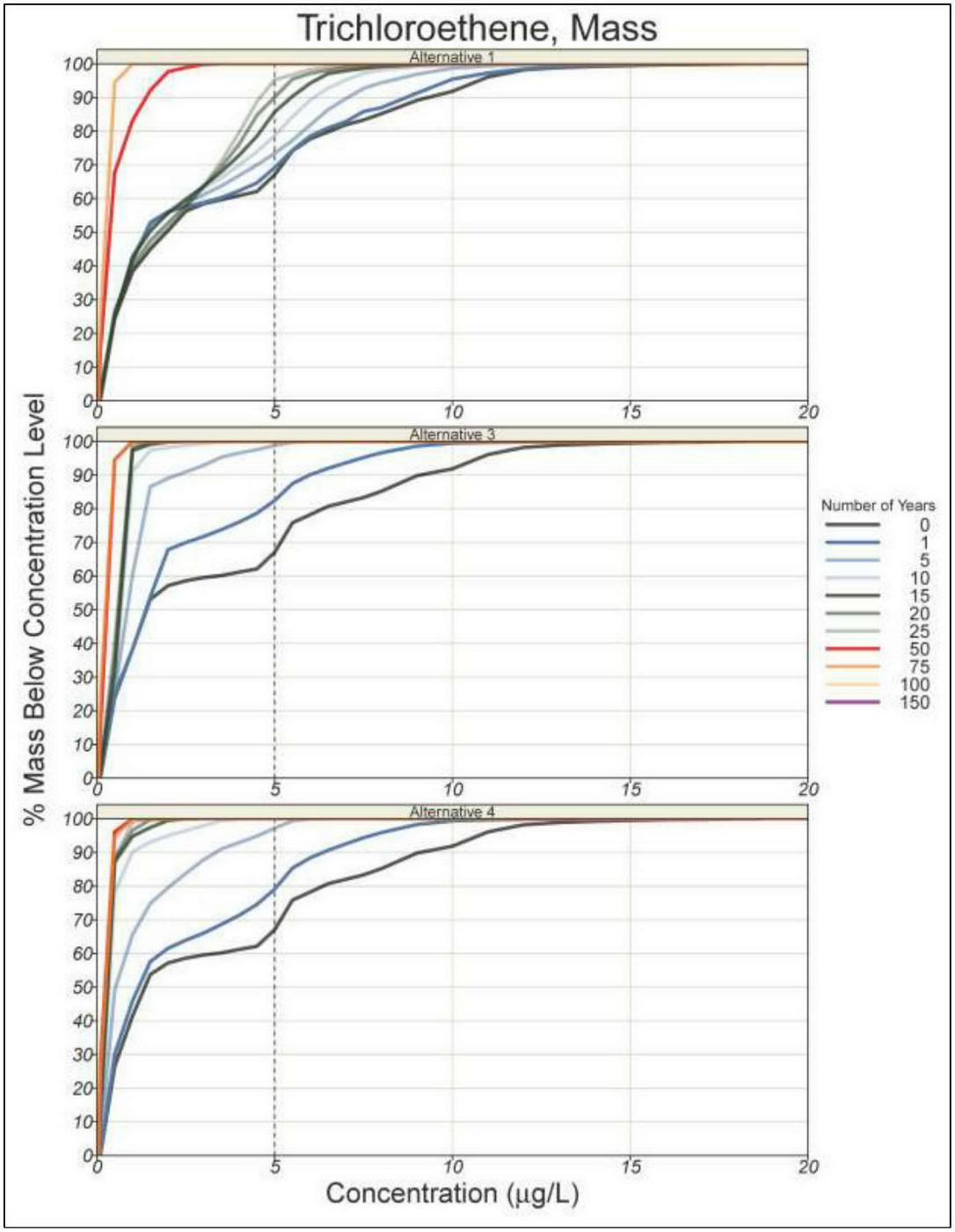

Figure 5-95. TCE: Calculated Mass Frequency Distribution at Selected Times

ECF-100FR3-11-0116 REV. 3

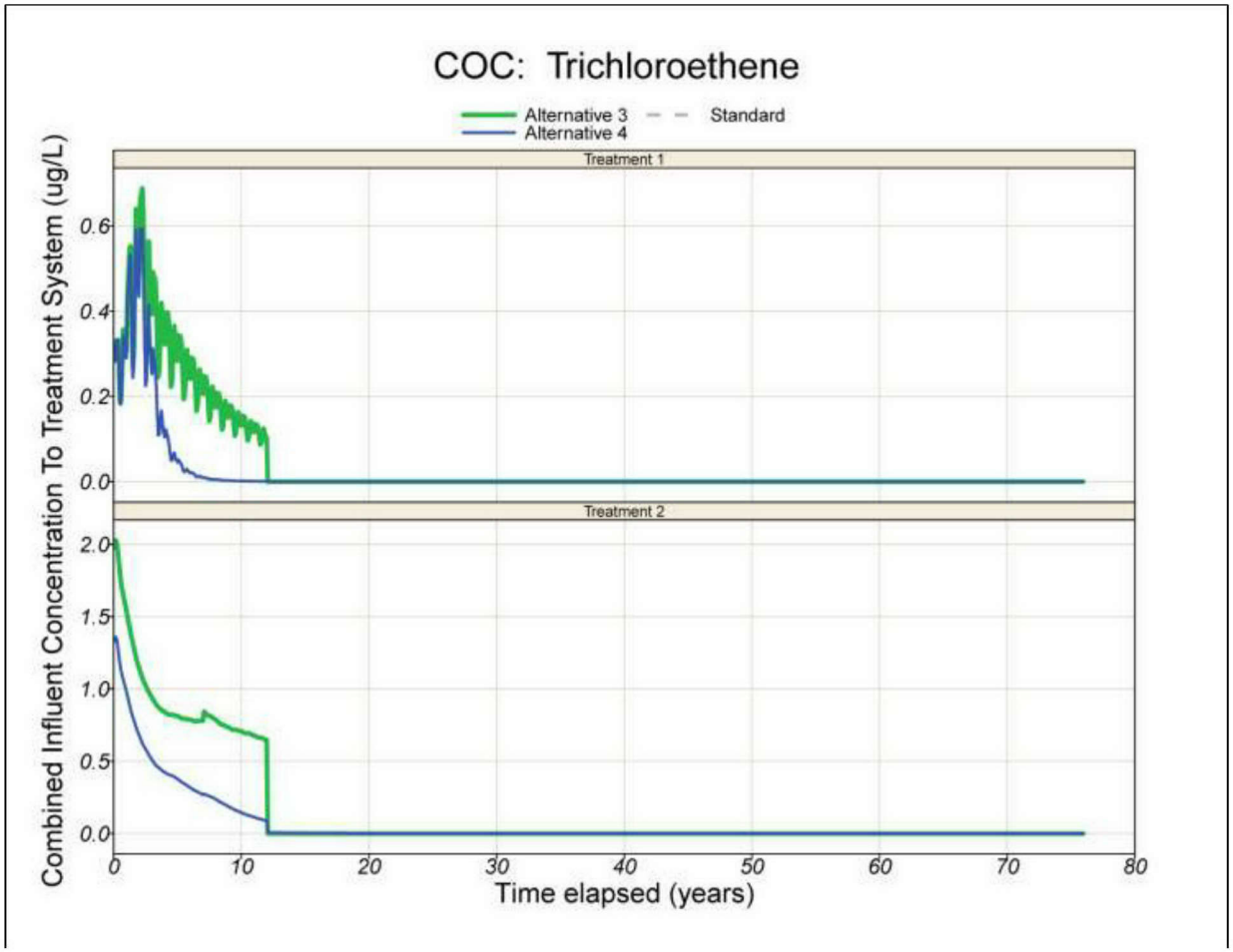

Figure 5-96. TCE: Calculated Influent Concentration at P&T

6. References

Bedekar, V., Tonkin, M., Spiliotopoulos, A., 2011, *Implementation of a Contaminant Treatment System (CTS) module in MT3DMS*, MODFLOW and More 2011, June 5-8, Golden, Colorado.

CHPRC-00257, 2010, *MODFLOW and Related Codes Functional Requirements Document*, Rev. 1, CH2M HILL Plateau Remediation Company, Richland, Washington.

CHPRC-00258, 2010, *MODFLOW and Related Codes Software Management Plan*, Rev. 2, CH2M HILL Plateau Remediation Company, Richland, Washington.

CHPRC-00259, 2012, *MODFLOW and Related Codes Software Test Plan*, Rev. 2, CH2M HILL Plateau Remediation Company, Richland, Washington.

CHPRC-00260, 2012, *MODFLOW and Related Codes Acceptance Test Report*, Rev. 5, CH2M HILL Plateau Remediation Company, Richland, Washington.

CHPRC-00261, 2012, *MODFLOW and Related Codes Requirements Traceability Matrix*, Rev. 5, CH2M HILL Plateau Remediation Company, Richland, Washington.

DOE/RL-2008-10, 2008, In Situ Redox Manipulation (ISRM) Annual Report Fiscal Year 2007, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=0809110636.

Doherty, J., 2003. *Groundwater Model Calibration Using Pilot Points and Regularization*, Groundwater. 41 (2):170-177.

Doherty, J., 2010*, User's Manual for PEST Version 11*, Watermark Numerical Computing, Brisbane, Australia.

ECF-Hanford-11-0165, 2011, *Evaluation of Hexavalent Chromium Leach Test Data Conducted on Vadose Zone Sediment Samples from the 100-Area*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

Festger, A., and G. R. Walter, 2002, *The Capture Efficiency Map: The Capture Zone Under Time‐Varying Flow*, Groundwater, 40(6):619‐628.

Golden Software, Inc., 2012, *Surfer: Surface Mapping System*, Version 10.7.972, Golden, Colorado.

Harbaugh, A. W., and M. G. McDonald, 1996*, User's Documentation for MODFLOW 96, An Update to the U.S. Geological Survey Modular Finite-Difference Ground-Water Flow Model*, Open File Report 96 485, U.S. Geological Survey, Reston, Virginia. Available at: http://water.usgs.gov/software/MODFLOW/code/doc/ofr96485.pdf.

Harbaugh, A. W., E. R. Banta, M. C. Hill, and M. G. McDonald, 2000, *MODFLOW 2000, The U.S. Geological Survey Modular Ground-Water Model – User Guide to Modularization Concepts and the Ground-Water Flow Process*, Open File Report 00-92, U.S. Geological Survey, Reston, Virginia. Available at: http://water.usgs.gov/nrp/gwsoftware/modflow2000/ofr00-92.pdf.

Harbaugh, A. W., 2005, *MODFLOW-2005, The U.S. Geological Survey Modular Ground-Water Model – The Ground-Water Flow Process*, U.S. Geological Survey Techniques and Methods 6 A16, U.S. Geological Survey, Reston, Virginia. Available at: http://pubs.usgs.gov/tm/2005/tm6A16/.

Konikow, L.F., G.Z. Hornberger, K.J. Halford, and R.T. Hanson, 2009, *Revised Multi-Node Well (MNW2) Package for MODFLOW Ground-Water Flow Model*, U.S. Geological Survey Techniques and Methods 6–A30, U.S. Geological Survey, Reston, Virginia. Available at: http://pubs.usgs.gov/tm/tm6a30/.

Mitchell, 1999, *The ESRI Guide to GIS Analysis: Volume 1: Geographic Patterns & Relationships*, Environmental Systems Research Institute, Inc., Redland California, 186 p. ISBN: 1879102064.

Rumbaugh, J.O. and D.B.Rumbaugh, 2007, *Groundwater Vistas Version 5*, Environmental Simulations, Inc.

McDonald, M. G., and A. W. Harbaugh, 1988, *A Modular Three-Dimensional Finite-Difference Ground-Water Flow Model,* U.S. Geological Survey Techniques of Water-Resources Investigations, Book 6, Chapter A1, U.S. Geological Survey, Reston, Virginia. Available at: http://pubs.usgs.gov/twri/twri6a1/.

PNL-10886, 1995, *Development of a Three-Dimensional Ground-Water Model of the Hanford Site Unconfined Aquifer System: FY 1995 Status Report*, Rev. 0, Pacific Northwest National Laboratory, Richland, Washington.

PNNL-14753, 2006, *Groundwater Data Package for Hanford Assessments*, Rev. 1, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://www.pnl.gov/main/publications/external/technical_reports/PNNL-14753Rev1.pdf.

PNNL-17674, 2008, *Geochemical Characterization of Chromate Contamination in the 100 Area Vadose Zone at the Hanford Site*, Pacific Northwest National Laboratory, Richland, Washington.

PNNL-18564, 2009, *Selection and Traceability of Parameters to Support Hanford-Specific RESRAD Analyses*, Pacific Northwest National Laboratory, Richland, Washington.

Pollock, D. W., 1994, *User's Guide for MODPATH/MODPATH-PLOT, Version 3: A Particle Tracking Post-Processing Package for MODFLOW, the U.S. Geological Survey Finite-Difference Ground-Water Flow Model*, Open File Report 94-464, U.S. Geological Survey, Reston, Virginia. Available at: http://www.geo.wvu.edu/~donovan/ftp/modpath.pdf.

PRC-PRO-IRM-309, 2009, *Controlled Software Management*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

R Core Team, 2012, *R: A Language and Environment for Statistical Computing*, R Foundation for Statistical Computing, Vienna, Austria, ISBN 3-900051-07-0, *http://www.R-project.org*.

Reed, P. M., T. R. Ellsworth, B. S. Minsker, 2004, *Spatial Interpolation Methods for Nonstationary Plume Data*, Groundwater, 42(2):190-202.

Reilly, E. T., and D. W. Pollock, 1996, *Sources of Water to Wells for Transient Cyclic Systems*, Groundwater, 34(6):979‑988.

SGW-40781, 2009, *100-HR-3 Remedial Process Optimization Modeling Data Package*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-40781, 2012, *100-HR-3 Remedial Process Optimization Modeling Data Package*, Rev. 2, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-41213, 2009, *100-KR-4 Remedial Process Optimization Modeling Data Package*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-44022, 2010, *Geohydrologic Data Package in Support of 100-BC-5 Modeling*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-46279, 2012, *Conceptual Framework and Numerical Implementation of 100 Areas Groundwater Flow and Transport Model*, Rev. 2, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-47040, 2010, *Geohydrologic Data Package in Support of 100-FR-3 Modeling*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

Zheng, C., 2010, *MT3DMS v5.3: Supplemental User's Guide – Technical Report*, Department of Geological Sciences, University of Alabama, Tuscaloosa, Alabama.

Zheng, C., and P. P. Wang, 1999, *MT3DMS, A Modular Three-Dimensional Multi-Species Transport Model for Simulation of Advection, Dispersion, and Chemical Reactions of Contaminants in Groundwater Systems; Documentation and User's Guide*, U.S. Army Engineer Research and Development Center Contract Report SERDP-99-1, Vicksburg, Mississippi. Available at: http://hydro.geo.ua.edu/mt3d/mt3dmanual.pdf.

ECF-100FR3-11-0116 REV. 3

Attachment A: Software Installation and Checkout Forms

CHPRC SOFTWARE INSTALLATION AND CHECKOUT FORM

Software Owner Instructions:
Complete Fields 1-13, then run test cases in Field 14. Compare test case results listed in Field 15 to corresponding Test Report outputs. If results are the same, sign and date Field 19. If not, resolve differences and repeat above steps.

Software Subject Matter Expert Instructions:
Assign test personnel. Approve the installation of the code by signing and dating Field 21, then maintain form as part of the software support documentation.

GENERAL INFORMATION:

1. Software Name: MODFLOW and Related Codes Software Version No.: Bld 6

EXECUTABLE INFORMATION:

2. Executable Name (include path):

Following executable files in directory: I:\Projects\1145\CODES-PROGRAMS\MODFLOW-CHPRC-Build-0006\bin-windows

MD5 Signature (unique ID)	Executable File Name
C3B75ADEBC7F41F15F006A0A3AED2D21	mf2k-chprc06dp.exe
C3141B0D41E084601DC2C8EB746B189F	mf2k-chprc06sp.exe
4F9E3D4A5ECF0360C8247C4279FE25F1	mf2k-mst-chprc06dp.exe
0E38BD210A582EF42CC79145C14F8E69	mf2k-mst-chprc06sp.exe
EE4D6CE61E07E0218F81622CE54499DE	modpath-mst-chprc06dp.exe
F83D1B16B26887A8C9579373D919DF4F	modpath-mst-chprc06sp.exe
D3337D49ED0AAA92E6FE6A6EB027647A	mt3d-mst-chprc06dp.exe
E6A66025170D441389642CC0A7B59749	mt3d-mst-chprc06sp.exe

3. Executable Size (bytes): MD5 signatures listed above uniquely identify executable files

COMPILATION INFORMATION:

4. Hardware System (i.e., property number or ID):

WC95463; Dell Latitude Laptop

5. Operating System (include version number):

Windows 7 Enterprise Service Pack 1

INSTALLATION AND CHECKOUT INFORMATION:

6. Hardware System (i.e., property number or ID):

S.S. Papadopulos & Associates, Inc, FE-454

7. Operating System (include version number):

Windows 7 Professional

8. Open Problem Report? (•) No ( ) Yes PR/CR No.

TEST CASE INFORMATION:

9. Directory/Path:

Test invoked by batch file \test\run-install-tests.bat

10. Procedure(s):

CHPRC-00259 Rev 2, MODFLOW and Related Codes Software Test Plan

11. Libraries:

N/A (static linking)

12. Input Files:

MF-ITC-1 and MT-ITC-1 inputs

13. Output Files:

MF-ITC-1 and MT-ITC-1 outputs

Page 1 of 2 A-6005-149 (REV 0)

ECF-100FR3-11-0116 REV. 3

CHPRC SOFTWARE INSTALLATION AND CHECKOUT FORM (continued)

1. Software Name: MODFLOW and Related Codes Software Version No.: Bld 6

14. Test Cases:

MF-ITC-1 (both standard and MST versions of MODFLOW)- run for single & double precision
MT-ITC-1 - run for single and double precision

15. Test Case Results:

16. Test Performed By: Alex Spiliotopoulos

17. Test Results: (•) Satisfactory, Accepted for Use ( ) Unsatisfactory

18. Disposition (include HISI update):

Prepared By:

19.	Software Owner (Signature)	WE Nichols (Print)	Date

20. Test Personnel:

Sign	Print	Date
[signature]	Alex Spiliotopoulos	6/6/2012

Approved By:

21.	Software SME (Signature)	N/R (CHPRC-00259 Rev 2) (Print)	Date

Page 2 of 2 A-6005-149 (REV 0)

ECF-100FR3-11-0116 REV. 3

CHPRC SOFTWARE INSTALLATION AND CHECKOUT FORM

Software Owner Instructions:
Complete Fields 1-13, then run test cases in Field 14. Compare test case results listed in Field 15 to corresponding Test Report outputs. If results are the same, sign and date Field 19. If not, resolve differences and repeat above steps.

Software Subject Matter Expert Instructions:
Assign test personnel. Approve the installation of the code by signing and dating Field 21, then maintain form as part of the software support documentation.

GENERAL INFORMATION:

1. Software Name: MODFLOW and Related Codes Software Version No.: Bld 6

EXECUTABLE INFORMATION:

2. Executable Name (include path):

Following executable files in directory: I:\Projects\1145\CODES-PROGRAMS\MODFLOW-CHPRC-Build-0006\bin-windows

MD5 Signature (unique ID)	Executable File Name
C3B75ADEBC7F41F15F006A0A3AED2D21	mf2k-chprc06dp.exe
C3141B0D41E084601DC2C8EB746B189F	mf2k-chprc06sp.exe
4F9E3D4A5ECF0360C8247C4279FE25F1	mf2k-mst-chprc06dp.exe
0E38BD210A582EF42CC79145C14F8E69	mf2k-mst-chprc06sp.exe
EE4D6CE61E07E0218F81822CE54499DE	modpath-mst-chprc06dp.exe
F83D1B16B26887A8C9579373D919DF4F	modpath-mst-chprc06sp.exe
D3337D49ED0AAA92E6FE6A6EB027647A	mt3d-mst-chprc06dp.exe
E6A66025170D441389642CC0A7B59749	mt3d-mst-chprc06sp.exe

3. Executable Size (bytes): MD5 signatures listed above uniquely identify executable files

COMPILATION INFORMATION:

4. Hardware System (i.e., property number or ID):

WC95463; Dell Latitude Laptop

5. Operating System (include version number):

Windows 7 Enterprise Service Pack 1

INSTALLATION AND CHECKOUT INFORMATION:

6. Hardware System (i.e., property number or ID):

S.S. Papadopulos & Associates, Inc, FE-455

7. Operating System (include version number):

Windows 7 Professional

8. Open Problem Report? (●) No ( ) Yes PR/CR No.

TEST CASE INFORMATION:

9. Directory/Path:

Test invoked by batch file \test\run-install-tests.bat

10. Procedure(s):

CHPRC-00259 Rev 2, MODFLOW and Related Codes Software Test Plan

11. Libraries:

N/A (static linking)

12. Input Files:

MF-ITC-1 and MT-ITC-1 inputs

13. Output Files:

MF-ITC-1 and MT-ITC-1 outputs

Page 1 of 2 A-6005-149 (REV 0)

CHPRC SOFTWARE INSTALLATION AND CHECKOUT FORM (continued)

1. Software Name: MODFLOW and Related Codes Software Version No.: Bld 6

14. Test Cases:

MF-ITC-1 (both standard and MST versions of MODFLOW)- run for single & double precision
MT-ITC-1 - run for single and double precision

15. Test Case Results:

16. Test Performed By: Alex Spiliotopoulos

17. Test Results: (•) Satisfactory, Accepted for Use ( ) Unsatisfactory

18. Disposition (include HISI update):

Prepared By:

19.	Software Owner (Signature)	WE Nichols Print	Date

20. Test Personnel:

	Sign	Alex Spiliotopoulos Print	6/6/2012 Date
	Sign	Print	Date
	Sign	Print	Date

Approved By:

21.	Software SME (Signature)	N/R (CHPRC-00259 Rev 2) Print	Date

Page 2 of 2 A-6005-149 (REV 0)

CH2MHILL Plateau Remediation Company

Environmental Calculation Cover Page

Part 1: Completed by the Responsible Manager

Project: 100 Areas and 300 Area Remedial Investigation/Feasibility Study Reports

Date: September 26, 2012

Calculation Title & Description: **Comparison of 100-IU-2/IU-6 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water**

Preparer: Jason Hulstrom	**Basis of Qualification: Education and Experience**
Checker: Doug Evans	**Basis of Qualification: Education and Experience**
Senior Reviewer: Donna Morgans	**Basis of Qualification: Education and Experience**

Part 2: Completed by Preparer

Calculation No.: ECF-100FR1-11-0093

Revision No.: Draft A

Revision History:

Revision No.	Description	Date	Affected Pages
Draft A	Added new waste sites. Incorporated revised SSLs for all analytes based on simulations with 70:30/100:0 contaminant source model. Incorporated revised background values for gap analytes. Excluded naturally occurring radionuclides. Eliminated time-to-peak screening step. Eliminated comparisons to SSLs based on fixed parameter 3-phase model.	8/23/2012	All

Part 3: Document Review & Approval:

Preparer:

Jason Hulstrom/Environmental Scientist

NAME/POSITION

Jason Hulst — 9/27/2012

SIGNATURE — DATE

Checker:

Doug Evans/Senior Risk Assessor

NAME/POSITION

Doug Evans — 9/27/2012

SIGNATURE — DATE

Senior Reviewer:

Donna Morgans/Senior Risk Assessor

NAME/POSITION

Donna R Morgans — 9/27/12

SIGNATURE — DATE

Responsible Manager:

Alaa Aly/Risk and Modeling Integration Manager

NAME/POSITION

[signature] — 9/27/12

SIGNATURE — DATE

Contents

1 Purpose **1**

2 Background **1**

3 Methodology **1**

4 Assumptions and Inputs **2**

4.1 Soil Screening Levels 2

4.1.1 Soil Screening Levels Protective of Groundwater 3

4.1.2 Soil Screening Levels Protective of Surface Water 3

4.2 Exposure Point Concentrations 3

4.3 Hanford Site Background 4

5 Software Applications **4**

6 Calculation **4**

7 Results/Conclusions **4**

7.1 100-IU-2 Source Operable Unit 5

7.2 100-IU-6 Source Operable Unit 5

8 References **5**

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Terms

CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
COPC	contaminant of potential concern
DOE	U.S. Department of Energy
ECF	Environmental Calculation File
EPA	Environmental Protection Agency
EPC	Exposure point concentration
FS	Feasibility study
OU	Operable unit
RI	Remedial investigation
STOMP	Subsurface Transport Over Multiple Phases

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1 Purpose

This environmental calculation documents the methodology used to determine if current site conditions for the 100-IU-2/IU-6 portion of the 100-F/IU-2/IU-6 Area based on post-remediation soil sample results exceed soil screening levels for the protection of groundwater and the protection of surface water. The 100-IU-2/IU-6 Area is associated with two source operable units (OUs), the 100-IU-2 Source OU and the 100-IU-6 Source OU. Each OU is addressed separately herein. The exposure point concentrations (EPCs) for each waste site decision unit in the 100-IU-2 Source OU and 100-IU-6 Source OU are compared to soil screening levels to identify contaminants of potential concern (COPCs) for the protection of groundwater pathway and the protection of surface water pathway. This procedure is consistent with the guidance described in EPA 540/R-96/018, *Soil Screening Guidance: Users Guide.* The identified COPCs will be used to support the remedial investigation/feasibility study (RI/FS) process being conducted for the 100 Areas and 300 Area under the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA).

This environmental calculation supports DOE/RL-2010-98, *Remedial Investigation/Feasibility Study for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units*, under CERCLA. A summary based upon the comparison of EPCs to soil screening levels described in this environmental calculation will be presented in the RI/FS report.

2 Background

Based on agreements with the Senior Executive Council, modeling with the STOMP simulator (PNNL-15782, *STOMP Subsurface Transport Over Multiple Phases, Version 4: User's Guide*) was performed to provide a basis for estimating soil screening levels for groundwater protection and surface water protection. Soil screening levels for the protection of groundwater and the protection of surface water were estimated using the STOMP 1D 70:30/100:0 Contaminant Source Model, which is a one-dimensional model that assumes either 70 percent contamination of the vadose zone (upper 70 percent contaminated, lower 30 percent uncontaminated [70:30]) or 100 percent contamination of the vadose zone (zero percent uncontaminated [100:0]) beneath a backfilled waste site. Source distributions are assigned based on analyte distribution coefficients (K_d). A 70:30 source distribution is assumed for analytes with a $K_d \geq 2$ mL/g and a 100:0 source distribution is assumed for analytes with a $K_d < 2$ mL/g. As implemented for determination of soil screening levels, the STOMP 1D 70:30/100:0 Contaminant Source Model includes recharge from irrigation and assumes that all contamination moves downward with no dispersion, volatilization, or credit for mixing with river water.

Comparisons are first conducted between the analyte-specific soil screening levels and EPC values for each waste site decision unit. Comparisons are then conducted between the EPCs and Hanford Site soil background concentrations. Analytes with EPCs that exceed both the 90th percentile background concentration and a soil screening level are considered COPCs and are carried forward to the RI/FS report.

3 Methodology

This section describes the methodology used to compare EPCs for each waste site decision unit to soil screening levels for groundwater protection and surface water protection.

For all detected analytes in the 100-IU-2 Source OU and 100-IU-6 Source OU, the following steps are performed:

1. Obtain soil screening levels for the protection of groundwater and the protection of surface water calculated using the STOMP 1D 70:30/100:0 Contaminant Source model.
2. Obtain EPC values for each waste site decision unit within the 100-IU-2 Source OU and 100-IU-6 Source OU.
3. Individually compare EPCs for each waste site decision unit within the 100-IU-2 Source OU and 100-IU-6 Source OU to soil screening levels for the protection of groundwater and the protection of surface water.

The previous steps are conducted for all detected analytes in the 100-IU-2 Source OU and 100-IU-6 Source OU. The following steps are used to provide a list of analytes that also exceed applicable 90th background concentrations.

4. Obtain 90th percentile background values.
5. Compare the EPC value to the applicable lognormal 90th percentile background value.
6. If the EPC is less than or equal to the lognormal 90th percentile background value, then no further comparison is made.
7. If the EPC is greater than the lognormal 90th percentile value, then a comparison to soil screening levels is made.
8. If a lognormal 90th percentile value is not available, then a comparison to soil screening levels is made.

Analytes with EPCs that exceed both the 90th percentile soil background concentration and a STOMP 1D soil screening level are considered COPCs and carried forward to the RI/FS report.

4 Assumptions and Inputs

Assumptions and inputs associated with soil screening levels, EPCs, and soil background concentrations are described below.

4.1 Soil Screening Levels

Table 4-1 documents the sources of information for soil screening levels.

Table 4-1. Soil Screening Level References

Soil Screening Level	Pathway	Reference
STOMP 1D 70:30/100:0 Contaminant Source Model	Groundwater	ECF-HANFORD-12-0004
	Surface Water	ECF-HANFORD-12-0004

Notes:

ECF-HANDFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

4.1.1 Soil Screening Levels Protective of Groundwater

Soil screening levels for the protection of groundwater at and near the 100-IU-2 Source OU and 100-IU-6 Source OU have been derived using the following model:

- STOMP 1D 70:30/100:0 Contaminant Source Model

The STOMP 1D groundwater protective soil screening levels for all detected analytes in the 100-IU-2 Source OU and 100-IU-6 Source OU are provided in Tables 4-2 and 4-3, respectively.

The STOMP 1D 70:30/100:0 Contaminant Source Model as implemented for determination of soil screening levels uses an irrigation recharge scenario and assumes that either the upper 70 percent of the vadose zone is contaminated (for $K_d \geq 2$ mL/g analytes) or the entire vadose zone is contaminated (for $K_d < 2$ mL/g analytes) below clean fill. Operable unit-specific soil screening levels protective of groundwater for the 100-IU-2 Source OU and 100-IU-6 Source OU calculated using the STOMP 1D 70:30/100:0 Contaminant Source Model are documented in ECF-HANFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

4.1.2 Soil Screening Levels Protective of Surface Water

Soil screening levels for the protection of surface water are used in the River Corridor RI/FS process because the operable units in this area abut surface water. Soil screening levels for the protection of surface water at and near the 100-IU-2 Source OU and 100-IU-6 Source OU have been derived using the following model:

- STOMP 1D 70:30/100:0 Contaminant Source Model

The STOMP 1D surface water protective soil screening levels for all detected analytes in the 100-IU-2 Source OU and 100-IU-6 Source OU are provided in Tables 4-4 and 4-5, respectively.

The STOMP 1D 70:30/100:0 Contaminant Source Model as implemented for determination of soil screening levels uses an irrigation recharge scenario and assumes that either the upper 70 percent of the vadose zone is contaminated (for $K_d \geq 2$ mL/g analytes) or the entire vadose zone is contaminated (for $K_d < 2$ mL/g analytes) below clean fill. The model takes no credit for dilution of groundwater by mixing with surface water. Operable unit-specific soil screening levels protective of surface water for the 100-IU-2 Source OU and 100-IU-6 Source OU calculated using the STOMP 1D 70:30/100:0 Contaminant Source Model are documented in ECF-HANFORD-12-0004.

4.2 Exposure Point Concentrations

OSWER 9285.6-10, *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*, states that, "an exposure point concentration (EPC) is a conservative estimate of the average chemical concentration in an exposure medium." OSWER Publication 9285.7-081, *Supplemental Guidance to RAGS: Calculating the Concentration Term,* states that, "because of the uncertainty associated with estimating the true average concentration at a site, the 95 percent upper confidence limit (UCL) of the arithmetic mean should be used for this variable."

The EPCs used for comparison to soil screening levels are the analyte-specific values computed from the post-remediation soil sample results for each waste site decision unit in the 100-IU-2 Source OU and 100-IU-6 Source OU, as described in ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units*. The EPCs for each waste

site decision unit are presented in Table 4-6 for the 100-IU-2 Source OU and Table 4-7 for the 100-IU-6 Source OU.

4.3 Hanford Site Background

EPA 540-R-01-003, *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites*, provides national policy considerations for application of background data in risk assessment and remedy selection. This policy recommends an approach that addresses site-specific background issues in the risk characterization. EPA 540-R-01-003 indicates the following:

> "COPCs that have both release-related and background-related sources should be included in the risk assessment. When concentrations of naturally occurring elements at a site exceed risk-based screening levels, that information should be discussed qualitatively in the risk characterization."

EPA 540-R-01-003 defines background constituents as the following: (1) *anthropogenic* - natural and human-made substances present in the environment as a result of human activities (not specifically related to the CERCLA release in question), and (2) *naturally occurring* - substances present in the environment in forms that have not been influenced by human activity.

Lognormal 90th percentile background values for the Hanford Site (representative of both naturally occurring and anthropogenic substances) have been developed for inorganic chemicals and identified in DOE/RL-92-24, *Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes*, Summary Table 2. Radionuclide background values are identified in DOE/RL-96-12, *Hanford Site Background: Part 2, Soil Background for Radionuclides*, Table 5-1. ECF-HANFORD-11-0038, *Soil Background Data for Interim Use at the Hanford Site*, reports lognormal 90th percentile background values for most of the metals that are absent from DOE/RL-92-24. The analyte-specific background concentrations are presented in Table 4-8.

5 Software Applications

Microsoft Excel® was used to tabulate the data in electronic spreadsheets. These spreadsheets are provided as tables that accompany this environmental calculation.

6 Calculation

Contaminants of potential concern for groundwater protection and surface water protection at the 100-IU-2 Source OU and 100-IU-6 Source OU are identified by comparing EPCs to soil screening levels and background concentrations as described in Sections 3. Results of the comparisons are provided in Section 7. The comparison tables all share a similar format, providing both the values being compared as well as a "Yes/No" column indicating the outcome of the comparison.

7 Results/Conclusions

Results of the comparisons conducted for the 100-IU-2 Source OU and 100-IU-6 Source OU are summarized in the following subsections.

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7.1 100-IU-2 Source Operable Unit

Comparison of the 100-IU-2 Source OU waste site decision unit EPCs to soil screening levels for groundwater protection and surface water protection, *without consideration of soil background concentrations*, are presented in Tables 7-1 and 7-2, respectively.

Comparison of the 100-IU-2 Source OU waste site decision unit EPCs to soil background concentrations is presented in Table 7-3.

Comparison of the 100-IU-2 Source OU waste site decision unit EPCs to soil screening levels for groundwater protection and surface water protection, *after consideration of soil background concentrations*, are presented in Tables 7-4 and 7-5, respectively.

Analytes that have an EPC that exceeds both the 90th percentile background concentration as well as a STOMP 1D soil screening level are considered COPCs to be carried forward for further analysis. Comparison results indicate that no analytes are identified as COPCs for either groundwater protection or surface water protection for the 100-IU-2 Source OU.

7.2 100-IU-6 Source Operable Unit

Comparison of the 100-IU-6 Source OU waste site decision unit EPCs to soil screening levels for groundwater protection and surface water protection, *without consideration of soil background concentrations*, are presented in Tables 7-6 and 7-7, respectively.

Comparison of the 100-IU-6 Source OU waste site decision unit EPCs to soil background concentrations is presented in Table 7-8.

Comparison of the 100-IU-6 Source OU waste site decision unit EPCs to soil screening levels for groundwater protection and surface water protection, *after consideration of soil background concentrations*, are presented in Tables 7-9 and 7-10.

Analytes that have an EPC that exceeds both the 90th percentile background concentration as well as a STOMP 1D soil screening level are considered COPCs to be carried forward for further analysis. Comparison results indicate that one analyte is identified as a COPC for groundwater protection for the 100-IU-2 Source OU and no analytes are identified as COPCs for surface water protection.

8 References

DOE/RL-92-24, 2001, *Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes*, Rev. 4, 2 vols., U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www2.hanford.gov/arpir/?content=findpage&AKey=0096062. http://www2.hanford.gov/arpir/?content=findpage&AKey=0096061.

DOE/RL-96-12, 1996, *Hanford Site Background: Part 2, Soil Background for Radionuclides,* Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www2.hanford.gov/arpir/?content=findpage&AKey=D1808987.

DOE/RL-96-17, 2009, *Remedial Design Report/Remedial Action Work Plan for the 100 Area*, Rev. 6, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=1112281625

DOE/RL-2009-43, 2010, *Sampling and Analysis Plan for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units Remedial Investigation/Feasibility Study,* Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://www5.hanford.gov/arpir/?content=findpage&AKey=1006220803

DOE/RL-2010-98, 2012, *Remedial Investigation/Feasibility Study for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units*, Draft A, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

ECF-100FR1-11-0020, 2012, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units*, Decisional Draft, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-HANFORD-11-0038, 2011, *Soil Background Data for Interim Use at the Hanford Site*, Draft, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-HANFORD-12-0004, 2012, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas*, Draft A, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-HANFORD-12-0023, 2012, *Groundwater and Surface Water Cleanup Levels and Distribution Coefficients for Nonradiological and Radiological Analytes in the 100 Areas and 300 Area*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington.

Ecology, 2012, "CLARC Cleanup Levels and Risk Calculations," Washington State Department of Ecology Web-Based Application. Available at https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx.

Ecology 94-115, 1994, *Natural Background Soil Metals Concentrations in Washington State*, Toxics Cleanup Program, Washington State Department of Ecology, Olympia, Washington. Available at: http://www.ecy.wa.gov/pubs/94115.pdf.

EPA 540-R-01-003, 2002, *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites*, OSWER 9285.7-41, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.epa.gov/oswer/riskassessment/pdf/background.pdf.

EPA/540/R-96/018, 1996, *Soil Screening Guidance: Users Guide*, Publication 9355.4-23, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.epa.gov/superfund/health/conmedia/soil/index.htm.

OSWER 9285.6-10, 2002, *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://epa.gov/oswer/riskassessment/pdf/ucl.pdf.

OSWER Publication 9285.7-081, 1992, *Supplemental Guidance to RAGS: Calculating the Concentration Term*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.deq.state.or.us/lq/pubs/forms/tanks/UCLsEPASupGuidance.pdf.

PNNL-15782, 2006, *STOMP Subsurface Transport Over Multiple Phases, Version 4.0: User's Guide*, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://stomp.pnnl.gov/.

Table 4-2. Summary of Groundwater Protective Soil Screening Levels for the 100-IU-2 Source Operable Unit				
Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (µg/kg)[c]
Nonradionuclides				
1,2-Dichloroethene (Total)	540-59-0	0.040	5.0	18,745
2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	93-76-5	0.049	--	45,656
2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	0.10	--	55,130
2-Hexanone	591-78-6	0.015	20	7,390
2-Methylnaphthalene	91-57-6	3.0	330	299,591
4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	46	3.3	--[d]
4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	86	3.3	--[d]
4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	678	3.3	--[d]
Acenaphthene	83-32-9	6.1	100	2.09E+07
Acetone	67-64-1	6.00E-04	20	1.03E+06
Alpha-Chlordane	5103-71-9	51	17	--[d]
Aluminum	7429-90-5	1,500	5,000	--[d]
Anthracene	120-12-7	24	50	--[d]
Antimony	7440-36-0	3.8	600	75,327
Aroclor-1254	11097-69-1	76	17	--[d]
Aroclor-1260	11096-82-5	822	17	--[d]
Arsenic	7440-38-2	29	1,000	--[d]
Barium	7440-39-3	25	500	--[d]
Benzo(a)anthracene	56-55-3	360	15	--[d]
Benzo(a)pyrene	50-32-8	5,500	15	--[d]
Benzo(b)fluoranthene	205-99-2	803	15	--[d]
Benzo(k)fluoranthene	207-08-9	1,230	15	--[d]
Beryllium	7440-41-7	790	200	--[d]
beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	2.1	1.7	312
Bis(2-ethylhexyl) phthalate	117-81-7	110	330	--[d]
Boron	7440-42-8	3.0	2,000	3.02E+07
Cadmium	7440-43-9	30	200	--[d]

Table 4-2. Summary of Groundwater Protective Soil Screening Levels for the 100-IU-2 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (µg/kg)[c]**
Chlordane	57-74-9	51	17	--[d]
Chromium	7440-47-3	200	200	--[d]
Chrysene	218-01-9	200	100	--[d]
Cobalt	7440-48-4	50	2,000	--[d]
Copper	7440-50-8	22	1,000	2.71E+07
Dibenz[a,h]anthracene	53-70-3	1,790	30	--[d]
Diethylphthalate	84-66-2	0.082	330	4.86E+06
Di-n-butylphthalate	84-74-2	1.6	330	6.82E+06
Endosulfan I	959-98-8	2.0	1.7	586,957
Endrin	72-20-8	11	3.3	75,630
Fluoranthene	206-44-0	49	50	--[d]
Fluorene	86-73-7	7.7	30	1.74E+07
Fluoride	16984-48-8	150	5,000	--[d]
Heptachlor	76-44-8	9.5	1.7	652
Indeno(1,2,3-cd)pyrene	193-39-5	3,470	30	--[d]
Iron	7439-89-6	25	5,000	--[d]
Lead	7439-92-1	30	500	--[d]
Manganese	7439-96-5	50	5,000	--[d]
Mercury	7439-97-6	30	--	--[d]
Methylene chloride	75-09-2	0.010	5.0	855
Molybdenum	7439-98-7	20	2,000	2.78E+06
Naphthalene	91-20-3	1.2	100	543,215
Nickel	7440-02-0	65	4,000	--[d]
Nitrogen in Nitrate	NO3-N	0	750	1.41E+06
Nitrogen in Nitrite and Nitrate	NO2+NO3-N	0	--	1.41E+06
Phenol	108-95-2	0.029	330	537,413
Pyrene	129-00-0	68	50	--[d]
Selenium	7782-49-2	5.0	1,000	861,453

Table 4-2. Summary of Groundwater Protective Soil Screening Levels for the 100-IU-2 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (µg/kg)[c]**
Silver	7440-22-4	90	200	--[d]
Toluene	108-88-3	0.14	5.0	327,978
Total petroleum hydrocarbons	TPH	--	--	1.00E+06[e]
Total petroleum hydrocarbons - diesel range	TPHDIESEL	--	--	2.00E+06[e]
Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	--	--	2.00E+06[e]
Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	--	--	2.00E+06[e]
Vanadium	7440-62-2	1,000	2,500	--[d]
Zinc	7440-66-6	30	1,000	--[d]

Notes:

a. Distribution coefficient (Kd) values are taken preferentially from DOE/RL-96-17 (Table E-2) as described in ECF-HANFORD-12-0023. The Kd value for arsenic is taken from the Ecology CLRAC database (Ecology 2012).

b. Estimated quantitation limits (EQLs) are obtained from DOE/RL-2009-43 (Appendix A). The STOMP 1D soil screening level for all analytes defaults to the EQL when the calculated value is less than the EQL.

c. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

d. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

e. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

-- = Not applicable or no value.

Table 4-3. Summary of Groundwater Protective Soil Screening Levels for the 100-IU-6 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (pCi/g, µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]**
Radionuclides				
Americium-241	14596-10-2	200	1.0	--[d]
Cesium-137	10045-97-3	50	0.10	--[d]
Europium-155	14391-16-3	200	0.10	--[d]
Plutonium-239/240	PU-239/240	200	1.0	--[d]
Uranium-233/234	U-233/234	2.0	1.0	--[e]
Uranium-238	U-238	2.0	1.0	--[e]
Nonradionuclides				
2,4-Dimethylphenol	105-67-9	0.21	330	209,969
2,4-Dinitrotoluene	121-14-2	0.096	330	330
4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	46	3.3	--[d]
4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	86	3.3	--[d]
4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	678	3.3	--[d]
Acenaphthene	83-32-9	6.1	100	3.73E+07
Aldrin	309-00-2	49	1.7	--[d]
Alpha-BHC	319-84-6	1.8	1.7	121
Aluminum	7429-90-5	1,500	5,000	--[d]
Anthracene	120-12-7	24	50	--[d]
Antimony	7440-36-0	3.8	600	134,420
Aroclor-1254	11097-69-1	76	17	--[d]
Aroclor-1260	11096-82-5	822	17	--[d]
Arsenic	7440-38-2	29	1,000	--[d]
Barium	7440-39-3	25	500	--[d]
Benzene	71-43-2	0.062	5.0	459
Benzo(a)anthracene	56-55-3	360	15	--[d]
Benzo(a)pyrene	50-32-8	5,500	15	--[d]
Benzo(b)fluoranthene	205-99-2	803	15	--[d]
Benzo(k)fluoranthene	207-08-9	1,230	15	--[d]
Beryllium	7440-41-7	790	200	--[d]

Table 4-3. Summary of Groundwater Protective Soil Screening Levels for the 100-IU-6 Source Operable Unit

Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]
beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	2.1	1.7	556
Bis(2-ethylhexyl) phthalate	117-81-7	110	330	--[d]
Boron	7440-42-8	3.0	2,000	5.38E+07
Butylbenzylphthalate	85-68-7	14	330	4.13E+06
Cadmium	7440-43-9	30	200	--[d]
Chlordane	57-74-9	51	17	--[d]
Chromium	7440-47-3	200	200	--[d]
Chrysene	218-01-9	200	100	--[d]
Cobalt	7440-48-4	50	2,000	--[d]
Copper	7440-50-8	22	1,000	1.11E+08
Dibenz[a,h]anthracene	53-70-3	1,790	30	--[d]
Di-n-butylphthalate	84-74-2	1.6	330	1.22E+07
Endosulfan I	959-98-8	2.0	1.7	1.05E+06
Endrin	72-20-8	11	3.3	136,151
Fluoranthene	206-44-0	49	50	--[d]
Fluorene	86-73-7	7.7	30	3.11E+07
Fluoride	16984-48-8	150	5,000	--[d]
Hexavalent Chromium	18540-29-9	0.80	--	6,000[f]
Indeno(1,2,3-cd)pyrene	193-39-5	3,470	30	--[d]
Iron	7439-89-6	25	5,000	--[d]
Isophorone	78-59-1	0.047	330	22,968
Lead	7439-92-1	30	500	--[d]
Manganese	7439-96-5	50	5,000	--[d]
Mercury	7439-97-6	30	--	--[d]
Methoxychlor	72-43-5	80	17	--[d]
Methylene chloride	75-09-2	0.010	5.0	1,526
Molybdenum	7439-98-7	20	2,000	1.18E+07
Naphthalene	91-20-3	1.2	100	969,259
Nickel	7440-02-0	65	4,000	--[d]
Nitrogen in Nitrate	NO3-N	0	750	2.52E+06

Table 4-3. Summary of Groundwater Protective Soil Screening Levels for the 100-IU-6 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (pCi/g, µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]**
Nitrogen in Nitrite and Nitrate	NO2+NO3-N	0	---	2.52E+06
Pyrene	129-00-0	68	50	--[d]
Selenium	7782-49-2	5.0	1,000	1.54E+06
Silver	7440-22-4	90	200	--[d]
Styrene	100-42-5	0.91	5.0	502,420
Tin	7440-31-5	130	10,000	--[d]
Toluene	108-88-3	0.14	5.0	585,162
Total petroleum hydrocarbons	TPH	--	--	1.00E+06[g]
Total petroleum hydrocarbons - diesel range	TPHDIESEL	--	--	2.00E+06[g]
Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	--	--	2.00E+06[g]
Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	--	--	2.00E+06[g]
Total_U_Isotopes	Total_U_Isotopes	--	--	321,298[h]
Vanadium	7440-62-2	1,000	2,500	--[d]
Zinc	7440-66-6	30	1,000	--[d]

Notes:

a. Distribution coefficient (Kd) values are taken preferentially from DOE/RL-96-17 (Table E-2) as described in ECF-HANFORD-12-0023. The Kd value for arsenic is taken from the Ecology CLRAC database (Ecology 2012).

b. Estimated quantitation limits (EQLs) are obtained from DOE/RL-2009-43 (Appendix A). The STOMP 1D soil screening level for all analytes defaults to the EQL when the calculated value is less than the EQL.

c. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

d. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

Table 4-3. Summary of Groundwater Protective Soil Screening Levels for the 100-IU-6 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (pCi/g, µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection (pCi/g, µg/kg)[c]**

e. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.

f. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

g. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

h. The soil screening level for Total_U_Isotopes is the same as the value calculated for total uranium (CAS # 7440-61-1).

-- = Not applicable or no value.

Table 4-4. Summary of Surface Water Protective Soil Screening Levels for the 100-IU-2 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (µg/kg)[c]**
Nonradionuclides				
1,2-Dichloroethene (Total)	540-59-0	0.040	5.0	547,273
2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	93-76-5	0.049	--	--[d]
2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	0.10	--	2.83E+06
2-Hexanone	591-78-6	0.015	20	633,587
2-Methylnaphthalene	91-57-6	3.0	330	1.30E+06
4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	46	3.3	--[e]
4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	86	3.3	--[e]
4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	678	3.3	--[e]
Acenaphthene	83-32-9	6.1	100	1.40E+07
Acetone	67-64-1	6.00E-04	20	1.06E+08
Alpha-Chlordane	5103-71-9	51	17	--[e]
Aluminum	7429-90-5	1,500	5,000	--[e]
Anthracene	120-12-7	24	50	--[e]
Antimony	7440-36-0	3.8	600	70,305
Aroclor-1254	11097-69-1	76	17	--[e]
Aroclor-1260	11096-82-5	822	17	--[e]
Arsenic	7440-38-2	29	1,000	--[e]
Barium	7440-39-3	25	500	--[e]
Benzo(a)anthracene	56-55-3	360	15	--[e]
Benzo(a)pyrene	50-32-8	5,500	15	--[e]
Benzo(b)fluoranthene	205-99-2	803	15	--[e]
Benzo(k)fluoranthene	207-08-9	1,230	15	--[e]
Beryllium	7440-41-7	790	200	--[e]
beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	2.1	1.7	58
Bis(2-ethylhexyl) phthalate	117-81-7	110	330	--[e]
Boron	7440-42-8	3.0	2,000	--[d]
Cadmium	7440-43-9	30	200	--[e]

Table 4-4. Summary of Surface Water Protective Soil Screening Levels for the 100-IU-2 Source Operable Unit				
Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (µg/kg)[c]
Chlordane	57-74-9	51	17	--[e]
Chromium	7440-47-3	200	200	--[e]
Chrysene	218-01-9	200	100	--[e]
Cobalt	7440-48-4	50	2,000	--[e]
Copper	7440-50-8	22	1,000	381,562
Dibenz[a,h]anthracene	53-70-3	1,790	30	--[e]
Diethylphthalate	84-66-2	0.082	330	6.45E+06
Di-n-butylphthalate	84-74-2	1.6	330	8.53E+06
Endosulfan I	959-98-8	2.0	1.7	342
Endrin	72-20-8	11	3.3	87
Fluoranthene	206-44-0	49	50	--[e]
Fluorene	86-73-7	7.7	30	3.00E+07
Fluoride	16984-48-8	150	5,000	--[e]
Heptachlor	76-44-8	9.5	1.7	2.6
Indeno(1,2,3-cd)pyrene	193-39-5	3,470	30	--[e]
Iron	7439-89-6	25	5,000	--[e]
Lead	7439-92-1	30	500	--[e]
Manganese	7439-96-5	50	5,000	--[e]
Mercury	7439-97-6	30	--	--[e]
Methylene chloride	75-09-2	0.010	5.0	787
Molybdenum	7439-98-7	20	2,000	4.51E+07
Naphthalene	91-20-3	1.2	100	1.68E+07
Nickel	7440-02-0	65	4,000	--[e]
Nitrogen in Nitrate	NO3-N	0	750	1.41E+06
Nitrogen in Nitrite and Nitrate	NO2+NO3-N	0	--	1.41E+06
Phenol	108-95-2	0.029	330	2.24E+06
Pyrene	129-00-0	68	50	--[e]
Selenium	7782-49-2	5.0	1,000	86,145

Table 4-4. Summary of Surface Water Protective Soil Screening Levels for the 100-IU-2 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (µg/kg)[c]**
Silver	7440-22-4	90	200	--[e]
Toluene	108-88-3	0.14	5.0	666,206
Total petroleum hydrocarbons	TPH	--	--	--[d]
Total petroleum hydrocarbons - diesel range	TPHDIESEL	--	--	--[d]
Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	--	--	--[d]
Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	--	--	--[d]
Vanadium	7440-62-2	1,000	2,500	--[d]
Zinc	7440-66-6	30	1,000	--[e]

Notes:

a. Distribution coefficient (Kd) values are taken preferentially from DOE/RL-96-17 (Table E-2) as described in ECF-HANFORD-12-0023. The Kd value for arsenic is taken from the Ecology CLRAC database (Ecology 2012).

b. Estimated quantitation limits (EQLs) are obtained from DOE/RL-2009-43 (Appendix A). The STOMP 1D soil screening level for all analytes defaults to the EQL when the calculated value is less than the EQL.

c. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

d. A soil screening level is not calculated because a surface water cleanup level or surface water standard is not available for the analyte.

e. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

-- = Not applicable or no value.

Table 4-5. Summary of Surface Water Protective Soil Screening Levels for the 100-IU-6 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (pCi/g, µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (pCi/g, µg/kg)[c]**
Radionuclides				
Americium-241	14596-10-2	200	1.0	--[d]
Cesium-137	10045-97-3	50	0.10	--[d]
Europium-155	14391-16-3	200	0.10	--[d]
Plutonium-239/240	PU-239/240	200	1.0	--[d]
Uranium-233/234	U-233/234	2.0	1.0	--[e]
Uranium-238	U-238	2.0	1.0	--[e]
Nonradionuclides				
2,4-Dimethylphenol	105-67-9	0.21	330	498,677
2,4-Dinitrotoluene	121-14-2	0.096	330	330
4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	46	3.3	--[d]
4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	86	3.3	--[d]
4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	678	3.3	--[d]
Acenaphthene	83-32-9	6.1	100	2.50E+07
Aldrin	309-00-2	49	1.7	--[d]
Alpha-BHC	319-84-6	1.8	1.7	23
Aluminum	7429-90-5	1,500	5,000	--[d]
Anthracene	120-12-7	24	50	--[d]
Antimony	7440-36-0	3.8	600	125,458
Aroclor-1254	11097-69-1	76	17	--[d]
Aroclor-1260	11096-82-5	822	17	--[d]
Arsenic	7440-38-2	29	1,000	--[d]
Barium	7440-39-3	25	500	--[d]
Benzene	71-43-2	0.062	5.0	692
Benzo(a)anthracene	56-55-3	360	15	--[d]
Benzo(a)pyrene	50-32-8	5,500	15	--[d]
Benzo(b)fluoranthene	205-99-2	803	15	--[d]
Benzo(k)fluoranthene	207-08-9	1,230	15	--[d]
Beryllium	7440-41-7	790	200	--[d]

Table 4-5. Summary of Surface Water Protective Soil Screening Levels for the 100-IU-6 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (pCi/g, µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (pCi/g, µg/kg)[c]**
beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	2.1	1.7	104
Bis(2-ethylhexyl) phthalate	117-81-7	110	330	--[d]
Boron	7440-42-8	3.0	2,000	--[f]
Butylbenzylphthalate	85-68-7	14	330	739,096
Cadmium	7440-43-9	30	200	--[d]
Chlordane	57-74-9	51	17	--[d]
Chromium	7440-47-3	200	200	--[d]
Chrysene	218-01-9	200	100	--[d]
Cobalt	7440-48-4	50	2,000	--[d]
Copper	7440-50-8	22	1,000	1.56E+06
Dibenz[a,h]anthracene	53-70-3	1,790	30	--[d]
Di-n-butylphthalate	84-74-2	1.6	330	1.52E+07
Endosulfan I	959-98-8	2.0	1.7	611
Endrin	72-20-8	11	3.3	157
Fluoranthene	206-44-0	49	50	--[d]
Fluorene	86-73-7	7.7	30	5.35E+07
Fluoride	16984-48-8	150	5,000	--[d]
Hexavalent Chromium	18540-29-9	0.80	--	6,000[g]
Indeno(1,2,3-cd)pyrene	193-39-5	3,470	30	--[d]
Iron	7439-89-6	25	5,000	--[d]
Isophorone	78-59-1	0.047	330	4,189
Lead	7439-92-1	30	500	--[d]
Manganese	7439-96-5	50	5,000	--[d]
Mercury	7439-97-6	30	--	--[d]
Methoxychlor	72-43-5	80	17	--[d]
Methylene chloride	75-09-2	0.010	5.0	1,404
Molybdenum	7439-98-7	20	2,000	1.92E+08
Naphthalene	91-20-3	1.2	100	2.99E+07
Nickel	7440-02-0	65	4,000	--[d]
Nitrogen in Nitrate	NO3-N	0	750	2.52E+06

Table 4-5. Summary of Surface Water Protective Soil Screening Levels for the 100-IU-6 Source Operable Unit				
Analyte	**CAS No.**	**Distribution Coefficient (K_d) Value (ml/g)[a]**	**Estimated Quantitation Limit (pCi/g, µg/kg)[b]**	**STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (pCi/g, µg/kg)[c]**
Nitrogen in Nitrite and Nitrate	NO2+NO3-N	0	---	2.52E+06
Pyrene	129-00-0	68	50	--[d]
Selenium	7782-49-2	5.0	1,000	153,723
Silver	7440-22-4	90	200	--[d]
Styrene	100-42-5	0.91	5.0	1.93E+08
Tin	7440-31-5	130	10,000	--[d]
Toluene	108-88-3	0.14	5.0	1.19E+06
Total petroleum hydrocarbons	TPH	--	--	--[f]
Total petroleum hydrocarbons - diesel range	TPHDIESEL	--	--	--[f]
Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	--	--	--[f]
Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	--	--	--[f]
Total_U_Isotopes	Total_U_Isotopes	--	--	8.33E+06[h]
Vanadium	7440-62-2	1,000	2,500	--[f]
Zinc	7440-66-6	30	1,000	--[d]

Notes:

a. Distribution coefficient (Kd) values are taken preferentially from DOE/RL-96-17 (Table E-2) as described in ECF-HANFORD-12-0023. The Kd value for arsenic is taken from the Ecology CLRAC database (Ecology 2012).

b. Estimated quantitation limits (EQLs) are obtained from DOE/RL-2009-43 (Appendix A). The STOMP 1D soil screening level for all analytes defaults to the EQL when the calculated value is less than the EQL.

c. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

d. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

Table 4-5. Summary of Surface Water Protective Soil Screening Levels for the 100-IU-6 Source Operable Unit				
Analyte	CAS No.	Distribution Coefficient (K_d) Value (ml/g)[a]	Estimated Quantitation Limit (pCi/g, µg/kg)[b]	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection (pCi/g, µg/kg)[c]

e. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.
f. A soil screening level is not calculated because a surface water cleanup level or surface water standard is not available for the analyte.
g. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.
h. The soil screening level for Total_U_Isotopes is the same as the value calculated for total uranium (CAS # 7440-61-1).
-- = Not applicable or no value.

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-100_Shallow	non-Rad	2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	93-76-5	ug/kg	8.6
600-100_Shallow	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	ug/kg	8.0
600-100_Shallow	non-Rad	Acetone	67-64-1	ug/kg	8.0
600-100_Shallow	non-Rad	Aluminum	7429-90-5	ug/kg	6.88E+06
600-100_Shallow	non-Rad	Antimony	7440-36-0	ug/kg	489
600-100_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	2,267
600-100_Shallow	non-Rad	Barium	7440-39-3	ug/kg	67,811
600-100_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	1.4
600-100_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	1.6
600-100_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	203
600-100_Shallow	non-Rad	Boron	7440-42-8	ug/kg	1,322
600-100_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	93
600-100_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	9,345
600-100_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	7,332
600-100_Shallow	non-Rad	Copper	7440-50-8	ug/kg	11,556
600-100_Shallow	non-Rad	Fluoranthene	206-44-0	ug/kg	14
600-100_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	3.6
600-100_Shallow	non-Rad	Iron	7439-89-6	ug/kg	2.18E+07
600-100_Shallow	non-Rad	Lead	7439-92-1	ug/kg	4,441
600-100_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	312,314
600-100_Shallow	non-Rad	Molybdenum	7439-98-7	ug/kg	370
600-100_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	10,072
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	85,400
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	32,384
600-100_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	62,373
600-100_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	40,723
600-100_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	5.91E+06
600-100_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	485
600-100_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	1,750
600-100_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	59,600
600-100_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	177
600-100_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	768
600-100_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	97
600-100_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	9,140
600-100_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,440
600-100_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	10,900
600-100_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.20E+07
600-100_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,050
600-100_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	301,000
600-100_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	369
600-100_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	11,300
600-100_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	3,780
600-100_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	67,100
600-100_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	49,900
600-120 and 600-297_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	16
600-120 and 600-297_Overburden_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	7.26E+06
600-120 and 600-297_Overburden_Focused	non-Rad	Anthracene	120-12-7	ug/kg	1.0
600-120 and 600-297_Overburden_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,480
600-120 and 600-297_Overburden_Focused	non-Rad	Barium	7440-39-3	ug/kg	67,300
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	2.1
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	5.4
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	7.8
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	3.2
600-120 and 600-297_Overburden_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	241
600-120 and 600-297_Overburden_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,100
600-120 and 600-297_Overburden_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	146

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-120 and 600-297_Overburden_Focused	non-Rad	Chromium	7440-47-3	ug/kg	9,170
600-120 and 600-297_Overburden_Focused	non-Rad	Chrysene	218-01-9	ug/kg	1.4
600-120 and 600-297_Overburden_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	5,970
600-120 and 600-297_Overburden_Focused	non-Rad	Copper	7440-50-8	ug/kg	10,900
600-120 and 600-297_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	1.1
600-120 and 600-297_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	62
600-120 and 600-297_Overburden_Focused	non-Rad	Fluorene	86-73-7	ug/kg	18
600-120 and 600-297_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	24
600-120 and 600-297_Overburden_Focused	non-Rad	Iron	7439-89-6	ug/kg	1.86E+07
600-120 and 600-297_Overburden_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,600
600-120 and 600-297_Overburden_Focused	non-Rad	Manganese	7439-96-5	ug/kg	289,000
600-120 and 600-297_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	272
600-120 and 600-297_Overburden_Focused	non-Rad	Naphthalene	91-20-3	ug/kg	89
600-120 and 600-297_Overburden_Focused	non-Rad	Nickel	7440-02-0	ug/kg	8,750
600-120 and 600-297_Overburden_Focused	non-Rad	Pyrene	129-00-0	ug/kg	9.2
600-120 and 600-297_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	55,400
600-120 and 600-297_Overburden_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	50,600
600-120 and 600-297_Overburden_Focused	non-Rad	Zinc	7440-66-6	ug/kg	67,600
600-120 and 600-297_Shallow	non-Rad	Acenaphthene	83-32-9	ug/kg	2.7
600-120 and 600-297_Shallow	non-Rad	Aluminum	7429-90-5	ug/kg	7.26E+06
600-120 and 600-297_Shallow	non-Rad	Anthracene	120-12-7	ug/kg	1.7
600-120 and 600-297_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	2,874
600-120 and 600-297_Shallow	non-Rad	Barium	7440-39-3	ug/kg	64,463
600-120 and 600-297_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	0.86
600-120 and 600-297_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	2.3
600-120 and 600-297_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	1.5
600-120 and 600-297_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	0.91
600-120 and 600-297_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	242
600-120 and 600-297_Shallow	non-Rad	Boron	7440-42-8	ug/kg	4,028
600-120 and 600-297_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	107
600-120 and 600-297_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	10,931
600-120 and 600-297_Shallow	non-Rad	Chrysene	218-01-9	ug/kg	2.2
600-120 and 600-297_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	5,619
600-120 and 600-297_Shallow	non-Rad	Copper	7440-50-8	ug/kg	12,330
600-120 and 600-297_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	0.94
600-120 and 600-297_Shallow	non-Rad	Fluoranthene	206-44-0	ug/kg	2.8
600-120 and 600-297_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	2.6
600-120 and 600-297_Shallow	non-Rad	Iron	7439-89-6	ug/kg	1.71E+07
600-120 and 600-297_Shallow	non-Rad	Lead	7439-92-1	ug/kg	4,520
600-120 and 600-297_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	264,473
600-120 and 600-297_Shallow	non-Rad	Molybdenum	7439-98-7	ug/kg	281
600-120 and 600-297_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	10,778
600-120 and 600-297_Shallow	non-Rad	Pyrene	129-00-0	ug/kg	4.3
600-120 and 600-297_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	11,830
600-120 and 600-297_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	44,356
600-120 and 600-297_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	33,430
600-120 and 600-297_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	ug/kg	1.7
600-120 and 600-297_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	ug/kg	14

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-120 and 600-297_Staging Pile Area	non-Rad	Aluminum	7429-90-5	ug/kg	7.14E+06
600-120 and 600-297_Staging Pile Area	non-Rad	Anthracene	120-12-7	ug/kg	1.0
600-120 and 600-297_Staging Pile Area	non-Rad	Arsenic	7440-38-2	ug/kg	2,679
600-120 and 600-297_Staging Pile Area	non-Rad	Barium	7440-39-3	ug/kg	65,441
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	2.7
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	8.0
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	8.2
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	3.7
600-120 and 600-297_Staging Pile Area	non-Rad	Beryllium	7440-41-7	ug/kg	240
600-120 and 600-297_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	ug/kg	1.5
600-120 and 600-297_Staging Pile Area	non-Rad	Boron	7440-42-8	ug/kg	2,638
600-120 and 600-297_Staging Pile Area	non-Rad	Cadmium	7440-43-9	ug/kg	107
600-120 and 600-297_Staging Pile Area	non-Rad	Chromium	7440-47-3	ug/kg	9,539
600-120 and 600-297_Staging Pile Area	non-Rad	Chrysene	218-01-9	ug/kg	1.00
600-120 and 600-297_Staging Pile Area	non-Rad	Cobalt	7440-48-4	ug/kg	5,730
600-120 and 600-297_Staging Pile Area	non-Rad	Copper	7440-50-8	ug/kg	11,398
600-120 and 600-297_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	3.5
600-120 and 600-297_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	ug/kg	27
600-120 and 600-297_Staging Pile Area	non-Rad	Fluorene	86-73-7	ug/kg	8.2
600-120 and 600-297_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	74
600-120 and 600-297_Staging Pile Area	non-Rad	Iron	7439-89-6	ug/kg	1.77E+07
600-120 and 600-297_Staging Pile Area	non-Rad	Lead	7439-92-1	ug/kg	3,261
600-120 and 600-297_Staging Pile Area	non-Rad	Manganese	7439-96-5	ug/kg	272,403
600-120 and 600-297_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	ug/kg	269
600-120 and 600-297_Staging Pile Area	non-Rad	Naphthalene	91-20-3	ug/kg	12
600-120 and 600-297_Staging Pile Area	non-Rad	Nickel	7440-02-0	ug/kg	9,496
600-120 and 600-297_Staging Pile Area	non-Rad	Pyrene	129-00-0	ug/kg	3.3
600-120 and 600-297_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	21,462
600-120 and 600-297_Staging Pile Area	non-Rad	Vanadium	7440-62-2	ug/kg	46,470
600-120 and 600-297_Staging Pile Area	non-Rad	Zinc	7440-66-6	ug/kg	35,055
600-124_Shallow	non-Rad	Acenaphthene	83-32-9	ug/kg	192
600-124_Shallow	non-Rad	Aluminum	7429-90-5	ug/kg	6.92E+06
600-124_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	2,106
600-124_Shallow	non-Rad	Barium	7440-39-3	ug/kg	68,796
600-124_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	11
600-124_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	15
600-124_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	16
600-124_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	7.3

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-124_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	255
600-124_Shallow	non-Rad	Boron	7440-42-8	ug/kg	1,241
600-124_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	171
600-124_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	10,608
600-124_Shallow	non-Rad	Chrysene	218-01-9	ug/kg	26
600-124_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	6,700
600-124_Shallow	non-Rad	Copper	7440-50-8	ug/kg	12,160
600-124_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	4.1
600-124_Shallow	non-Rad	Fluoranthene	206-44-0	ug/kg	76
600-124_Shallow	non-Rad	Fluorene	86-73-7	ug/kg	25
600-124_Shallow	non-Rad	Iron	7439-89-6	ug/kg	2.33E+07
600-124_Shallow	non-Rad	Lead	7439-92-1	ug/kg	3,743
600-124_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	323,187
600-124_Shallow	non-Rad	Molybdenum	7439-98-7	ug/kg	460
600-124_Shallow	non-Rad	Naphthalene	91-20-3	ug/kg	113
600-124_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	10,075
600-124_Shallow	non-Rad	Pyrene	129-00-0	ug/kg	42
600-124_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	4,220
600-124_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	68,302
600-124_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	42,558
600-124_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	ug/kg	1.3
600-124_Staging Pile Area	non-Rad	Aluminum	7429-90-5	ug/kg	7.00E+06
600-124_Staging Pile Area	non-Rad	Antimony	7440-36-0	ug/kg	286
600-124_Staging Pile Area	non-Rad	Arsenic	7440-38-2	ug/kg	2,324
600-124_Staging Pile Area	non-Rad	Barium	7440-39-3	ug/kg	66,433
600-124_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	2.9
600-124_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	3.2
600-124_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	4.8
600-124_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	2.1
600-124_Staging Pile Area	non-Rad	Beryllium	7440-41-7	ug/kg	256
600-124_Staging Pile Area	non-Rad	Boron	7440-42-8	ug/kg	2,262
600-124_Staging Pile Area	non-Rad	Cadmium	7440-43-9	ug/kg	170
600-124_Staging Pile Area	non-Rad	Chromium	7440-47-3	ug/kg	12,157
600-124_Staging Pile Area	non-Rad	Chrysene	218-01-9	ug/kg	2.9
600-124_Staging Pile Area	non-Rad	Cobalt	7440-48-4	ug/kg	6,546
600-124_Staging Pile Area	non-Rad	Copper	7440-50-8	ug/kg	16,920
600-124_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	2.0
600-124_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	ug/kg	7.4
600-124_Staging Pile Area	non-Rad	Fluorene	86-73-7	ug/kg	3.3
600-124_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	12
600-124_Staging Pile Area	non-Rad	Iron	7439-89-6	ug/kg	2.27E+07
600-124_Staging Pile Area	non-Rad	Lead	7439-92-1	ug/kg	4,908
600-124_Staging Pile Area	non-Rad	Manganese	7439-96-5	ug/kg	310,485
600-124_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	ug/kg	770
600-124_Staging Pile Area	non-Rad	Nickel	7440-02-0	ug/kg	11,260
600-124_Staging Pile Area	non-Rad	Pyrene	129-00-0	ug/kg	6.8
600-124_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	124,798
600-124_Staging Pile Area	non-Rad	Vanadium	7440-62-2	ug/kg	66,526
600-124_Staging Pile Area	non-Rad	Zinc	7440-66-6	ug/kg	53,404
600-125_Overburden_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.03E+07
600-125_Overburden_Focused	non-Rad	Antimony	7440-36-0	ug/kg	445
600-125_Overburden_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,240
600-125_Overburden_Focused	non-Rad	Barium	7440-39-3	ug/kg	83,400
600-125_Overburden_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	336
600-125_Overburden_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,060
600-125_Overburden_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	164
600-125_Overburden_Focused	non-Rad	Chromium	7440-47-3	ug/kg	13,600
600-125_Overburden_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,460

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-125_Overburden_Focused	non-Rad	Copper	7440-50-8	ug/kg	13,000
600-125_Overburden_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.50E+07
600-125_Overburden_Focused	non-Rad	Lead	7439-92-1	ug/kg	5,030
600-125_Overburden_Focused	non-Rad	Manganese	7439-96-5	ug/kg	344,000
600-125_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	412
600-125_Overburden_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,800
600-125_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	16,500
600-125_Overburden_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	65,000
600-125_Overburden_Focused	non-Rad	Zinc	7440-66-6	ug/kg	45,200
600-125_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	6.28E+06
600-125_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	408
600-125_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,730
600-125_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	62,200
600-125_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	214
600-125_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	796
600-125_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	107
600-125_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	8,890
600-125_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,110
600-125_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	15,300
600-125_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.28E+07
600-125_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	2,620
600-125_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	294,000
600-125_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	568
600-125_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	11,500
600-125_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	69,500
600-125_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	42,600
600-125_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.11E+07
600-125_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	ug/kg	434
600-125_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,150
600-125_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	ug/kg	89,600
600-125_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	352
600-125_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,210
600-125_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	159
600-125_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	ug/kg	14,800
600-125_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,500
600-125_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	ug/kg	12,000
600-125_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.37E+07
600-125_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,980
600-125_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	ug/kg	369,000
600-125_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	405
600-125_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	ug/kg	11,100
600-125_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	12,700

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-125_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	63,800
600-125_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	ug/kg	45,400
600-127_Deep	non-Rad	Acetone	67-64-1	ug/kg	8.5
600-127_Deep	non-Rad	Aluminum	7429-90-5	ug/kg	5.23E+06
600-127_Deep	non-Rad	Arsenic	7440-38-2	ug/kg	2,474
600-127_Deep	non-Rad	Barium	7440-39-3	ug/kg	44,690
600-127_Deep	non-Rad	Beryllium	7440-41-7	ug/kg	165
600-127_Deep	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	87
600-127_Deep	non-Rad	Boron	7440-42-8	ug/kg	1,600
600-127_Deep	non-Rad	Cadmium	7440-43-9	ug/kg	64
600-127_Deep	non-Rad	Chromium	7440-47-3	ug/kg	9,544
600-127_Deep	non-Rad	Cobalt	7440-48-4	ug/kg	4,168
600-127_Deep	non-Rad	Copper	7440-50-8	ug/kg	10,003
600-127_Deep	non-Rad	Iron	7439-89-6	ug/kg	1.04E+07
600-127_Deep	non-Rad	Lead	7439-92-1	ug/kg	3,510
600-127_Deep	non-Rad	Manganese	7439-96-5	ug/kg	228,138
600-127_Deep	non-Rad	Methylene chloride	75-09-2	ug/kg	3.1
600-127_Deep	non-Rad	Molybdenum	7439-98-7	ug/kg	280
600-127_Deep	non-Rad	Nickel	7440-02-0	ug/kg	9,722
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	5,747
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	24,000
600-127_Deep	non-Rad	Vanadium	7440-62-2	ug/kg	21,645
600-127_Deep	non-Rad	Zinc	7440-66-6	ug/kg	24,469
600-127_Deep_Focused	non-Rad	Acetone	67-64-1	ug/kg	14
600-127_Deep_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	4.89E+06
600-127_Deep_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,600
600-127_Deep_Focused	non-Rad	Barium	7440-39-3	ug/kg	55,600
600-127_Deep_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	180
600-127_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	120
600-127_Deep_Focused	non-Rad	Chromium	7440-47-3	ug/kg	9,600
600-127_Deep_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	3,400
600-127_Deep_Focused	non-Rad	Copper	7440-50-8	ug/kg	9,000
600-127_Deep_Focused	non-Rad	Iron	7439-89-6	ug/kg	1.06E+07
600-127_Deep_Focused	non-Rad	Lead	7439-92-1	ug/kg	2,900
600-127_Deep_Focused	non-Rad	Manganese	7439-96-5	ug/kg	203,000
600-127_Deep_Focused	non-Rad	Methylene chloride	75-09-2	ug/kg	1.8
600-127_Deep_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	410
600-127_Deep_Focused	non-Rad	Nickel	7440-02-0	ug/kg	8,900
600-127_Deep_Focused	non-Rad	Phenol	108-95-2	ug/kg	28
600-127_Deep_Focused	non-Rad	Selenium	7782-49-2	ug/kg	890
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	760
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	1,400
600-127_Deep_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	21,100
600-127_Deep_Focused	non-Rad	Zinc	7440-66-6	ug/kg	23,000
600-127_Overburden_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.04E+07
600-127_Overburden_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,800
600-127_Overburden_Focused	non-Rad	Barium	7440-39-3	ug/kg	121,000
600-127_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	9.0
600-127_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	8.9
600-127_Overburden_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	210
600-127_Overburden_Focused	non-Rad	Boron	7440-42-8	ug/kg	3,700
600-127_Overburden_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	150
600-127_Overburden_Focused	non-Rad	Chromium	7440-47-3	ug/kg	11,700
600-127_Overburden_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,900
600-127_Overburden_Focused	non-Rad	Copper	7440-50-8	ug/kg	15,500

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-127_Overburden_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.11E+07
600-127_Overburden_Focused	non-Rad	Lead	7439-92-1	ug/kg	10,600
600-127_Overburden_Focused	non-Rad	Manganese	7439-96-5	ug/kg	386,000
600-127_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	ug/kg	6.7
600-127_Overburden_Focused	non-Rad	Nickel	7440-02-0	ug/kg	11,900
600-127_Overburden_Focused	non-Rad	Phenol	108-95-2	ug/kg	23
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	34,000
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	83,000
600-127_Overburden_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	41,900
600-127_Overburden_Focused	non-Rad	Zinc	7440-66-6	ug/kg	48,000
600-127_Shallow	non-Rad	Acetone	67-64-1	ug/kg	11
600-127_Shallow	non-Rad	Aluminum	7429-90-5	ug/kg	7.39E+06
600-127_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	2,790
600-127_Shallow	non-Rad	Barium	7440-39-3	ug/kg	64,524
600-127_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	279
600-127_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	139
600-127_Shallow	non-Rad	Boron	7440-42-8	ug/kg	1,100
600-127_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	59
600-127_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	13,483
600-127_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	5,560
600-127_Shallow	non-Rad	Copper	7440-50-8	ug/kg	15,289
600-127_Shallow	non-Rad	Iron	7439-89-6	ug/kg	1.55E+07
600-127_Shallow	non-Rad	Lead	7439-92-1	ug/kg	3,936
600-127_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	268,426
600-127_Shallow	non-Rad	Methylene chloride	75-09-2	ug/kg	2.6
600-127_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	13,097
600-127_Shallow	non-Rad	Phenol	108-95-2	ug/kg	34
600-127_Shallow	non-Rad	Selenium	7782-49-2	ug/kg	920
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	1,204
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	2,375
600-127_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	33,823
600-127_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	34,172
600-127_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.03E+07
600-127_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,700
600-127_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	96,200
600-127_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	220
600-127_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,300
600-127_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	140
600-127_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	12,600
600-127_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	8,300
600-127_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	15,600
600-127_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.16E+07
600-127_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	7,100
600-127_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	413,000
600-127_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	ug/kg	4.9
600-127_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	12,100
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	3,100
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	8,900
600-127_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	41,700
600-127_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	45,500
600-127_Staging Pile Area_3	non-Rad	1,2-Dichloroethene (Total)	540-59-0	ug/kg	0.69
600-127_Staging Pile Area_3	non-Rad	Acetone	67-64-1	ug/kg	11
600-127_Staging Pile Area_3	non-Rad	Aluminum	7429-90-5	ug/kg	1.15E+07
600-127_Staging Pile Area_3	non-Rad	Arsenic	7440-38-2	ug/kg	3,277
600-127_Staging Pile Area_3	non-Rad	Barium	7440-39-3	ug/kg	112,573
600-127_Staging Pile Area_3	non-Rad	Beryllium	7440-41-7	ug/kg	291
600-127_Staging Pile Area_3	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	149
600-127_Staging Pile Area_3	non-Rad	Boron	7440-42-8	ug/kg	5,365

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-127_Staging Pile Area_3	non-Rad	Cadmium	7440-43-9	ug/kg	140
600-127_Staging Pile Area_3	non-Rad	Chromium	7440-47-3	ug/kg	12,799
600-127_Staging Pile Area_3	non-Rad	Cobalt	7440-48-4	ug/kg	8,875
600-127_Staging Pile Area_3	non-Rad	Copper	7440-50-8	ug/kg	15,224
600-127_Staging Pile Area_3	non-Rad	Diethylphthalate	84-66-2	ug/kg	71
600-127_Staging Pile Area_3	non-Rad	Iron	7439-89-6	ug/kg	2.36E+07
600-127_Staging Pile Area_3	non-Rad	Lead	7439-92-1	ug/kg	6,896
600-127_Staging Pile Area_3	non-Rad	Manganese	7439-96-5	ug/kg	420,531
600-127_Staging Pile Area_3	non-Rad	Methylene chloride	75-09-2	ug/kg	4.1
600-127_Staging Pile Area_3	non-Rad	Nickel	7440-02-0	ug/kg	12,432
600-127_Staging Pile Area_3	non-Rad	Phenol	108-95-2	ug/kg	30
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	8,198
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	14,360
600-127_Staging Pile Area_3	non-Rad	Vanadium	7440-62-2	ug/kg	50,081
600-127_Staging Pile Area_3	non-Rad	Zinc	7440-66-6	ug/kg	60,059
600-127_Staging Pile Area_4	non-Rad	Aluminum	7429-90-5	ug/kg	1.06E+07
600-127_Staging Pile Area_4	non-Rad	Arsenic	7440-38-2	ug/kg	3,321
600-127_Staging Pile Area_4	non-Rad	Barium	7440-39-3	ug/kg	109,002
600-127_Staging Pile Area_4	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	12
600-127_Staging Pile Area_4	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	24
600-127_Staging Pile Area_4	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	7.6
600-127_Staging Pile Area_4	non-Rad	Beryllium	7440-41-7	ug/kg	235
600-127_Staging Pile Area_4	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	392
600-127_Staging Pile Area_4	non-Rad	Boron	7440-42-8	ug/kg	7,907
600-127_Staging Pile Area_4	non-Rad	Cadmium	7440-43-9	ug/kg	118
600-127_Staging Pile Area_4	non-Rad	Chromium	7440-47-3	ug/kg	12,049
600-127_Staging Pile Area_4	non-Rad	Chrysene	218-01-9	ug/kg	19
600-127_Staging Pile Area_4	non-Rad	Cobalt	7440-48-4	ug/kg	8,341
600-127_Staging Pile Area_4	non-Rad	Copper	7440-50-8	ug/kg	15,751
600-127_Staging Pile Area_4	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	16
600-127_Staging Pile Area_4	non-Rad	Iron	7439-89-6	ug/kg	2.13E+07
600-127_Staging Pile Area_4	non-Rad	Lead	7439-92-1	ug/kg	6,460
600-127_Staging Pile Area_4	non-Rad	Manganese	7439-96-5	ug/kg	391,778
600-127_Staging Pile Area_4	non-Rad	Methylene chloride	75-09-2	ug/kg	4.1
600-127_Staging Pile Area_4	non-Rad	Nickel	7440-02-0	ug/kg	12,301
600-127_Staging Pile Area_4	non-Rad	Phenol	108-95-2	ug/kg	24
600-127_Staging Pile Area_4	non-Rad	Pyrene	129-00-0	ug/kg	48
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	34,347
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	63,459
600-127_Staging Pile Area_4	non-Rad	Vanadium	7440-62-2	ug/kg	45,292
600-127_Staging Pile Area_4	non-Rad	Zinc	7440-66-6	ug/kg	44,294
600-128_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,200
600-128_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	71,100
600-128_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	170
600-128_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	160
600-128_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	10,900
600-128_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	8,500
600-128_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	ug/kg	158,000
600-131_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,200
600-131_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	65,300
600-131_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	49
600-131_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	60
600-131_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	16,700
600-131_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	ug/kg	22
600-131_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	3,400
600-132_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	ug/kg	3.4
600-132_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	ug/kg	190
600-132_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	ug/kg	32
600-132_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,600
600-132_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	59,700
600-132_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	50
600-132_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	400
600-132_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	17,100
600-132_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	12,300
600-132_Shallow_Focused	non-Rad	Selenium	7782-49-2	ug/kg	470
600-132_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	ug/kg	8,500
600-139_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,400
600-139_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	72,000

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-139_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	3,500
600-139_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	12,000
600-139_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	ug/kg	3,500
600-139_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,400
600-139_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	20
600-139_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	ug/kg	7,900
600-176_Shallow	non-Rad	Acenaphthene	83-32-9	ug/kg	12
600-176_Shallow	non-Rad	Aluminum	7429-90-5	ug/kg	6.32E+06
600-176_Shallow	non-Rad	Anthracene	120-12-7	ug/kg	2.2
600-176_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	3,047
600-176_Shallow	non-Rad	Barium	7440-39-3	ug/kg	52,001
600-176_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	8.5
600-176_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	13
600-176_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	29
600-176_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	5.9
600-176_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	221
600-176_Shallow	non-Rad	Boron	7440-42-8	ug/kg	1,044
600-176_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	136
600-176_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	15,654
600-176_Shallow	non-Rad	Chrysene	218-01-9	ug/kg	8.3
600-176_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	5,115
600-176_Shallow	non-Rad	Copper	7440-50-8	ug/kg	12,960
600-176_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	2.1
600-176_Shallow	non-Rad	Fluoranthene	206-44-0	ug/kg	22
600-176_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	9.2
600-176_Shallow	non-Rad	Iron	7439-89-6	ug/kg	2.28E+07
600-176_Shallow	non-Rad	Lead	7439-92-1	ug/kg	3,860
600-176_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	269,753
600-176_Shallow	non-Rad	Methylene chloride	75-09-2	ug/kg	3.9
600-176_Shallow	non-Rad	Molybdenum	7439-98-7	ug/kg	322
600-176_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	11,978
600-176_Shallow	non-Rad	Pyrene	129-00-0	ug/kg	21
600-176_Shallow	non-Rad	Selenium	7782-49-2	ug/kg	348
600-176_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	10,200
600-176_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	61,816
600-176_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	34,377
600-176_Staging Pile Area Footprint_2	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	ug/kg	17
600-176_Staging Pile Area Footprint_2	non-Rad	2-Hexanone	591-78-6	ug/kg	5.6
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	ug/kg	4.9
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	ug/kg	9.3
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	ug/kg	9.1
600-176_Staging Pile Area Footprint_2	non-Rad	Acenaphthene	83-32-9	ug/kg	29
600-176_Staging Pile Area Footprint_2	non-Rad	Alpha-Chlordane	5103-71-9	ug/kg	5.0
600-176_Staging Pile Area Footprint_2	non-Rad	Aluminum	7429-90-5	ug/kg	6.89E+06
600-176_Staging Pile Area Footprint_2	non-Rad	Anthracene	120-12-7	ug/kg	5.1
600-176_Staging Pile Area Footprint_2	non-Rad	Antimony	7440-36-0	ug/kg	602
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1254	11097-69-1	ug/kg	104
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1260	11096-82-5	ug/kg	25
600-176_Staging Pile Area Footprint_2	non-Rad	Arsenic	7440-38-2	ug/kg	2,973
600-176_Staging Pile Area Footprint_2	non-Rad	Barium	7440-39-3	ug/kg	69,614
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	3.3
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	9.1

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	9.2
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	5.9
600-176_Staging Pile Area Footprint_2	non-Rad	Beryllium	7440-41-7	ug/kg	227
600-176_Staging Pile Area Footprint_2	non-Rad	Boron	7440-42-8	ug/kg	2,235
600-176_Staging Pile Area Footprint_2	non-Rad	Cadmium	7440-43-9	ug/kg	213
600-176_Staging Pile Area Footprint_2	non-Rad	Chromium	7440-47-3	ug/kg	60,644
600-176_Staging Pile Area Footprint_2	non-Rad	Chrysene	218-01-9	ug/kg	3.9
600-176_Staging Pile Area Footprint_2	non-Rad	Cobalt	7440-48-4	ug/kg	5,581
600-176_Staging Pile Area Footprint_2	non-Rad	Copper	7440-50-8	ug/kg	14,874
600-176_Staging Pile Area Footprint_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	2.4
600-176_Staging Pile Area Footprint_2	non-Rad	Fluoranthene	206-44-0	ug/kg	78
600-176_Staging Pile Area Footprint_2	non-Rad	Fluorene	86-73-7	ug/kg	17
600-176_Staging Pile Area Footprint_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	42
600-176_Staging Pile Area Footprint_2	non-Rad	Iron	7439-89-6	ug/kg	1.71E+07
600-176_Staging Pile Area Footprint_2	non-Rad	Lead	7439-92-1	ug/kg	456,552
600-176_Staging Pile Area Footprint_2	non-Rad	Manganese	7439-96-5	ug/kg	265,238
600-176_Staging Pile Area Footprint_2	non-Rad	Methylene chloride	75-09-2	ug/kg	3.4
600-176_Staging Pile Area Footprint_2	non-Rad	Molybdenum	7439-98-7	ug/kg	309
600-176_Staging Pile Area Footprint_2	non-Rad	Naphthalene	91-20-3	ug/kg	51
600-176_Staging Pile Area Footprint_2	non-Rad	Nickel	7440-02-0	ug/kg	10,485
600-176_Staging Pile Area Footprint_2	non-Rad	Pyrene	129-00-0	ug/kg	10
600-176_Staging Pile Area Footprint_2	non-Rad	Toluene	108-88-3	ug/kg	2.3
600-176_Staging Pile Area Footprint_2	non-Rad	Vanadium	7440-62-2	ug/kg	45,984
600-176_Staging Pile Area Footprint_2	non-Rad	Zinc	7440-66-6	ug/kg	46,201
600-176_Staging Pile Area Footprint_3	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	ug/kg	16
600-176_Staging Pile Area Footprint_3	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	ug/kg	3.4
600-176_Staging Pile Area Footprint_3	non-Rad	Acenaphthene	83-32-9	ug/kg	63
600-176_Staging Pile Area Footprint_3	non-Rad	Aluminum	7429-90-5	ug/kg	7.53E+06
600-176_Staging Pile Area Footprint_3	non-Rad	Anthracene	120-12-7	ug/kg	3.3
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1254	11097-69-1	ug/kg	8.0
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1260	11096-82-5	ug/kg	16
600-176_Staging Pile Area Footprint_3	non-Rad	Arsenic	7440-38-2	ug/kg	2,903
600-176_Staging Pile Area Footprint_3	non-Rad	Barium	7440-39-3	ug/kg	70,774
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	6.7

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	10
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	11
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	4.8
600-176_Staging Pile Area Footprint_3	non-Rad	Beryllium	7440-41-7	ug/kg	256
600-176_Staging Pile Area Footprint_3	non-Rad	Boron	7440-42-8	ug/kg	2,050
600-176_Staging Pile Area Footprint_3	non-Rad	Cadmium	7440-43-9	ug/kg	183
600-176_Staging Pile Area Footprint_3	non-Rad	Chromium	7440-47-3	ug/kg	15,017
600-176_Staging Pile Area Footprint_3	non-Rad	Chrysene	218-01-9	ug/kg	3.7
600-176_Staging Pile Area Footprint_3	non-Rad	Cobalt	7440-48-4	ug/kg	6,029
600-176_Staging Pile Area Footprint_3	non-Rad	Copper	7440-50-8	ug/kg	14,379
600-176_Staging Pile Area Footprint_3	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	2.8
600-176_Staging Pile Area Footprint_3	non-Rad	Fluoranthene	206-44-0	ug/kg	41
600-176_Staging Pile Area Footprint_3	non-Rad	Fluorene	86-73-7	ug/kg	5.9
600-176_Staging Pile Area Footprint_3	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	22
600-176_Staging Pile Area Footprint_3	non-Rad	Iron	7439-89-6	ug/kg	1.88E+07
600-176_Staging Pile Area Footprint_3	non-Rad	Lead	7439-92-1	ug/kg	43,853
600-176_Staging Pile Area Footprint_3	non-Rad	Manganese	7439-96-5	ug/kg	296,528
600-176_Staging Pile Area Footprint_3	non-Rad	Methylene chloride	75-09-2	ug/kg	3.1
600-176_Staging Pile Area Footprint_3	non-Rad	Molybdenum	7439-98-7	ug/kg	389
600-176_Staging Pile Area Footprint_3	non-Rad	Naphthalene	91-20-3	ug/kg	20
600-176_Staging Pile Area Footprint_3	non-Rad	Nickel	7440-02-0	ug/kg	10,536
600-176_Staging Pile Area Footprint_3	non-Rad	Pyrene	129-00-0	ug/kg	11
600-176_Staging Pile Area Footprint_3	non-Rad	Toluene	108-88-3	ug/kg	2.0
600-176_Staging Pile Area Footprint_3	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	602,000
600-176_Staging Pile Area Footprint_3	non-Rad	Vanadium	7440-62-2	ug/kg	49,986
600-176_Staging Pile Area Footprint_3	non-Rad	Zinc	7440-66-6	ug/kg	43,805
600-181_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,000
600-181_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	98,100
600-181_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	47
600-181_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	120
600-181_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	14,600
600-181_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,600
600-181_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	ug/kg	7,600
600-182_Overburden_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	9.09E+06
600-182_Overburden_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,900
600-182_Overburden_Focused	non-Rad	Barium	7440-39-3	ug/kg	83,900
600-182_Overburden_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	300

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-182_Overburden_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,770
600-182_Overburden_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	128
600-182_Overburden_Focused	non-Rad	Chromium	7440-47-3	ug/kg	11,100
600-182_Overburden_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,590
600-182_Overburden_Focused	non-Rad	Copper	7440-50-8	ug/kg	12,200
600-182_Overburden_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.22E+07
600-182_Overburden_Focused	non-Rad	Lead	7439-92-1	ug/kg	5,050
600-182_Overburden_Focused	non-Rad	Manganese	7439-96-5	ug/kg	353,000
600-182_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	425
600-182_Overburden_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,900
600-182_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	14,500
600-182_Overburden_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	57,800
600-182_Overburden_Focused	non-Rad	Zinc	7440-66-6	ug/kg	45,500
600-182_Shallow_1_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	9.51E+06
600-182_Shallow_1_Focused	non-Rad	Antimony	7440-36-0	ug/kg	270
600-182_Shallow_1_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,990
600-182_Shallow_1_Focused	non-Rad	Barium	7440-39-3	ug/kg	84,100
600-182_Shallow_1_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	322
600-182_Shallow_1_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,750
600-182_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	154
600-182_Shallow_1_Focused	non-Rad	Chromium	7440-47-3	ug/kg	11,700
600-182_Shallow_1_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,220
600-182_Shallow_1_Focused	non-Rad	Copper	7440-50-8	ug/kg	12,600
600-182_Shallow_1_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.35E+07
600-182_Shallow_1_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,620
600-182_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	ug/kg	382,000
600-182_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	546
600-182_Shallow_1_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,800
600-182_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	12,500
600-182_Shallow_1_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	72,200
600-182_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	ug/kg	45,700
600-182_Shallow_2_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.13E+07
600-182_Shallow_2_Focused	non-Rad	Antimony	7440-36-0	ug/kg	353
600-182_Shallow_2_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,390
600-182_Shallow_2_Focused	non-Rad	Barium	7440-39-3	ug/kg	90,000
600-182_Shallow_2_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	344
600-182_Shallow_2_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,050
600-182_Shallow_2_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	168
600-182_Shallow_2_Focused	non-Rad	Chromium	7440-47-3	ug/kg	13,000
600-182_Shallow_2_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,580
600-182_Shallow_2_Focused	non-Rad	Copper	7440-50-8	ug/kg	12,900
600-182_Shallow_2_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.42E+07
600-182_Shallow_2_Focused	non-Rad	Lead	7439-92-1	ug/kg	6,600
600-182_Shallow_2_Focused	non-Rad	Manganese	7439-96-5	ug/kg	364,000
600-182_Shallow_2_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	403
600-182_Shallow_2_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,600
600-182_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	15,900
600-182_Shallow_2_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	65,200
600-182_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	ug/kg	46,400
600-182_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.11E+07
600-182_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	ug/kg	266
600-182_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,180

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-182_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	ug/kg	84,900
600-182_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	334
600-182_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,550
600-182_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	150
600-182_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	ug/kg	12,700
600-182_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,340
600-182_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	ug/kg	11,900
600-182_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.39E+07
600-182_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	ug/kg	3,950
600-182_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	ug/kg	357,000
600-182_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	414
600-182_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,700
600-182_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	5,340
600-182_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	64,200
600-182_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	ug/kg	45,700
600-188_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	1.2
600-188_Overburden_Focused	non-Rad	Acetone	67-64-1	ug/kg	8.3
600-188_Overburden_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	9.45E+06
600-188_Overburden_Focused	non-Rad	Anthracene	120-12-7	ug/kg	0.83
600-188_Overburden_Focused	non-Rad	Antimony	7440-36-0	ug/kg	299
600-188_Overburden_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,750
600-188_Overburden_Focused	non-Rad	Barium	7440-39-3	ug/kg	89,200
600-188_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	26
600-188_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	64
600-188_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	79
600-188_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	40
600-188_Overburden_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	375
600-188_Overburden_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,230
600-188_Overburden_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	226
600-188_Overburden_Focused	non-Rad	Chromium	7440-47-3	ug/kg	13,800
600-188_Overburden_Focused	non-Rad	Chrysene	218-01-9	ug/kg	40
600-188_Overburden_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,750
600-188_Overburden_Focused	non-Rad	Copper	7440-50-8	ug/kg	13,500
600-188_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	7.9

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-188_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	72
600-188_Overburden_Focused	non-Rad	Fluorene	86-73-7	ug/kg	1.9
600-188_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	70
600-188_Overburden_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.32E+07
600-188_Overburden_Focused	non-Rad	Lead	7439-92-1	ug/kg	8,450
600-188_Overburden_Focused	non-Rad	Manganese	7439-96-5	ug/kg	383,000
600-188_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	ug/kg	8.5
600-188_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	553
600-188_Overburden_Focused	non-Rad	Nickel	7440-02-0	ug/kg	11,800
600-188_Overburden_Focused	non-Rad	Pyrene	129-00-0	ug/kg	45
600-188_Overburden_Focused	non-Rad	Selenium	7782-49-2	ug/kg	218
600-188_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	39,400
600-188_Overburden_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	51,400
600-188_Overburden_Focused	non-Rad	Zinc	7440-66-6	ug/kg	48,700
600-188_Shallow	non-Rad	Acetone	67-64-1	ug/kg	11
600-188_Shallow	non-Rad	Aluminum	7429-90-5	ug/kg	6.38E+06
600-188_Shallow	non-Rad	Antimony	7440-36-0	ug/kg	239
600-188_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	2,443
600-188_Shallow	non-Rad	Barium	7440-39-3	ug/kg	64,047
600-188_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	244
600-188_Shallow	non-Rad	Boron	7440-42-8	ug/kg	1,139
600-188_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	139
600-188_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	11,577
600-188_Shallow	non-Rad	Chrysene	218-01-9	ug/kg	3.1
600-188_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	4,836
600-188_Shallow	non-Rad	Copper	7440-50-8	ug/kg	10,774
600-188_Shallow	non-Rad	Iron	7439-89-6	ug/kg	1.66E+07
600-188_Shallow	non-Rad	Lead	7439-92-1	ug/kg	4,925
600-188_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	308,174
600-188_Shallow	non-Rad	Methylene chloride	75-09-2	ug/kg	6.0
600-188_Shallow	non-Rad	Molybdenum	7439-98-7	ug/kg	355
600-188_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	12,680
600-188_Shallow	non-Rad	Selenium	7782-49-2	ug/kg	219
600-188_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	33,790
600-188_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	39,522
600-188_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	31,905
600-188_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	58
600-188_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	8.91E+06
600-188_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	ug/kg	296
600-188_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,580
600-188_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	ug/kg	83,900
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	30
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	55
600-188_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	99
600-188_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	44

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-188_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	347
600-188_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,280
600-188_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	203
600-188_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	ug/kg	11,500
600-188_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	ug/kg	42
600-188_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,740
600-188_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	ug/kg	12,900
600-188_Staging Pile Area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	7.4
600-188_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	100
600-188_Staging Pile Area_Focused	non-Rad	Fluorene	86-73-7	ug/kg	3.1
600-188_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	80
600-188_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.27E+07
600-188_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	ug/kg	5,840
600-188_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	ug/kg	385,000
600-188_Staging Pile Area_Focused	non-Rad	Methylene chloride	75-09-2	ug/kg	7.3
600-188_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	562
600-188_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	ug/kg	11,000
600-188_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	ug/kg	63
600-188_Staging Pile Area_Focused	non-Rad	Selenium	7782-49-2	ug/kg	284
600-188_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	36,900
600-188_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	49,600
600-188_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	ug/kg	43,900
600-190_Shallow_Focused	non-Rad	Anthracene	120-12-7	ug/kg	47
600-190_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	ug/kg	1,100
600-190_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	ug/kg	130
600-190_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,500
600-190_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	81,500
600-190_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	62
600-190_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	52
600-190_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	44
600-190_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	2,400
600-190_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	120
600-190_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	13,800
600-190_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	53
600-190_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	ug/kg	16,000
600-190_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	57
600-190_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	10,800
600-190_Shallow_Focused	non-Rad	Naphthalene	91-20-3	ug/kg	100
600-190_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	47
600-190_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	ug/kg	24,800
600-295_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	5.67E+06
600-295_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,370
600-295_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	35,900
600-295_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	210
600-295_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	799
600-295_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	100

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-295_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	17,200
600-295_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	4,940
600-295_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	12,300
600-295_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.12E+07
600-295_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	3,370
600-295_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	267,000
600-295_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	ug/kg	2.1
600-295_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	259
600-295_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	12,200
600-295_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	52,500
600-295_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	29,700
600-296_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	ug/kg	35
600-296_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	ug/kg	3.4
600-296_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	ug/kg	93
600-296_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	7.21E+06
600-296_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	ug/kg	120
600-296_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,200
600-296_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	741,000
600-296_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	65
600-296_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	55
600-296_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,100
600-296_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	650
600-296_Shallow_Focused	non-Rad	Chlordane	57-74-9	ug/kg	94
600-296_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	12,600
600-296_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,200
600-296_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	31,000
600-296_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	ug/kg	51
600-296_Shallow_Focused	non-Rad	Endrin	72-20-8	ug/kg	1.6
600-296_Shallow_Focused	non-Rad	Heptachlor	76-44-8	ug/kg	0.45
600-296_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	1.60E+07
600-296_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	59,300
600-296_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	287,000
600-296_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	650
600-296_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	590
600-296_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	12,700
600-296_Shallow_Focused	non-Rad	Silver	7440-22-4	ug/kg	210
600-296_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	38,500
600-296_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	123,000
600-302_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	6.12E+06
600-302_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	400
600-302_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	ug/kg	7.6
600-302_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,500
600-302_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	64,300
600-302_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	100
600-302_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	87
600-302_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	210
600-302_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	8,700
600-302_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	5,800
600-302_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	15,000
600-302_Shallow_Focused	non-Rad	Fluoride	16984-48-8	ug/kg	1,600
600-302_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	1.38E+07
600-302_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	6,500
600-302_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	252,000
600-302_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	9.2
600-302_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	340
600-302_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,600
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	ug/kg	1,300
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	ug/kg	850
600-302_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	27,500
600-302_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	122,000
600-341:1_Shallow_1_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.03E+07
600-341:1_Shallow_1_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,680
600-341:1_Shallow_1_Focused	non-Rad	Barium	7440-39-3	ug/kg	97,200
600-341:1_Shallow_1_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	1.4

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-341:1_Shallow_1_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	2.1
600-341:1_Shallow_1_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	316
600-341:1_Shallow_1_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,790
600-341:1_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	1,860
600-341:1_Shallow_1_Focused	non-Rad	Chromium	7440-47-3	ug/kg	15,200
600-341:1_Shallow_1_Focused	non-Rad	Chrysene	218-01-9	ug/kg	2.1
600-341:1_Shallow_1_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	8,100
600-341:1_Shallow_1_Focused	non-Rad	Copper	7440-50-8	ug/kg	17,600
600-341:1_Shallow_1_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.60E+07
600-341:1_Shallow_1_Focused	non-Rad	Lead	7439-92-1	ug/kg	13,100
600-341:1_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	ug/kg	563,000
600-341:1_Shallow_1_Focused	non-Rad	Mercury	7439-97-6	ug/kg	177
600-341:1_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	472
600-341:1_Shallow_1_Focused	non-Rad	Nickel	7440-02-0	ug/kg	14,800
600-341:1_Shallow_1_Focused	non-Rad	Pyrene	129-00-0	ug/kg	2.3
600-341:1_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	45,300
600-341:1_Shallow_1_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	64,700
600-341:1_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	ug/kg	317,000
600-341:1_Shallow_2_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.14E+07
600-341:1_Shallow_2_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,300
600-341:1_Shallow_2_Focused	non-Rad	Barium	7440-39-3	ug/kg	90,200
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	7.0
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	7.1
600-341:1_Shallow_2_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	12
600-341:1_Shallow_2_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	5.9
600-341:1_Shallow_2_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	449
600-341:1_Shallow_2_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,970
600-341:1_Shallow_2_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	122
600-341:1_Shallow_2_Focused	non-Rad	Chromium	7440-47-3	ug/kg	15,800
600-341:1_Shallow_2_Focused	non-Rad	Chrysene	218-01-9	ug/kg	15
600-341:1_Shallow_2_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	8,080
600-341:1_Shallow_2_Focused	non-Rad	Copper	7440-50-8	ug/kg	14,800
600-341:1_Shallow_2_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	1.2
600-341:1_Shallow_2_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	18

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-341:1_Shallow_2_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.41E+07
600-341:1_Shallow_2_Focused	non-Rad	Lead	7439-92-1	ug/kg	5,800
600-341:1_Shallow_2_Focused	non-Rad	Manganese	7439-96-5	ug/kg	423,000
600-341:1_Shallow_2_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	460
600-341:1_Shallow_2_Focused	non-Rad	Nickel	7440-02-0	ug/kg	12,000
600-341:1_Shallow_2_Focused	non-Rad	Pyrene	129-00-0	ug/kg	13
600-341:1_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	29,500
600-341:1_Shallow_2_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	57,000
600-341:1_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	ug/kg	106,000
600-341:2_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	7.7
600-341:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.07E+07
600-341:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	520
600-341:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,060
600-341:2_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	137,000
600-341:2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	4.8
600-341:2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	5.5
600-341:2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	5.5
600-341:2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	2.2
600-341:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	316
600-341:2_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,610
600-341:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	233
600-341:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	15,900
600-341:2_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	5.6
600-341:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,900
600-341:2_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	15,000
600-341:2_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	4.6
600-341:2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	13
600-341:2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	2.0
600-341:2_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.11E+07
600-341:2_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	9,820
600-341:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	374,000
600-341:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	544
600-341:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	11,600
600-341:2_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	8.8
600-341:2_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	58,600
600-341:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	48,100
600-341:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	119,000
600-343_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	11
600-343_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	6.15E+06
600-343_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	5,130
600-343_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	56,100
600-343_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	2.2
600-343_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	1.8
600-343_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	3.9
600-343_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	1.9
600-343_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	205
600-343_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	894
600-343_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	53
600-343_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	7,010
600-343_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	0.88
600-343_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	9,840
600-343_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	16,300
600-343_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	19
600-343_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	16
600-343_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.95E+07
600-343_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,260
600-343_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	386,000
600-343_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	11
600-343_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	402

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-343_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	8,170
600-343_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	1.5
600-343_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	41,900
600-343_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	82,300
600-343_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	53,500
600-344_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	18
600-344_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	7.68E+06
600-344_Shallow_Focused	non-Rad	Anthracene	120-12-7	ug/kg	1.3
600-344_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	400
600-344_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,050
600-344_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	62,200
600-344_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	14
600-344_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	10
600-344_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	8.0
600-344_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	3.7
600-344_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	228
600-344_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,850
600-344_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	99
600-344_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	12,700
600-344_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	9.1
600-344_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	5,410
600-344_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	9,310
600-344_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	26
600-344_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	4.9
600-344_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	1.78E+07
600-344_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	6,410
600-344_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	262,000
600-344_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	350
600-344_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,200
600-344_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	28
600-344_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	37,300
600-344_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	43,700
600-344_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	39,000
600-345_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	1.5
600-345_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.22E+07
600-345_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,060
600-345_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	98,400
600-345_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	346
600-345_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,960
600-345_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	70
600-345_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	18,100
600-345_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	1.0
600-345_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	8,010
600-345_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	15,600
600-345_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	2.0
600-345_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	6.0
600-345_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.53E+07
600-345_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,860
600-345_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	417,000
600-345_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	14
600-345_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	328
600-345_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	13,000
600-345_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	156,000
600-345_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	67,000
600-345_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	44,000
600-346_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	ug/kg	65
600-346_Shallow	non-Rad	Acenaphthene	83-32-9	ug/kg	62
600-346_Shallow	non-Rad	Aluminum	7429-90-5	ug/kg	1.07E+07
600-346_Shallow	non-Rad	Anthracene	120-12-7	ug/kg	2.3
600-346_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	2,919
600-346_Shallow	non-Rad	Barium	7440-39-3	ug/kg	86,200
600-346_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	4.3
600-346_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	4.7
600-346_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	3.8
600-346_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	1.7
600-346_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	353
600-346_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	ug/kg	2.9
600-346_Shallow	non-Rad	Boron	7440-42-8	ug/kg	2,588

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-346_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	67
600-346_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	13,778
600-346_Shallow	non-Rad	Chrysene	218-01-9	ug/kg	167
600-346_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	8,198
600-346_Shallow	non-Rad	Copper	7440-50-8	ug/kg	15,408
600-346_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	18
600-346_Shallow	non-Rad	Endosulfan I	959-98-8	ug/kg	3.1
600-346_Shallow	non-Rad	Fluoranthene	206-44-0	ug/kg	127
600-346_Shallow	non-Rad	Fluorene	86-73-7	ug/kg	24
600-346_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	15
600-346_Shallow	non-Rad	Iron	7439-89-6	ug/kg	2.38E+07
600-346_Shallow	non-Rad	Lead	7439-92-1	ug/kg	5,209
600-346_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	397,658
600-346_Shallow	non-Rad	Molybdenum	7439-98-7	ug/kg	443
600-346_Shallow	non-Rad	Naphthalene	91-20-3	ug/kg	97
600-346_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	11,884
600-346_Shallow	non-Rad	Pyrene	129-00-0	ug/kg	9.1
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	24,225
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	77,961
600-346_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	54,091
600-346_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	42,531
600-5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.14E+07
600-5_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	415
600-5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,570
600-5_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	84,500
600-5_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	338
600-5_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,080
600-5_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	135
600-5_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	13,400
600-5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,890
600-5_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	12,100
600-5_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.34E+07
600-5_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,150
600-5_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	327,000
600-5_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	362
600-5_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,700
600-5_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	23,900
600-5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	59,400
600-5_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	40,700
600-5_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.16E+07
600-5_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	ug/kg	335
600-5_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,410
600-5_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	ug/kg	90,700
600-5_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	335
600-5_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,260
600-5_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	149
600-5_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	ug/kg	13,100
600-5_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,760
600-5_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	ug/kg	12,200
600-5_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.25E+07
600-5_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	ug/kg	5,190
600-5_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	ug/kg	330,000
600-5_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	344

Table 4-6. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-2 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-5_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,500
600-5_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	33,600
600-5_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	57,100
600-5_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	ug/kg	42,300
628-1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,000
628-1_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	83,000
628-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	54
628-1_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	13,600
628-1_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	5,100
628-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	ug/kg	9,400

Notes:

a. ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units*.

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-107_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.084
600-108 and 600-257_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	45
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	10
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	2.5
600-108 and 600-257_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	1.9
600-108 and 600-257_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	10
600-108 and 600-257_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	20
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	0.89
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	0.91
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	3.3
600-109_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	6.0
600-109_Overburden_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	9.58E+06
600-109_Overburden_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	15,300
600-109_Overburden_Focused	non-Rad	Barium	7440-39-3	ug/kg	99,000
600-109_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	1.8
600-109_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	2.0
600-109_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	2.5
600-109_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	1.3
600-109_Overburden_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	312
600-109_Overburden_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,530
600-109_Overburden_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	191
600-109_Overburden_Focused	non-Rad	Chromium	7440-47-3	ug/kg	13,300
600-109_Overburden_Focused	non-Rad	Chrysene	218-01-9	ug/kg	2.3
600-109_Overburden_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,520
600-109_Overburden_Focused	non-Rad	Copper	7440-50-8	ug/kg	12,000
600-109_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	14
600-109_Overburden_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.19E+07
600-109_Overburden_Focused	non-Rad	Lead	7439-92-1	ug/kg	71,900
600-109_Overburden_Focused	non-Rad	Manganese	7439-96-5	ug/kg	354,000
600-109_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	233
600-109_Overburden_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,800
600-109_Overburden_Focused	non-Rad	Pyrene	129-00-0	ug/kg	3.6
600-109_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	26,600
600-109_Overburden_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	54,500
600-109_Overburden_Focused	non-Rad	Zinc	7440-66-6	ug/kg	52,800
600-109_Shallow	non-Rad	Aluminum	7429-90-5	ug/kg	7.47E+06
600-109_Shallow	non-Rad	Anthracene	120-12-7	ug/kg	1.4
600-109_Shallow	non-Rad	Antimony	7440-36-0	ug/kg	375
600-109_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	7,746
600-109_Shallow	non-Rad	Barium	7440-39-3	ug/kg	87,937
600-109_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	6.2
600-109_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	5.6
600-109_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	10
600-109_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	3.8
600-109_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	250
600-109_Shallow	non-Rad	Boron	7440-42-8	ug/kg	1,045
600-109_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	116
600-109_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	8,803
600-109_Shallow	non-Rad	Chrysene	218-01-9	ug/kg	6.4
600-109_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	9,870
600-109_Shallow	non-Rad	Copper	7440-50-8	ug/kg	15,671
600-109_Shallow	non-Rad	Fluoranthene	206-44-0	ug/kg	7.0
600-109_Shallow	non-Rad	Fluorene	86-73-7	ug/kg	1.6
600-109_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	15
600-109_Shallow	non-Rad	Iron	7439-89-6	ug/kg	2.77E+07
600-109_Shallow	non-Rad	Lead	7439-92-1	ug/kg	16,219
600-109_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	368,917
600-109_Shallow	non-Rad	Molybdenum	7439-98-7	ug/kg	378
600-109_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	11,238
600-109_Shallow	non-Rad	Pyrene	129-00-0	ug/kg	3.0
600-109_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	8,926
600-109_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	80,728
600-109_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	52,684
600-109_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	8.15E+06
600-109_Shallow_Focused	non-Rad	Anthracene	120-12-7	ug/kg	0.88
600-109_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	6,070
600-109_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	84,500
600-109_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	4.8
600-109_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	3.1
600-109_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	2.4
600-109_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	1.1
600-109_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	269
600-109_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,700
600-109_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	113
600-109_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	10,900
600-109_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	3.0
600-109_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,340
600-109_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	16,400
600-109_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	7.5
600-109_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.03E+07
600-109_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	24,700
600-109_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	307,000
600-109_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	190
600-109_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,600

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-109_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	8.4
600-109_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	6,950
600-109_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	52,500
600-109_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	45,600
600-109_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	ug/kg	30
600-109_Staging Pile Area	non-Rad	Aluminum	7429-90-5	ug/kg	8.35E+06
600-109_Staging Pile Area	non-Rad	Anthracene	120-12-7	ug/kg	2.1
600-109_Staging Pile Area	non-Rad	Antimony	7440-36-0	ug/kg	781
600-109_Staging Pile Area	non-Rad	Arsenic	7440-38-2	ug/kg	24,017
600-109_Staging Pile Area	non-Rad	Barium	7440-39-3	ug/kg	95,226
600-109_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	2.9
600-109_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	4.7
600-109_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	5.3
600-109_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	1.9
600-109_Staging Pile Area	non-Rad	Beryllium	7440-41-7	ug/kg	284
600-109_Staging Pile Area	non-Rad	Boron	7440-42-8	ug/kg	2,068
600-109_Staging Pile Area	non-Rad	Cadmium	7440-43-9	ug/kg	186
600-109_Staging Pile Area	non-Rad	Chromium	7440-47-3	ug/kg	11,217
600-109_Staging Pile Area	non-Rad	Cobalt	7440-48-4	ug/kg	7,697
600-109_Staging Pile Area	non-Rad	Copper	7440-50-8	ug/kg	14,532
600-109_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	1.4
600-109_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	ug/kg	14
600-109_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	15
600-109_Staging Pile Area	non-Rad	Iron	7439-89-6	ug/kg	2.17E+07
600-109_Staging Pile Area	non-Rad	Lead	7439-92-1	ug/kg	125,620
600-109_Staging Pile Area	non-Rad	Manganese	7439-96-5	ug/kg	357,262
600-109_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	ug/kg	456
600-109_Staging Pile Area	non-Rad	Nickel	7440-02-0	ug/kg	10,405
600-109_Staging Pile Area	non-Rad	Pyrene	129-00-0	ug/kg	3.0
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	16,487
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	30,132
600-109_Staging Pile Area	non-Rad	Vanadium	7440-62-2	ug/kg	53,018
600-109_Staging Pile Area	non-Rad	Zinc	7440-66-6	ug/kg	67,999
600-111_Shallow	non-Rad	Aluminum	7429-90-5	ug/kg	1.04E+07
600-111_Shallow	non-Rad	Antimony	7440-36-0	ug/kg	1,200
600-111_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	5,253
600-111_Shallow	non-Rad	Barium	7440-39-3	ug/kg	150,934
600-111_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	967
600-111_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	37
600-111_Shallow	non-Rad	Boron	7440-42-8	ug/kg	1,200
600-111_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	11,678
600-111_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	10,665
600-111_Shallow	non-Rad	Copper	7440-50-8	ug/kg	22,631
600-111_Shallow	non-Rad	Iron	7439-89-6	ug/kg	3.38E+07
600-111_Shallow	non-Rad	Isophorone	78-59-1	ug/kg	20
600-111_Shallow	non-Rad	Lead	7439-92-1	ug/kg	11,659
600-111_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	513,612
600-111_Shallow	non-Rad	Mercury	7439-97-6	ug/kg	30
600-111_Shallow	non-Rad	Molybdenum	7439-98-7	ug/kg	1,074
600-111_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	14,865
600-111_Shallow	non-Rad	Pyrene	129-00-0	ug/kg	18
600-111_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	75,684
600-111_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	62,190
600-111_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.08E+07
600-111_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	200
600-111_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	8,700
600-111_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	138,000
600-111_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	660
600-111_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,500
600-111_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	360
600-111_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	17,900
600-111_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	9,700
600-111_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	29,100
600-111_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.47E+07
600-111_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	19,400
600-111_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	441,000
600-111_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	20
600-111_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	540
600-111_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	23,600
600-111_Shallow_Focused	non-Rad	Selenium	7782-49-2	ug/kg	290
600-111_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	60,400
600-111_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	60,000
600-111_Shallow_Focused	Rad	Americium-241	14596-10-2	pCi/g	0.23
600-111_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.82
600-146_Shallow_Focused	non-Rad	2,4-Dinitrotoluene	121-14-2	ug/kg	121
600-146_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	6.44E+06
600-146_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	1,090
600-146_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	ug/kg	32
600-146_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	ug/kg	8.5
600-146_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,020
600-146_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	79,500
600-146_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	213
600-146_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	2,660
600-146_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	254

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-146_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	8,220
600-146_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,460
600-146_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	475,000
600-146_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.39E+07
600-146_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	19,200
600-146_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	362,000
600-146_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	14
600-146_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	ug/kg	2.6
600-146_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	402
600-146_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	39,400
600-146_Shallow_Focused	non-Rad	Selenium	7782-49-2	ug/kg	732
600-146_Shallow_Focused	non-Rad	Silver	7440-22-4	ug/kg	305
600-146_Shallow_Focused	non-Rad	Styrene	100-42-5	ug/kg	1.7
600-146_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	72,600
600-146_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	154,000
600-149:2_Shallow	non-Rad	Antimony	7440-36-0	ug/kg	380
600-149:2_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	5,173
600-149:2_Shallow	non-Rad	Barium	7440-39-3	ug/kg	89,076
600-149:2_Shallow	non-Rad	Beryllium	7440-41-7	ug/kg	170
600-149:2_Shallow	non-Rad	Boron	7440-42-8	ug/kg	987
600-149:2_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	145
600-149:2_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	13,989
600-149:2_Shallow	non-Rad	Cobalt	7440-48-4	ug/kg	8,419
600-149:2_Shallow	non-Rad	Copper	7440-50-8	ug/kg	16,954
600-149:2_Shallow	non-Rad	Lead	7439-92-1	ug/kg	16,309
600-149:2_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	393,085
600-149:2_Shallow	non-Rad	Molybdenum	7439-98-7	ug/kg	541
600-149:2_Shallow	non-Rad	Nickel	7440-02-0	ug/kg	13,790
600-149:2_Shallow	non-Rad	Selenium	7782-49-2	ug/kg	873
600-149:2_Shallow	non-Rad	Tin	7440-31-5	ug/kg	980
600-149:2_Shallow	non-Rad	Vanadium	7440-62-2	ug/kg	54,219
600-149:2_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	51,198
600-149:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	540
600-149:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	4,100
600-149:2_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	83,800
600-149:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	400
600-149:2_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,900
600-149:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	280
600-149:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	11,000
600-149:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	10,900
600-149:2_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	31,700
600-149:2_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	153,000
600-149:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	367,000
600-149:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	610
600-149:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	18,900
600-149:2_Shallow_Focused	non-Rad	Selenium	7782-49-2	ug/kg	1,100
600-149:2_Shallow_Focused	non-Rad	Tin	7440-31-5	ug/kg	850
600-149:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	72,800
600-149:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	50,100
600-178_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	ug/kg	7.8
600-178_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	ug/kg	1.5
600-178_Overburden_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	6.22E+06
600-178_Overburden_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,780
600-178_Overburden_Focused	non-Rad	Barium	7440-39-3	ug/kg	62,600
600-178_Overburden_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	230
600-178_Overburden_Focused	non-Rad	Boron	7440-42-8	ug/kg	905
600-178_Overburden_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	121
600-178_Overburden_Focused	non-Rad	Chromium	7440-47-3	ug/kg	6,700
600-178_Overburden_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,560
600-178_Overburden_Focused	non-Rad	Copper	7440-50-8	ug/kg	9,870
600-178_Overburden_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.25E+07
600-178_Overburden_Focused	non-Rad	Lead	7439-92-1	ug/kg	3,820
600-178_Overburden_Focused	non-Rad	Manganese	7439-96-5	ug/kg	307,000
600-178_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	359
600-178_Overburden_Focused	non-Rad	Nickel	7440-02-0	ug/kg	6,930
600-178_Overburden_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	66,000
600-178_Overburden_Focused	non-Rad	Zinc	7440-66-6	ug/kg	43,600
600-178_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	ug/kg	13
600-178_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	7.50E+06
600-178_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,120
600-178_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	76,100
600-178_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	264
600-178_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,110
600-178_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	131
600-178_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	8,580
600-178_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	9,250
600-178_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	10,500
600-178_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.23E+07
600-178_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	5,770
600-178_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	337,000
600-178_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	363
600-178_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	8,910
600-178_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	62,900
600-178_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	43,000

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	ug/kg	4.7
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	ug/kg	1.7
600-178_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	7.56E+06
600-178_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,820
600-178_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	ug/kg	67,600
600-178_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	258
600-178_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,260
600-178_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	108
600-178_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	ug/kg	8,240
600-178_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,130
600-178_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	ug/kg	9,750
600-178_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.01E+07
600-178_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,070
600-178_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	ug/kg	290,000
600-178_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	335
600-178_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	ug/kg	7,700
600-178_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	52,100
600-178_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	ug/kg	38,900
600-186_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.21E+07
600-186_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	650
600-186_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	ug/kg	50
600-186_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	5,640
600-186_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	139,000
600-186_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	1.7
600-186_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	5.3
600-186_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	9.7
600-186_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	2.7
600-186_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	471
600-186_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	3,290
600-186_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	871
600-186_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	98,000
600-186_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	1.6
600-186_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	8,990
600-186_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	42,300
600-186_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	0.98
600-186_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	2.6
600-186_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	ug/kg	320
600-186_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	5.8
600-186_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	1.01E+08
600-186_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	93,500
600-186_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	307,000
600-186_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	854
600-186_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	1,230
600-186_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	17,400
600-186_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	8.1
600-186_Shallow_Focused	non-Rad	Selenium	7782-49-2	ug/kg	393
600-186_Shallow_Focused	non-Rad	Silver	7440-22-4	ug/kg	21,900
600-186_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	18,500
600-186_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	141,000
600-186_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	137,000
600-202_Shallow_1	non-Rad	Acenaphthene	83-32-9	ug/kg	9.2
600-202_Shallow_1	non-Rad	Aldrin	309-00-2	ug/kg	2.9
600-202_Shallow_1	non-Rad	Aluminum	7429-90-5	ug/kg	8.41E+06
600-202_Shallow_1	non-Rad	Antimony	7440-36-0	ug/kg	403
600-202_Shallow_1	non-Rad	Arsenic	7440-38-2	ug/kg	5,034
600-202_Shallow_1	non-Rad	Barium	7440-39-3	ug/kg	84,721
600-202_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	1.2
600-202_Shallow_1	non-Rad	Beryllium	7440-41-7	ug/kg	317
600-202_Shallow_1	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	ug/kg	3.3
600-202_Shallow_1	non-Rad	Boron	7440-42-8	ug/kg	1,746
600-202_Shallow_1	non-Rad	Cadmium	7440-43-9	ug/kg	84
600-202_Shallow_1	non-Rad	Chromium	7440-47-3	ug/kg	17,641
600-202_Shallow_1	non-Rad	Chrysene	218-01-9	ug/kg	2.4
600-202_Shallow_1	non-Rad	Cobalt	7440-48-4	ug/kg	5,433
600-202_Shallow_1	non-Rad	Copper	7440-50-8	ug/kg	13,520
600-202_Shallow_1	non-Rad	Fluoranthene	206-44-0	ug/kg	4.3
600-202_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	3.3
600-202_Shallow_1	non-Rad	Iron	7439-89-6	ug/kg	1.92E+07
600-202_Shallow_1	non-Rad	Lead	7439-92-1	ug/kg	5,428
600-202_Shallow_1	non-Rad	Manganese	7439-96-5	ug/kg	308,336
600-202_Shallow_1	non-Rad	Molybdenum	7439-98-7	ug/kg	235
600-202_Shallow_1	non-Rad	Nickel	7440-02-0	ug/kg	15,979
600-202_Shallow_1	non-Rad	Vanadium	7440-62-2	ug/kg	46,058
600-202_Shallow_1	non-Rad	Zinc	7440-66-6	ug/kg	40,454
600-202_Shallow_2	non-Rad	Acenaphthene	83-32-9	ug/kg	7.9
600-202_Shallow_2	non-Rad	Aluminum	7429-90-5	ug/kg	1.14E+07
600-202_Shallow_2	non-Rad	Anthracene	120-12-7	ug/kg	2.0
600-202_Shallow_2	non-Rad	Arsenic	7440-38-2	ug/kg	6,830
600-202_Shallow_2	non-Rad	Barium	7440-39-3	ug/kg	101,572
600-202_Shallow_2	non-Rad	Beryllium	7440-41-7	ug/kg	420
600-202_Shallow_2	non-Rad	Boron	7440-42-8	ug/kg	3,117
600-202_Shallow_2	non-Rad	Cadmium	7440-43-9	ug/kg	156
600-202_Shallow_2	non-Rad	Chromium	7440-47-3	ug/kg	22,382
600-202_Shallow_2	non-Rad	Cobalt	7440-48-4	ug/kg	7,211

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-202_Shallow_2	non-Rad	Copper	7440-50-8	ug/kg	16,341
600-202_Shallow_2	non-Rad	Fluoranthene	206-44-0	ug/kg	5.1
600-202_Shallow_2	non-Rad	Fluorene	86-73-7	ug/kg	35
600-202_Shallow_2	non-Rad	Iron	7439-89-6	ug/kg	2.19E+07
600-202_Shallow_2	non-Rad	Lead	7439-92-1	ug/kg	6,814
600-202_Shallow_2	non-Rad	Manganese	7439-96-5	ug/kg	368,794
600-202_Shallow_2	non-Rad	Molybdenum	7439-98-7	ug/kg	335
600-202_Shallow_2	non-Rad	Naphthalene	91-20-3	ug/kg	21
600-202_Shallow_2	non-Rad	Nickel	7440-02-0	ug/kg	19,045
600-202_Shallow_2	non-Rad	Pyrene	129-00-0	ug/kg	2.6
600-202_Shallow_2	non-Rad	Selenium	7782-49-2	ug/kg	337
600-202_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	8,170
600-202_Shallow_2	non-Rad	Vanadium	7440-62-2	ug/kg	48,606
600-202_Shallow_2	non-Rad	Zinc	7440-66-6	ug/kg	49,589
600-202_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	14
600-202_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	ug/kg	2.0
600-202_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.01E+07
600-202_Shallow_Focused	non-Rad	Anthracene	120-12-7	ug/kg	11
600-202_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	735
600-202_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	10,200
600-202_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	201,000
600-202_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	17
600-202_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	1.2
600-202_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	16
600-202_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	876
600-202_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	ug/kg	15
600-202_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	69
600-202_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	13,000
600-202_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	1,290
600-202_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	21,900
600-202_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	6.1
600-202_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	8,300
600-202_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	87,900
600-202_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	ug/kg	36
600-202_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	ug/kg	3.0
600-202_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	61
600-202_Shallow_Focused	non-Rad	Fluorene	86-73-7	ug/kg	15
600-202_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	83
600-202_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.21E+07
600-202_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	278,000
600-202_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	411,000
600-202_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	1,170
600-202_Shallow_Focused	non-Rad	Naphthalene	91-20-3	ug/kg	27
600-202_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	23,700
600-202_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	6.8
600-202_Shallow_Focused	non-Rad	Silver	7440-22-4	ug/kg	1,540
600-202_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	104,000
600-202_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	50,300
600-202_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	403,000
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	ug/kg	2.5
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	ug/kg	2.0
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	ug/kg	2.1
600-202_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	ug/kg	43
600-202_Staging Pile Area Footprint	non-Rad	Aldrin	309-00-2	ug/kg	6.0
600-202_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	ug/kg	6.55E+06
600-202_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	ug/kg	4.8
600-202_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	ug/kg	713
600-202_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	ug/kg	5,082
600-202_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	ug/kg	108,339
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	24
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	19
600-202_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	37
600-202_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	12
600-202_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	ug/kg	245
600-202_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	ug/kg	9,973
600-202_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	ug/kg	405
600-202_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	ug/kg	15,595
600-202_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	ug/kg	53
600-202_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	ug/kg	7,092
600-202_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	ug/kg	40,782
600-202_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	14
600-202_Staging Pile Area Footprint	non-Rad	Endrin	72-20-8	ug/kg	2.2
600-202_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	ug/kg	116
600-202_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	ug/kg	7.8
600-202_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	ug/kg	260
600-202_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	ug/kg	2.73E+07
600-202_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	ug/kg	63,502
600-202_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	ug/kg	344,273
600-202_Staging Pile Area Footprint	non-Rad	Methoxychlor	72-43-5	ug/kg	1.6
600-202_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	ug/kg	953
600-202_Staging Pile Area Footprint	non-Rad	Naphthalene	91-20-3	ug/kg	11
600-202_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	ug/kg	12,835
600-202_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	ug/kg	206
600-202_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	ug/kg	275

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	11,500
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	114,498
600-202_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	ug/kg	55,794
600-202_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	ug/kg	174,723
600-204_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,700
600-204_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	166,000
600-204_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	150
600-204_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	80
600-204_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	10,800
600-204_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	27,700
600-204_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	ug/kg	41,200
600-205_Shallow_Focused	non-Rad	2,4-Dimethylphenol	105-67-9	ug/kg	21
600-205_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	ug/kg	68
600-205_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	59
600-205_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	9.11E+06
600-205_Shallow_Focused	non-Rad	Anthracene	120-12-7	ug/kg	9.3
600-205_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	670
600-205_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	5,420
600-205_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	86,200
600-205_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	4.5
600-205_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	14
600-205_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	1,800
600-205_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	150
600-205_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,500
600-205_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	ug/kg	25
600-205_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	670
600-205_Shallow_Focused	non-Rad	Chlordane	57-74-9	ug/kg	6.5
600-205_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	10,200
600-205_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	420
600-205_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	10,600
600-205_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	22,000
600-205_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	ug/kg	79
600-205_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	ug/kg	12
600-205_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	33
600-205_Shallow_Focused	non-Rad	Fluorene	86-73-7	ug/kg	5.2
600-205_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	3.19E+07
600-205_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	40,300
600-205_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	427,000
600-205_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	890
600-205_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	13,700
600-205_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	62
600-205_Shallow_Focused	non-Rad	Selenium	7782-49-2	ug/kg	500
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	ug/kg	1.90E+06
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	3,200
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	7,860
600-205_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	86,200
600-205_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	61,700
600-205_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	3.4
600-205_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	7.59E+06
600-205_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,180
600-205_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	ug/kg	75,000
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	1.5
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	3.6
600-205_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	275
600-205_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,260
600-205_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	250
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	ug/kg	9,020
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	ug/kg	6.1
600-205_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,810
600-205_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	ug/kg	13,200
600-205_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	146
600-205_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	4.6
600-205_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.04E+07
600-205_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	ug/kg	12,000
600-205_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	ug/kg	318,000
600-205_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	287
600-205_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	ug/kg	9,230
600-205_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	ug/kg	4.9
600-205_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	103,000
600-205_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	53,000
600-205_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	ug/kg	45,700
600-23_Overburden	non-Rad	Arsenic	7440-38-2	ug/kg	3,516
600-23_Overburden	non-Rad	Barium	7440-39-3	ug/kg	75,900
600-23_Overburden	non-Rad	Cadmium	7440-43-9	ug/kg	74
600-23_Overburden	non-Rad	Chromium	7440-47-3	ug/kg	11,100
600-23_Overburden	non-Rad	Lead	7439-92-1	ug/kg	12,902
600-23_Overburden	non-Rad	Manganese	7439-96-5	ug/kg	295,027
600-23_Overburden	non-Rad	Selenium	7782-49-2	ug/kg	290
600-23_Overburden	non-Rad	Zinc	7440-66-6	ug/kg	67,433
600-23_Shallow	non-Rad	Arsenic	7440-38-2	ug/kg	2,866
600-23_Shallow	non-Rad	Barium	7440-39-3	ug/kg	70,525
600-23_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	187
600-23_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	10,238
600-23_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	ug/kg	631

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-23_Shallow	non-Rad	Lead	7439-92-1	ug/kg	5,475
600-23_Shallow	non-Rad	Manganese	7439-96-5	ug/kg	293,839
600-23_Shallow	non-Rad	Selenium	7782-49-2	ug/kg	290
600-23_Shallow	non-Rad	Zinc	7440-66-6	ug/kg	63,472
600-23_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	ug/kg	1,300
600-23_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,500
600-23_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	86,200
600-23_Shallow_Focused	non-Rad	Benzene	71-43-2	ug/kg	2.0
600-23_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	180
600-23_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	18,500
600-23_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	4,900
600-23_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	330,000
600-23_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	ug/kg	9.0
600-23_Shallow_Focused	non-Rad	Selenium	7782-49-2	ug/kg	660
600-23_Shallow_Focused	non-Rad	Toluene	108-88-3	ug/kg	1.0
600-23_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	ug/kg	560
600-23_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	55,100
600-23_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.018
600-23_Shallow_Focused	Rad	Europium-155	14391-16-3	pCi/g	0.042
600-23_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.19
600-280_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	5.64E+06
600-280_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	1,660
600-280_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,420
600-280_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	61,200
600-280_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	255
600-280_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	916
600-280_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	5,700
600-280_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	5,570
600-280_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	10,500
600-280_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.30E+07
600-280_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	22,700
600-280_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	311,000
600-280_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	406
600-280_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	7,630
600-280_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	76,100
600-280_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	65,500
600-280_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	43,300
600-3_Shallow_1	non-Rad	Acenaphthene	83-32-9	ug/kg	21
600-3_Shallow_1	non-Rad	Aluminum	7429-90-5	ug/kg	7.98E+06
600-3_Shallow_1	non-Rad	Anthracene	120-12-7	ug/kg	2.3
600-3_Shallow_1	non-Rad	Antimony	7440-36-0	ug/kg	335
600-3_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	ug/kg	12
600-3_Shallow_1	non-Rad	Arsenic	7440-38-2	ug/kg	3,019
600-3_Shallow_1	non-Rad	Barium	7440-39-3	ug/kg	72,952
600-3_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	4.6
600-3_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	17
600-3_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	5.2
600-3_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	6.2
600-3_Shallow_1	non-Rad	Beryllium	7440-41-7	ug/kg	312
600-3_Shallow_1	non-Rad	Boron	7440-42-8	ug/kg	954
600-3_Shallow_1	non-Rad	Cadmium	7440-43-9	ug/kg	118
600-3_Shallow_1	non-Rad	Chromium	7440-47-3	ug/kg	9,965
600-3_Shallow_1	non-Rad	Chrysene	218-01-9	ug/kg	11
600-3_Shallow_1	non-Rad	Cobalt	7440-48-4	ug/kg	6,718
600-3_Shallow_1	non-Rad	Copper	7440-50-8	ug/kg	12,939
600-3_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	1.7
600-3_Shallow_1	non-Rad	Fluoranthene	206-44-0	ug/kg	13
600-3_Shallow_1	non-Rad	Fluorene	86-73-7	ug/kg	0.95
600-3_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	9.3
600-3_Shallow_1	non-Rad	Iron	7439-89-6	ug/kg	2.29E+07
600-3_Shallow_1	non-Rad	Lead	7439-92-1	ug/kg	7,365
600-3_Shallow_1	non-Rad	Manganese	7439-96-5	ug/kg	314,529
600-3_Shallow_1	non-Rad	Molybdenum	7439-98-7	ug/kg	375
600-3_Shallow_1	non-Rad	Nickel	7440-02-0	ug/kg	9,437
600-3_Shallow_1	non-Rad	Pyrene	129-00-0	ug/kg	62
600-3_Shallow_1	non-Rad	Selenium	7782-49-2	ug/kg	377
600-3_Shallow_1	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	4,960
600-3_Shallow_1	non-Rad	Total_U_Isotopes	Total_U_Isotopes	ug/kg	2,000
600-3_Shallow_1	non-Rad	Vanadium	7440-62-2	ug/kg	62,613
600-3_Shallow_1	non-Rad	Zinc	7440-66-6	ug/kg	41,668
600-3_Shallow_1	Rad	Cesium-137	10045-97-3	pCi/g	0.033
600-3_Shallow_1	Rad	Uranium-233/234	U-233/234	pCi/g	0.70
600-3_Shallow_1	Rad	Uranium-238	U-238	pCi/g	0.67
600-3_Shallow_2	non-Rad	Acenaphthene	83-32-9	ug/kg	28
600-3_Shallow_2	non-Rad	Aluminum	7429-90-5	ug/kg	7.32E+06
600-3_Shallow_2	non-Rad	Anthracene	120-12-7	ug/kg	3.9
600-3_Shallow_2	non-Rad	Antimony	7440-36-0	ug/kg	388
600-3_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	ug/kg	5.8
600-3_Shallow_2	non-Rad	Arsenic	7440-38-2	ug/kg	3,187
600-3_Shallow_2	non-Rad	Barium	7440-39-3	ug/kg	58,538
600-3_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	136
600-3_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	68
600-3_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	25
600-3_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	32

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-3_Shallow_2	non-Rad	Beryllium	7440-41-7	ug/kg	281
600-3_Shallow_2	non-Rad	Boron	7440-42-8	ug/kg	1,038
600-3_Shallow_2	non-Rad	Cadmium	7440-43-9	ug/kg	102
600-3_Shallow_2	non-Rad	Chromium	7440-47-3	ug/kg	11,176
600-3_Shallow_2	non-Rad	Chrysene	218-01-9	ug/kg	13
600-3_Shallow_2	non-Rad	Cobalt	7440-48-4	ug/kg	5,449
600-3_Shallow_2	non-Rad	Copper	7440-50-8	ug/kg	16,811
600-3_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	7.3
600-3_Shallow_2	non-Rad	Fluoranthene	206-44-0	ug/kg	49
600-3_Shallow_2	non-Rad	Fluorene	86-73-7	ug/kg	3.0
600-3_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	38
600-3_Shallow_2	non-Rad	Iron	7439-89-6	ug/kg	1.80E+07
600-3_Shallow_2	non-Rad	Lead	7439-92-1	ug/kg	65,041
600-3_Shallow_2	non-Rad	Manganese	7439-96-5	ug/kg	246,287
600-3_Shallow_2	non-Rad	Molybdenum	7439-98-7	ug/kg	297
600-3_Shallow_2	non-Rad	Naphthalene	91-20-3	ug/kg	10.0
600-3_Shallow_2	non-Rad	Nickel	7440-02-0	ug/kg	11,155
600-3_Shallow_2	non-Rad	Pyrene	129-00-0	ug/kg	15
600-3_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	24,700
600-3_Shallow_2	non-Rad	Total_U_Isotopes	Total_U_Isotopes	ug/kg	1,900
600-3_Shallow_2	non-Rad	Vanadium	7440-62-2	ug/kg	49,260
600-3_Shallow_2	non-Rad	Zinc	7440-66-6	ug/kg	39,739
600-3_Shallow_2	Rad	Cesium-137	10045-97-3	pCi/g	0.085
600-3_Shallow_2	Rad	Uranium-233/234	U-233/234	pCi/g	0.62
600-3_Shallow_2	Rad	Uranium-238	U-238	pCi/g	0.64
600-3_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	ug/kg	1.6
600-3_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	102
600-3_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.00E+07
600-3_Shallow_Focused	non-Rad	Anthracene	120-12-7	ug/kg	13
600-3_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	11,700
600-3_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	ug/kg	31
600-3_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	ug/kg	19
600-3_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	3,140
600-3_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	841,000
600-3_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	89
600-3_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	119
600-3_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	92
600-3_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	43
600-3_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	361
600-3_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,790
600-3_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	296
600-3_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	19,400
600-3_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	32
600-3_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,840
600-3_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	152,000
600-3_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	12
600-3_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	224
600-3_Shallow_Focused	non-Rad	Fluorene	86-73-7	ug/kg	5.8
600-3_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	91
600-3_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.60E+07
600-3_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	1.64E+06
600-3_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	383,000
600-3_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	916
600-3_Shallow_Focused	non-Rad	Naphthalene	91-20-3	ug/kg	1.6
600-3_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	14,800
600-3_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	88
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	133,000
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	48,900
600-3_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	ug/kg	2,533
600-3_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	68,400
600-3_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	384,000
600-3_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.015
600-3_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.74
600-3_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.85
600-3_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	ug/kg	27
600-3_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	ug/kg	8.21E+06
600-3_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	ug/kg	4.6
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	ug/kg	11
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	ug/kg	17
600-3_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	ug/kg	8,861
600-3_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	ug/kg	80,420
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	39
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	29
600-3_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	32
600-3_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	20
600-3_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	ug/kg	307
600-3_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	ug/kg	1,584
600-3_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	ug/kg	199
600-3_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	ug/kg	9,690
600-3_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	ug/kg	31
600-3_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	ug/kg	6,802
600-3_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	ug/kg	13,715
600-3_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	ug/kg	3.9
600-3_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	ug/kg	100

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-3_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	ug/kg	3.0
600-3_Staging Pile Area Footprint	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	18
600-3_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	ug/kg	2.33E+07
600-3_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	ug/kg	22,247
600-3_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	ug/kg	340,091
600-3_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	ug/kg	360
600-3_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	ug/kg	9,460
600-3_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	ug/kg	49
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	7,320
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	ug/kg	17,326
600-3_Staging Pile Area Footprint	non-Rad	Total_U_Isotopes	Total_U_Isotopes	ug/kg	1,878
600-3_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	ug/kg	62,937
600-3_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	ug/kg	59,275
600-3_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.068
600-3_Staging Pile Area Footprint	Rad	Uranium-233/234	U-233/234	pCi/g	0.75
600-3_Staging Pile Area Footprint	Rad	Uranium-238	U-238	pCi/g	0.63
600-3_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	7.17E+06
600-3_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	ug/kg	617
600-3_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,570
600-3_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	ug/kg	69,100
600-3_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	265
600-3_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,390
600-3_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	150
600-3_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	ug/kg	7,870
600-3_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	6,390
600-3_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	ug/kg	9,450
600-3_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.23E+07
600-3_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	ug/kg	236,000
600-3_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	ug/kg	320,000
600-3_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	412
600-3_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	ug/kg	7,420
600-3_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	63,100
600-3_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	ug/kg	45,800
600-315_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	3.06E+06
600-315_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	2,000
600-315_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	90,100
600-315_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	460
600-315_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	13,300
600-315_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	640
600-315_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	5,300
600-315_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	3,500
600-315_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	7,900
600-315_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	8.98E+06
600-315_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	7,400
600-315_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	169,000
600-315_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	17
600-315_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	410
600-315_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	4,900
600-315_Shallow_Focused	non-Rad	Selenium	7782-49-2	ug/kg	1,400
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	66,000
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	110,000
600-315_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	17,600
600-315_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	24,200
600-322_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	ug/kg	2.6
600-322_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	6.90E+06
600-322_Shallow_Focused	non-Rad	Antimony	7440-36-0	ug/kg	1,100
600-322_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	4,900
600-322_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	77,500
600-322_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	120
600-322_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,500
600-322_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	250
600-322_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	32,800
600-322_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,700
600-322_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	57,400
600-322_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	9.46E+07
600-322_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	72,200
600-322_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	556,000
600-322_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	37
600-322_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	4,300
600-322_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	35,400
600-322_Shallow_Focused	non-Rad	Silver	7440-22-4	ug/kg	210
600-322_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	50,200
600-322_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	62,900
600-323_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	ug/kg	31
600-323_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.34E+07
600-323_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	4,300
600-323_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	549,000
600-323_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	4.6
600-323_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	18
600-323_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	50
600-323_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	9.9
600-323_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	680
600-323_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	34,000
600-323_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	140

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
600-323_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	12,600
600-323_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	170
600-323_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	7,300
600-323_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	20,400
600-323_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	87
600-323_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	1.97E+07
600-323_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	5,200
600-323_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	357,000
600-323_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	18
600-323_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	1,100
600-323_Shallow_Focused	non-Rad	Naphthalene	91-20-3	ug/kg	120
600-323_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	14,100
600-323_Shallow_Focused	non-Rad	Selenium	7782-49-2	ug/kg	2,200
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	50,000
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	68,000
600-323_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	44,000
600-323_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	41,400
600-327_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	1.18E+07
600-327_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	4,800
600-327_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	116,000
600-327_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	160
600-327_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	1,100
600-327_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	120
600-327_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	16,400
600-327_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	8,100
600-327_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	15,500
600-327_Shallow_Focused	non-Rad	Fluorene	86-73-7	ug/kg	41
600-327_Shallow_Focused	non-Rad	Fluoride	16984-48-8	ug/kg	2,100
600-327_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	2.16E+07
600-327_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	6,700
600-327_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	342,000
600-327_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	6.0
600-327_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	15,900
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	ug/kg	2,700
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	ug/kg	2,700
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	2,200
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	3,000
600-327_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	44,000
600-327_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	46,500
600-334:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	ug/kg	7.07E+06
600-334:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	ug/kg	4,200
600-334:1_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	85,400
600-334:1_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	3.8
600-334:1_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	25
600-334:1_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	25
600-334:1_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	17
600-334:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	ug/kg	150
600-334:1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	ug/kg	100
600-334:1_Shallow_Focused	non-Rad	Boron	7440-42-8	ug/kg	3,300
600-334:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	400
600-334:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	11,800
600-334:1_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	39
600-334:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	ug/kg	5,800
600-334:1_Shallow_Focused	non-Rad	Copper	7440-50-8	ug/kg	17,500
600-334:1_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	34
600-334:1_Shallow_Focused	non-Rad	Iron	7439-89-6	ug/kg	1.85E+07
600-334:1_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	14,200
600-334:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	ug/kg	329,000
600-334:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	ug/kg	1,900
600-334:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	ug/kg	290
600-334:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	ug/kg	10,700
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	ug/kg	259,000
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	ug/kg	287,000
600-334:1_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	78
600-334:1_Shallow_Focused	non-Rad	Silver	7440-22-4	ug/kg	220
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	ug/kg	7,900
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	ug/kg	74,000
600-334:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	ug/kg	43,200
600-334:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	ug/kg	73,000
600-350_Shallow_Focused	non-Rad	Anthracene	120-12-7	ug/kg	3.1
600-350_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	ug/kg	23
600-350_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	ug/kg	21
600-350_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	ug/kg	16
600-350_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	ug/kg	6.6
600-350_Shallow_Focused	non-Rad	Chrysene	218-01-9	ug/kg	20
600-350_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	ug/kg	52
600-350_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	17
600-350_Shallow_Focused	non-Rad	Pyrene	129-00-0	ug/kg	63
JA JONES 1_Overburden	non-Rad	Barium	7440-39-3	ug/kg	80,600
JA JONES 1_Overburden	non-Rad	Cadmium	7440-43-9	ug/kg	470
JA JONES 1_Overburden	non-Rad	Chromium	7440-47-3	ug/kg	10,000
JA JONES 1_Overburden	non-Rad	Lead	7439-92-1	ug/kg	17,100
JA JONES 1_Shallow	non-Rad	Barium	7440-39-3	ug/kg	84,191
JA JONES 1_Shallow	non-Rad	Cadmium	7440-43-9	ug/kg	485

Table 4-7. Exposure Point Concentrations for Each Waste Site Decision Unit in the 100-IU-6 Source Operable Unit

Waste Site Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration[a]
JA JONES 1_Shallow	non-Rad	Chromium	7440-47-3	ug/kg	16,349
JA JONES 1_Shallow	non-Rad	Lead	7439-92-1	ug/kg	54,479
JA JONES 1_Shallow_Focused	non-Rad	Barium	7440-39-3	ug/kg	82,600
JA JONES 1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	ug/kg	80
JA JONES 1_Shallow_Focused	non-Rad	Chromium	7440-47-3	ug/kg	10,500
JA JONES 1_Shallow_Focused	non-Rad	Lead	7439-92-1	ug/kg	8,100

Notes:

a. ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units*.

Table 4-8. Hanford Site Soil Background Values

Analyte Name	Analyte Class	Units	Lognormal 90th Percentile Background Value	Source of Background Values
Cesium-137	RAD	pCi/g	1.1	DOE/RL-96-12, Rev.0
Cobalt-60	RAD	pCi/g	0.0084	DOE/RL-96-12, Rev.0
Europium-154	RAD	pCi/g	0.033	DOE/RL-96-12, Rev.0
Europium-155	RAD	pCi/g	0.054	DOE/RL-96-12, Rev.0
Gross beta	RAD	pCi/g	23	DOE/RL-96-12, Rev.0
Plutonium-238	RAD	pCi/g	0.0038	DOE/RL-96-12, Rev.0
Plutonium-239/240	RAD	pCi/g	0.025	DOE/RL-96-12, Rev.0
Potassium-40	RAD	pCi/g	17	DOE/RL-96-12, Rev.0
Radium-226	RAD	pCi/g	0.82	DOE/RL-96-12, Rev.0
Radium-228	RAD	pCi/g	1.82	DOE/RL-96-12, Rev.0
Strontium-90	RAD	pCi/g	0.18	DOE/RL-96-12, Rev.0
Thorium-228	RAD	pCi/g	1.40	DOE/RL-96-12, Rev.0
Thorium-232	RAD	pCi/g	1.3	DOE/RL-96-12, Rev.0
Total beta radiostrontium	RAD	pCi/g	0.18	DOE/RL-96-12, Rev.0
Uranium-233/234	RAD	pCi/g	1.1	DOE/RL-96-12, Rev.0
Uranium-234	RAD	pCi/g	1.1	DOE/RL-96-12, Rev.0
Uranium-235	RAD	pCi/g	0.11	DOE/RL-96-12, Rev.0
Uranium-238	RAD	pCi/g	1.1	DOE/RL-96-12, Rev.0
Aluminum	METAL	µg/kg	1.18E+07	DOE/RL-92-24, V.1, Rev.4
Antimony	METAL	µg/kg	130	ECF-HANFORD-11-0038
Arsenic	METAL	µg/kg	6,470	DOE/RL-92-24, V.1, Rev.4
Barium	METAL	µg/kg	132,000	DOE/RL-92-24, V.1, Rev.4
Beryllium	METAL	µg/kg	1,510	DOE/RL-92-24, V.1, Rev.4
Cadmium	METAL	µg/kg	563	ECF-HANFORD-11-0038
Calcium	METAL	µg/kg	1.72E+07	DOE/RL-92-24, V.1, Rev.4
Chromium	METAL	µg/kg	18,500	DOE/RL-92-24, V.1, Rev.4
Cobalt	METAL	µg/kg	15,700	DOE/RL-92-24, V.1, Rev.4
Copper	METAL	µg/kg	22,000	DOE/RL-92-24, V.1, Rev.4
Iron	METAL	µg/kg	3.26E+07	DOE/RL-92-24, V.1, Rev.4
Lead	METAL	µg/kg	10,200	DOE/RL-92-24, V.1, Rev.4
Lithium	METAL	µg/kg	13,300	ECF-HANFORD-11-0038
Magnesium	METAL	µg/kg	7.06E+06	DOE/RL-92-24, V.1, Rev.4
Manganese	METAL	µg/kg	512,000	DOE/RL-92-24, V.1, Rev.4
Mercury	METAL	µg/kg	13	ECF-HANFORD-11-0038
Molybdenum	METAL	µg/kg	470	ECF-HANFORD-11-0038
Nickel	METAL	µg/kg	19,100	DOE/RL-92-24, V.1, Rev.4
Potassium	METAL	µg/kg	2.15E+06	DOE/RL-92-24, V.1, Rev.4
Silver	METAL	µg/kg	167	ECF-HANFORD-11-0038
Sodium	METAL	µg/kg	690,000	DOE/RL-92-24, V.1, Rev.4
Uranium	METAL	µg/kg	3,210	Isotopic Activity Conversion based on DOE/RL-96-12 values
Vanadium	METAL	µg/kg	85,100	DOE/RL-92-24, V.1, Rev.4
Zinc	METAL	µg/kg	67,800	DOE/RL-92-24, V.1, Rev.4
Ammonia	ANIONS	µg/kg	9,230	DOE/RL-92-24, V.1, Rev.4
Chloride	ANIONS	µg/kg	100,000	DOE/RL-92-24, V.1, Rev.4
Fluoride	ANIONS	µg/kg	2,810	DOE/RL-92-24, V.1, Rev.4

Table 4-8. Hanford Site Soil Background Values

Analyte Name	Analyte Class	Units	Lognormal 90th Percentile Background Value	Source of Background Values
Nitrate	ANIONS	µg/kg	52,000	DOE/RL-92-24, V.1, Rev.4
Phosphate	ANIONS	µg/kg	785	DOE/RL-92-24, V.1, Rev.4
Sulfate	ANIONS	µg/kg	237,000	DOE/RL-92-24, V.1, Rev.4
Boron	METAL	µg/kg	3,890	ECF-HANFORD-11-0038
Selenium	METAL	µg/kg	780	Ecology 94-115
Thallium	METAL	µg/kg	185	ECF-HANFORD-11-0038

Notes:

DOE/RL-92-24, *Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes.*

DOE/RL-96-12, *Hanford Site Background: Part 2, Soil Background for Radionuclides.*

ECF-HANFORD-11-0038, *Soil Background Data for Interim Use at the Hanford Site.*

Ecology 94-115, *Natural Background Soil Metals Concentrations in Washington State.*

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-100_Shallow	non-Rad	2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	93-76-5	µg/kg	8.6	45,656	No
600-100_Shallow	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	8.0	55,130	No
600-100_Shallow	non-Rad	Acetone	67-64-1	µg/kg	8.0	1.03E+06	No
600-100_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.88E+06	--[b]	--
600-100_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	489	75,327	No
600-100_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,267	--[b]	--
600-100_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,811	--[b]	--
600-100_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.4	--[b]	--
600-100_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.6	--[b]	--
600-100_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	203	--[b]	--
600-100_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,322	3.02E+07	No
600-100_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	93	--[b]	--
600-100_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,345	--[b]	--
600-100_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	7,332	--[b]	--
600-100_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,556	2.71E+07	No
600-100_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-100_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.6	--[b]	--
600-100_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.18E+07	--[b]	--
600-100_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,441	--[b]	--
600-100_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	312,314	--[b]	--
600-100_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	370	2.78E+06	No
600-100_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,072	--[b]	--
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	85,400	2.00E+06[c]	No
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	32,384	2.00E+06[c]	No
600-100_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	62,373	--[b]	--
600-100_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	40,723	--[b]	--
600-100_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.91E+06	--[b]	--
600-100_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	485	75,327	No
600-100_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,750	--[b]	--
600-100_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	59,600	--[b]	--
600-100_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	177	--[b]	--
600-100_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	768	3.02E+07	No
600-100_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	97	--[b]	--
600-100_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,140	--[b]	--
600-100_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,440	--[b]	--
600-100_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900	2.71E+07	No
600-100_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.20E+07	--[b]	--
600-100_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,050	--[b]	--
600-100_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	301,000	--[b]	--
600-100_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	369	2.78E+06	No
600-100_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,300	--[b]	--
600-100_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	3,780	2.00E+06[c]	No
600-100_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	67,100	--[b]	--
600-100_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	49,900	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	16	2.09E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.26E+06	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,480	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,300	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.1	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.4	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	7.8	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.2	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	241	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100	3.02E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	146	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,170	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.4	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,970	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900	2.71E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.1	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	62	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	18	1.74E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,600	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	289,000	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	272	2.78E+06	No
600-120 and 600-297_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	89	543,215	No
600-120 and 600-297_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,750	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	9.2	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	55,400	2.00E+06[c]	No
600-120 and 600-297_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,600	--[b]	--

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-120 and 600-297_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	67,600	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	2.7	2.09E+07	No
600-120 and 600-297_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.26E+06	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.7	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,874	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Barium	7440-39-3	µg/kg	64,463	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	0.86	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.3	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.5	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	0.91	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	242	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,028	3.02E+07	No
600-120 and 600-297_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	107	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,931	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	2.2	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,619	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,330	2.71E+07	No
600-120 and 600-297_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.94	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	2.8	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.6	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.71E+07	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,520	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	264,473	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	281	2.78E+06	No
600-120 and 600-297_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,778	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	4.3	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	11,830	2.00E+06[c]	No
600-120 and 600-297_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,356	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	33,430	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.7	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	14	2.09E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	7.14E+06	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,679	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	65,441	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.7	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.0	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	240	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.5	312	No
600-120 and 600-297_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,638	3.02E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	107	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	9,539	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	1.00	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,730	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	11,398	2.71E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.5	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	27	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	8.2	1.74E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.77E+07	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	3,261	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	272,403	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	269	2.78E+06	No
600-120 and 600-297_Staging Pile Area	non-Rad	Naphthalene	91-20-3	µg/kg	12	543,215	No
600-120 and 600-297_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	9,496	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.3	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	21,462	2.00E+06[c]	No
600-120 and 600-297_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	46,470	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	35,055	--[b]	--
600-124_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	192	2.09E+07	No
600-124_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	--[b]	--
600-124_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,106	--[b]	--
600-124_Shallow	non-Rad	Barium	7440-39-3	µg/kg	68,796	--[b]	--
600-124_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	11	--[b]	--
600-124_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	15	--[b]	--
600-124_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-124_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.3	--[b]	--
600-124_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	255	--[b]	--

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-124_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,241	3.02E+07	No
600-124_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	171	--[b]	--
600-124_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,608	--[b]	--
600-124_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--[b]	--
600-124_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,700	--[b]	--
600-124_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,160	2.71E+07	No
600-124_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.1	--[b]	--
600-124_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	76	--[b]	--
600-124_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	25	1.74E+07	No
600-124_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.33E+07	--[b]	--
600-124_Shallow	non-Rad	Lead	7439-92-1	µg/kg	3,743	--[b]	--
600-124_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	323,187	--[b]	--
600-124_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	460	2.78E+06	No
600-124_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	113	543,215	No
600-124_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,075	--[b]	--
600-124_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	42	--[b]	--
600-124_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	4,220	2.00E+06[c]	No
600-124_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	68,302	--[b]	--
600-124_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,558	--[b]	--
600-124_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	1.3	2.09E+07	No
600-124_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	7.00E+06	--[b]	--
600-124_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	286	75,327	No
600-124_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,324	--[b]	--
600-124_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	66,433	--[b]	--
600-124_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--[b]	--
600-124_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.2	--[b]	--
600-124_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.8	--[b]	--
600-124_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.1	--[b]	--
600-124_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	256	--[b]	--
600-124_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,262	3.02E+07	No
600-124_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	170	--[b]	--
600-124_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	12,157	--[b]	--
600-124_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	2.9	--[b]	--
600-124_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,546	--[b]	--
600-124_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	16,920	2.71E+07	No
600-124_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.0	--[b]	--
600-124_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	7.4	--[b]	--
600-124_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	3.3	1.74E+07	No
600-124_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	12	--[b]	--
600-124_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	2.27E+07	--[b]	--
600-124_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	4,908	--[b]	--
600-124_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	310,485	--[b]	--
600-124_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	770	2.78E+06	No
600-124_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	11,260	--[b]	--
600-124_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--[b]	--
600-124_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	124,798	2.00E+06[c]	No
600-124_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	66,526	--[b]	--
600-124_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	53,404	--[b]	--
600-125_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[b]	--
600-125_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	445	75,327	No
600-125_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,240	--[b]	--
600-125_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,400	--[b]	--
600-125_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	336	--[b]	--
600-125_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,060	3.02E+07	No
600-125_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	164	--[b]	--
600-125_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,600	--[b]	--
600-125_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,460	--[b]	--
600-125_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,000	2.71E+07	No
600-125_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.50E+07	--[b]	--
600-125_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,030	--[b]	--
600-125_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	344,000	--[b]	--
600-125_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	412	2.78E+06	No
600-125_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	--[b]	--
600-125_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	16,500	2.00E+06[c]	No
600-125_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	65,000	--[b]	--
600-125_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,200	--[b]	--
600-125_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.28E+06	--[b]	--
600-125_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	408	75,327	No
600-125_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,730	--[b]	--
600-125_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,200	--[b]	--
600-125_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	214	--[b]	--
600-125_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	796	3.02E+07	No
600-125_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	107	--[b]	--
600-125_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,890	--[b]	--
600-125_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,110	--[b]	--
600-125_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,300	2.71E+07	No
600-125_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.28E+07	--[b]	--
600-125_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,620	--[b]	--
600-125_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	294,000	--[b]	--
600-125_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	568	2.78E+06	No
600-125_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,500	--[b]	--
600-125_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	69,500	--[b]	--
600-125_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	42,600	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.11E+07	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	434	75,327	No
600-125_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,150	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	89,600	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	352	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,210	3.02E+07	No
600-125_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	159	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,800	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	2.71E+07	No
600-125_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.37E+07	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,980	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	369,000	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	405	2.78E+06	No

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-125_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,100	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,700	2.00E+06[c]	No
600-125_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	63,800	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,400	--[b]	--
600-127_Deep	non-Rad	Acetone	67-64-1	µg/kg	8.5	1.03E+06	No
600-127_Deep	non-Rad	Aluminum	7429-90-5	µg/kg	5.23E+06	--[b]	--
600-127_Deep	non-Rad	Arsenic	7440-38-2	µg/kg	2,474	--[b]	--
600-127_Deep	non-Rad	Barium	7440-39-3	µg/kg	44,690	--[b]	--
600-127_Deep	non-Rad	Beryllium	7440-41-7	µg/kg	165	--[b]	--
600-127_Deep	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
600-127_Deep	non-Rad	Boron	7440-42-8	µg/kg	1,600	3.02E+07	No
600-127_Deep	non-Rad	Cadmium	7440-43-9	µg/kg	64	--[b]	--
600-127_Deep	non-Rad	Chromium	7440-47-3	µg/kg	9,544	--[b]	--
600-127_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	4,168	--[b]	--
600-127_Deep	non-Rad	Copper	7440-50-8	µg/kg	10,003	2.71E+07	No
600-127_Deep	non-Rad	Iron	7439-89-6	µg/kg	1.04E+07	--[b]	--
600-127_Deep	non-Rad	Lead	7439-92-1	µg/kg	3,510	--[b]	--
600-127_Deep	non-Rad	Manganese	7439-96-5	µg/kg	228,138	--[b]	--
600-127_Deep	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	855	No
600-127_Deep	non-Rad	Molybdenum	7439-98-7	µg/kg	280	2.78E+06	No
600-127_Deep	non-Rad	Nickel	7440-02-0	µg/kg	9,722	--[b]	--
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,747	2.00E+06[c]	No
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	24,000	2.00E+06[c]	No
600-127_Deep	non-Rad	Vanadium	7440-62-2	µg/kg	21,645	--[b]	--
600-127_Deep	non-Rad	Zinc	7440-66-6	µg/kg	24,469	--[b]	--
600-127_Deep_Focused	non-Rad	Acetone	67-64-1	µg/kg	14	1.03E+06	No
600-127_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.89E+06	--[b]	--
600-127_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
600-127_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.89E+06	--[b]	--
600-127_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
600-127_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	55,600	--[b]	--
600-127_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	180	--[b]	--
600-127_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	120	--[b]	--
600-127_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,600	--[b]	--
600-127_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	3,400	--[b]	--
600-127_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,000	2.71E+07	No
600-127_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.06E+07	--[b]	--
600-127_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900	--[b]	--
600-127_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	203,000	--[b]	--
600-127_Deep_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	1.8	855	No
600-127_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	410	2.78E+06	No
600-127_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,900	--[b]	--
600-127_Deep_Focused	non-Rad	Phenol	108-95-2	µg/kg	28	537,413	No
600-127_Deep_Focused	non-Rad	Selenium	7782-49-2	µg/kg	890	861,453	No
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	760	2.00E+06[c]	No
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	1,400	2.00E+06[c]	No
600-127_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	21,100	--[b]	--
600-127_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	23,000	--[b]	--
600-127_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.04E+07	--[b]	--
600-127_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,800	--[b]	--
600-127_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	121,000	--[b]	--
600-127_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.0	--[b]	--
600-127_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.9	--[b]	--
600-127_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[b]	--
600-127_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,700	3.02E+07	No
600-127_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[b]	--
600-127_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700	--[b]	--
600-127_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,900	--[b]	--
600-127_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,500	2.71E+07	No
600-127_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.11E+07	--[b]	--
600-127_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,600	--[b]	--
600-127_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	386,000	--[b]	--
600-127_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	6.7	855	No
600-127_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,900	--[b]	--
600-127_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	23	537,413	No
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,000	2.00E+06[c]	No
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	83,000	2.00E+06[c]	No
600-127_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,900	--[b]	--
600-127_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	48,000	--[b]	--
600-127_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	1.03E+06	No
600-127_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.39E+06	--[b]	--
600-127_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,790	--[b]	--
600-127_Shallow	non-Rad	Barium	7440-39-3	µg/kg	64,524	--[b]	--
600-127_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	279	--[b]	--
600-127_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	139	--[b]	--
600-127_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,100	3.02E+07	No
600-127_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	59	--[b]	--
600-127_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,483	--[b]	--
600-127_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,560	--[b]	--
600-127_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,289	2.71E+07	No
600-127_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.55E+07	--[b]	--
600-127_Shallow	non-Rad	Lead	7439-92-1	µg/kg	3,936	--[b]	--
600-127_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	268,426	--[b]	--
600-127_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	855	No
600-127_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	13,097	--[b]	--
600-127_Shallow	non-Rad	Phenol	108-95-2	µg/kg	34	537,413	No
600-127_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	920	861,453	No
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,204	2.00E+06[c]	No
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	2,375	2.00E+06[c]	No
600-127_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,823	--[b]	--
600-127_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	34,172	--[b]	--
600-127_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[b]	--
600-127_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[b]	--
600-127_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	96,200	--[b]	--
600-127_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	220	--[b]	--
600-127_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,300	3.02E+07	No
600-127_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[b]	--
600-127_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,600	--[b]	--
600-127_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,300	--[b]	--

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-127_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,600	2.71E+07	No
600-127_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07	--[b]	--
600-127_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,100	--[b]	--
600-127_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	413,000	--[b]	--
600-127_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	4.9	855	No
600-127_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,100	--[b]	--
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,100	2.00E+06[c]	No
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	8,900	2.00E+06[c]	No
600-127_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,700	--[b]	--
600-127_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,500	--[b]	--
600-127_Staging Pile Area_3	non-Rad	1,2-Dichloroethene (Total)	540-59-0	µg/kg	0.69	18,745	No
600-127_Staging Pile Area_3	non-Rad	Acetone	67-64-1	µg/kg	11	1.03E+06	No
600-127_Staging Pile Area_3	non-Rad	Aluminum	7429-90-5	µg/kg	1.15E+07	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Arsenic	7440-38-2	µg/kg	3,277	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Barium	7440-39-3	µg/kg	112,573	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Beryllium	7440-41-7	µg/kg	291	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	149	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Boron	7440-42-8	µg/kg	5,365	3.02E+07	No
600-127_Staging Pile Area_3	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Chromium	7440-47-3	µg/kg	12,799	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Cobalt	7440-48-4	µg/kg	8,875	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Copper	7440-50-8	µg/kg	15,224	2.71E+07	No
600-127_Staging Pile Area_3	non-Rad	Diethylphthalate	84-66-2	µg/kg	71	4.86E+06	No
600-127_Staging Pile Area_3	non-Rad	Iron	7439-89-6	µg/kg	2.36E+07	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Lead	7439-92-1	µg/kg	6,896	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Manganese	7439-96-5	µg/kg	420,531	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	855	No
600-127_Staging Pile Area_3	non-Rad	Nickel	7440-02-0	µg/kg	12,432	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Phenol	108-95-2	µg/kg	30	537,413	No
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	8,198	2.00E+06[c]	No
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	14,360	2.00E+06[c]	No
600-127_Staging Pile Area_3	non-Rad	Vanadium	7440-62-2	µg/kg	50,081	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Zinc	7440-66-6	µg/kg	60,059	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Aluminum	7429-90-5	µg/kg	1.06E+07	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Arsenic	7440-38-2	µg/kg	3,321	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Barium	7440-39-3	µg/kg	109,002	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	24	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Beryllium	7440-41-7	µg/kg	235	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	392	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Boron	7440-42-8	µg/kg	7,907	3.02E+07	No
600-127_Staging Pile Area_4	non-Rad	Cadmium	7440-43-9	µg/kg	118	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Chromium	7440-47-3	µg/kg	12,049	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Chrysene	218-01-9	µg/kg	19	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Cobalt	7440-48-4	µg/kg	8,341	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Copper	7440-50-8	µg/kg	15,751	2.71E+07	No
600-127_Staging Pile Area_4	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Iron	7439-89-6	µg/kg	2.13E+07	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Lead	7439-92-1	µg/kg	6,460	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Manganese	7439-96-5	µg/kg	391,778	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	855	No
600-127_Staging Pile Area_4	non-Rad	Nickel	7440-02-0	µg/kg	12,301	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Phenol	108-95-2	µg/kg	24	537,413	No
600-127_Staging Pile Area_4	non-Rad	Pyrene	129-00-0	µg/kg	48	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,347	2.00E+06[c]	No
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	63,459	2.00E+06[c]	No
600-127_Staging Pile Area_4	non-Rad	Vanadium	7440-62-2	µg/kg	45,292	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Zinc	7440-66-6	µg/kg	44,294	--[b]	--
600-128_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[b]	--
600-128_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	71,100	--[b]	--
600-128_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	170	--[b]	--
600-128_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160	--[b]	--
600-128_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[b]	--
600-128_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,500	--[b]	--
600-128_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	158,000	1.00E+06[c]	No
600-131_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,200	--[b]	--
600-131_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	65,300	--[b]	--
600-131_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	49	--[b]	--
600-131_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	60	--[b]	--
600-131_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,700	--[b]	--
600-131_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	6.82E+06	No
600-131_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,400	--[b]	--
600-132_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--[b]	--
600-132_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
600-132_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--[b]	--
600-132_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[b]	--
600-132_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	59,700	--[b]	--
600-132_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	50	--[b]	--
600-132_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	400	--[b]	--
600-132_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,100	--[b]	--
600-132_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	--[b]	--
600-132_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	470	861,453	No
600-132_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	8,500	1.00E+06[c]	No
600-139_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[b]	--
600-139_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,000	--[b]	--
600-139_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	3,500	--[b]	--
600-139_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,000	--[b]	--
600-139_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	3,500	6.82E+06	No
600-139_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,400	--[b]	--
600-139_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
600-139_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,900	1.00E+06[c]	No
600-176_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	12	2.09E+07	No
600-176_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.32E+06	--[b]	--
600-176_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.2	--[b]	--
600-176_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,047	--[b]	--

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-176_Shallow	non-Rad	Barium	7440-39-3	µg/kg	52,001	--[b]	--
600-176_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	8.5	--[b]	--
600-176_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	13	--[b]	--
600-176_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	29	--[b]	--
600-176_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[b]	--
600-176_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	221	--[b]	--
600-176_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,044	3.02E+07	No
600-176_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	136	--[b]	--
600-176_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	15,654	--[b]	--
600-176_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	8.3	--[b]	--
600-176_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,115	--[b]	--
600-176_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,960	2.71E+07	No
600-176_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.1	--[b]	--
600-176_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--[b]	--
600-176_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.2	--[b]	--
600-176_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.28E+07	--[b]	--
600-176_Shallow	non-Rad	Lead	7439-92-1	µg/kg	3,860	--[b]	--
600-176_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	269,753	--[b]	--
600-176_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.9	855	No
600-176_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	322	2.78E+06	No
600-176_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,978	--[b]	--
600-176_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	21	--[b]	--
600-176_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	348	861,453	No
600-176_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	10,200	2.00E+06[c]	No
600-176_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	61,816	--[b]	--
600-176_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	34,377	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	17	55,130	No
600-176_Staging Pile Area Footprint_2	non-Rad	2-Hexanone	591-78-6	µg/kg	5.6	7,390	No
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.9	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	9.3	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	9.1	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Acenaphthene	83-32-9	µg/kg	29	2.09E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.0	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Aluminum	7429-90-5	µg/kg	6.89E+06	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Anthracene	120-12-7	µg/kg	5.1	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Antimony	7440-36-0	µg/kg	602	75,327	No
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	104	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	25	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,973	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Barium	7440-39-3	µg/kg	69,614	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.3	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.1	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.2	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Beryllium	7440-41-7	µg/kg	227	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Boron	7440-42-8	µg/kg	2,235	3.02E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Cadmium	7440-43-9	µg/kg	213	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Chromium	7440-47-3	µg/kg	60,644	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Chrysene	218-01-9	µg/kg	3.9	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,581	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Copper	7440-50-8	µg/kg	14,874	2.71E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.4	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Fluoranthene	206-44-0	µg/kg	78	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Fluorene	86-73-7	µg/kg	17	1.74E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	42	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Iron	7439-89-6	µg/kg	1.71E+07	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Lead	7439-92-1	µg/kg	456,552	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Manganese	7439-96-5	µg/kg	265,238	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Methylene chloride	75-09-2	µg/kg	3.4	855	No
600-176_Staging Pile Area Footprint_2	non-Rad	Molybdenum	7439-98-7	µg/kg	309	2.78E+06	No
600-176_Staging Pile Area Footprint_2	non-Rad	Naphthalene	91-20-3	µg/kg	51	543,215	No
600-176_Staging Pile Area Footprint_2	non-Rad	Nickel	7440-02-0	µg/kg	10,485	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Pyrene	129-00-0	µg/kg	10	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Toluene	108-88-3	µg/kg	2.3	327,978	No
600-176_Staging Pile Area Footprint_2	non-Rad	Vanadium	7440-62-2	µg/kg	45,984	--[b]	--

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-176_Staging Pile Area Footprint_2	non-Rad	Zinc	7440-66-6	µg/kg	46,201	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	16	55,130	No
600-176_Staging Pile Area Footprint_3	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Acenaphthene	83-32-9	µg/kg	63	2.09E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Aluminum	7429-90-5	µg/kg	7.53E+06	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Anthracene	120-12-7	µg/kg	3.3	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.0	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1260	11096-82-5	µg/kg	16	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Arsenic	7440-38-2	µg/kg	2,903	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Barium	7440-39-3	µg/kg	70,774	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.7	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	11	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.8	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Beryllium	7440-41-7	µg/kg	256	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Boron	7440-42-8	µg/kg	2,050	3.02E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Cadmium	7440-43-9	µg/kg	183	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Chromium	7440-47-3	µg/kg	15,017	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Chrysene	218-01-9	µg/kg	3.7	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Cobalt	7440-48-4	µg/kg	6,029	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Copper	7440-50-8	µg/kg	14,379	2.71E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.8	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluoranthene	206-44-0	µg/kg	41	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluorene	86-73-7	µg/kg	5.9	1.74E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Lead	7439-92-1	µg/kg	43,853	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Manganese	7439-96-5	µg/kg	296,528	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	855	No
600-176_Staging Pile Area Footprint_3	non-Rad	Molybdenum	7439-98-7	µg/kg	389	2.78E+06	No
600-176_Staging Pile Area Footprint_3	non-Rad	Naphthalene	91-20-3	µg/kg	20	543,215	No
600-176_Staging Pile Area Footprint_3	non-Rad	Nickel	7440-02-0	µg/kg	10,536	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Pyrene	129-00-0	µg/kg	11	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Toluene	108-88-3	µg/kg	2.0	327,978	No
600-176_Staging Pile Area Footprint_3	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	602,000	2.00E+06[c]	No
600-176_Staging Pile Area Footprint_3	non-Rad	Vanadium	7440-62-2	µg/kg	49,986	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Zinc	7440-66-6	µg/kg	43,805	--[b]	--
600-181_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
600-181_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	98,100	--[b]	--
600-181_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--[b]	--
600-181_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[b]	--
600-181_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,600	--[b]	--
600-181_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,600	--[b]	--
600-181_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,600	1.00E+06[c]	No
600-182_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.09E+06	--[b]	--
600-182_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	--[b]	--
600-182_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,900	--[b]	--
600-182_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300	--[b]	--
600-182_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,770	3.02E+07	No
600-182_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	128	--[b]	--
600-182_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,100	--[b]	--
600-182_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,590	--[b]	--
600-182_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	2.71E+07	No
600-182_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.22E+07	--[b]	--
600-182_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,050	--[b]	--
600-182_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	353,000	--[b]	--
600-182_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	425	2.78E+06	No
600-182_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[b]	--
600-182_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	14,500	2.00E+06[c]	No
600-182_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	57,800	--[b]	--
600-182_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,500	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.51E+06	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Antimony	7440-36-0	µg/kg	270	75,327	No
600-182_Shallow_1_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,990	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,100	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	322	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,750	3.02E+07	No

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-182_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	154	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,220	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600	2.71E+07	No
600-182_Shallow_1_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.35E+07	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,620	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	µg/kg	382,000	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	546	2.78E+06	No
600-182_Shallow_1_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,500	2.00E+06[c]	No
600-182_Shallow_1_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	72,200	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,700	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.13E+07	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Antimony	7440-36-0	µg/kg	353	75,327	No
600-182_Shallow_2_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,390	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,000	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	344	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,050	3.02E+07	No
600-182_Shallow_2_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	168	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,000	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,580	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	2.71E+07	No
600-182_Shallow_2_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.42E+07	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,600	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	403	2.78E+06	No
600-182_Shallow_2_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	15,900	2.00E+06[c]	No
600-182_Shallow_2_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	15,900	2.00E+06[c]	No
600-182_Shallow_2_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	65,200	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,400	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.11E+07	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	266	75,327	No
600-182_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,180	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,900	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	334	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,550	3.02E+07	No
600-182_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,700	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,340	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,900	2.71E+07	No
600-182_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.39E+07	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,950	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	357,000	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	414	2.78E+06	No
600-182_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	5,340	2.00E+06[c]	No
600-182_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	64,200	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,700	--[b]	--
600-188_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.2	2.09E+07	No
600-188_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	8.3	1.03E+06	No
600-188_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.45E+06	--[b]	--
600-188_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.83	--[b]	--
600-188_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	299	75,327	No
600-188_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,750	--[b]	--
600-188_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	89,200	--[b]	--
600-188_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
600-188_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--[b]	--
600-188_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	79	--[b]	--
600-188_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	40	--[b]	--
600-188_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	375	--[b]	--
600-188_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,230	3.02E+07	No
600-188_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	226	--[b]	--
600-188_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,800	--[b]	--
600-188_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	40	--[b]	--
600-188_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,750	--[b]	--
600-188_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,500	2.71E+07	No
600-188_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.9	--[b]	--
600-188_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--[b]	--
600-188_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	1.9	1.74E+07	No
600-188_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	70	--[b]	--
600-188_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.32E+07	--[b]	--
600-188_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,450	--[b]	--
600-188_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	383,000	--[b]	--
600-188_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.5	855	No
600-188_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	553	2.78E+06	No
600-188_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,800	--[b]	--
600-188_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	45	--[b]	--
600-188_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	218	861,453	No
600-188_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	39,400	2.00E+06[c]	No
600-188_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	51,400	--[b]	--
600-188_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	48,700	--[b]	--
600-188_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	1.03E+06	No
600-188_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.38E+06	--[b]	--
600-188_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	239	75,327	No
600-188_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,443	--[b]	--
600-188_Shallow	non-Rad	Barium	7440-39-3	µg/kg	64,047	--[b]	--
600-188_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	244	--[b]	--
600-188_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,139	3.02E+07	No
600-188_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	139	--[b]	--
600-188_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,577	--[b]	--
600-188_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	3.1	--[b]	--
600-188_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,836	--[b]	--
600-188_Shallow	non-Rad	Copper	7440-50-8	µg/kg	10,774	2.71E+07	No
600-188_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	--[b]	--
600-188_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,925	--[b]	--
600-188_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	308,174	--[b]	--
600-188_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	6.0	855	No

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-188_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	355	2.78E+06	No
600-188_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	12,680	--[b]	--
600-188_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	219	861,453	No
600-188_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,790	2.00E+06[c]	No
600-188_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	39,522	--[b]	--
600-188_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	31,905	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	58	2.09E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.91E+06	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	296	75,327	No
600-188_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,580	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,900	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	30	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	55	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	99	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	347	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,280	3.02E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	203	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,500	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	42	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,740	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	2.71E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.4	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	3.1	1.74E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	80	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.27E+07	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,840	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	385,000	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.3	855	No
600-188_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	562	2.78E+06	No
600-188_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,000	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Selenium	7782-49-2	µg/kg	284	861,453	No
600-188_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	36,900	2.00E+06[c]	No
600-188_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,600	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,900	--[b]	--
600-190_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	47	--[b]	--
600-190_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,100	--[b]	--
600-190_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--[b]	--
600-190_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[b]	--
600-190_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	81,500	--[b]	--
600-190_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	62	--[b]	--
600-190_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	52	--[b]	--
600-190_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--[b]	--
600-190_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	2,400	--[b]	--
600-190_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[b]	--
600-190_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,800	--[b]	--
600-190_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	53	--[b]	--
600-190_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	16,000	6.82E+06	No
600-190_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	57	--[b]	--
600-190_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,800	--[b]	--
600-190_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	100	543,215	No
600-190_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	47	--[b]	--
600-190_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	24,800	1.00E+06[c]	No
600-295_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.67E+06	--[b]	--
600-295_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,370	--[b]	--
600-295_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	35,900	--[b]	--
600-295_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[b]	--
600-295_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	799	3.02E+07	No
600-295_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[b]	--
600-295_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,200	--[b]	--
600-295_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,940	--[b]	--
600-295_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,300	2.71E+07	No
600-295_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.12E+07	--[b]	--
600-295_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,370	--[b]	--
600-295_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	267,000	--[b]	--
600-295_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.1	855	No
600-295_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	259	2.78E+06	No
600-295_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,200	--[b]	--
600-295_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	52,500	--[b]	--
600-295_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	29,700	--[b]	--
600-296_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	35	--[b]	--
600-296_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.4	--[b]	--
600-296_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	93	--[b]	--
600-296_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.21E+06	--[b]	--
600-296_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	120	--[b]	--
600-296_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,200	--[b]	--
600-296_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	741,000	--[b]	--
600-296_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	65	--[b]	--
600-296_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	55	--[b]	--
600-296_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100	3.02E+07	No
600-296_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	650	--[b]	--
600-296_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	94	--[b]	--
600-296_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,600	--[b]	--
600-296_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[b]	--
600-296_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,000	2.71E+07	No
600-296_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	51	6.82E+06	No
600-296_Shallow_Focused	non-Rad	Endrin	72-20-8	µg/kg	1.6	75,630	No
600-296_Shallow_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	0.45	652	No
600-296_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.60E+07	--[b]	--
600-296_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	59,300	--[b]	--
600-296_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	287,000	--[b]	--
600-296_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	650	--[b]	--
600-296_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	590	2.78E+06	No
600-296_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,700	--[b]	--
600-296_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-296_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,500	--[b]	--
600-296_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	123,000	--[b]	--
600-302_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.12E+06	--[b]	--
600-302_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	75,327	No
600-302_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.6	--[b]	--
600-302_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[b]	--
600-302_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	64,300	--[b]	--
600-302_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	100	--[b]	--
600-302_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
600-302_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	210	--[b]	--
600-302_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,700	--[b]	--
600-302_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,800	--[b]	--
600-302_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,000	2.71E+07	No
600-302_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	1,600	--[b]	--
600-302_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.38E+07	--[b]	--
600-302_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,500	--[b]	--
600-302_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	252,000	--[b]	--
600-302_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.2	--[b]	--
600-302_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	340	2.78E+06	No
600-302_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	1,300	1.41E+06	No
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	850	1.41E+06	No
600-302_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,500	--[b]	--
600-302_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,680	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Barium	7440-39-3	µg/kg	97,200	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.4	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.1	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,790	3.02E+07	No
600-341:1_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,860	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Chromium	7440-47-3	µg/kg	15,200	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.1	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,100	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,600	2.71E+07	No
600-341:1_Shallow_1_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.60E+07	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,100	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	µg/kg	563,000	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Mercury	7439-97-6	µg/kg	177	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	472	2.78E+06	No
600-341:1_Shallow_1_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,800	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Pyrene	129-00-0	µg/kg	2.3	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	45,300	2.00E+06[c]	No
600-341:1_Shallow_1_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	64,700	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	µg/kg	317,000	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.14E+07	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,300	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,200	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.0	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	7.1	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	12	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	449	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,970	3.02E+07	No
600-341:1_Shallow_2_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	122	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Chromium	7440-47-3	µg/kg	15,800	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Chrysene	218-01-9	µg/kg	15	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,080	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,800	2.71E+07	No
600-341:1_Shallow_2_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.2	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	18	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.41E+07	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,800	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Manganese	7439-96-5	µg/kg	423,000	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	460	2.78E+06	No
600-341:1_Shallow_2_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,000	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Pyrene	129-00-0	µg/kg	13	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	29,500	2.00E+06[c]	No
600-341:1_Shallow_2_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	57,000	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	µg/kg	106,000	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	7.7	2.09E+07	No
600-341:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	75,327	No
600-341:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,060	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	137,000	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.5	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.5	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.2	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,610	3.02E+07	No
600-341:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	233	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	15,900	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	5.6	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,000	2.71E+07	No
600-341:2_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.6	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.0	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.11E+07	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	9,820	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	374,000	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	544	2.78E+06	No
600-341:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.8	--[b]	--

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-341:2_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	58,600	2.00E+06[c]	No
600-341:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,100	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	119,000	--[b]	--
600-343_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	11	2.09E+07	No
600-343_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.15E+06	--[b]	--
600-343_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,130	--[b]	--
600-343_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	56,100	--[b]	--
600-343_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.2	--[b]	--
600-343_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.8	--[b]	--
600-343_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.9	--[b]	--
600-343_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--[b]	--
600-343_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	205	--[b]	--
600-343_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	894	3.02E+07	No
600-343_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	53	--[b]	--
600-343_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,010	--[b]	--
600-343_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	0.88	--[b]	--
600-343_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	9,840	--[b]	--
600-343_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,300	2.71E+07	No
600-343_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	19	--[b]	--
600-343_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--[b]	--
600-343_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.95E+07	--[b]	--
600-343_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,260	--[b]	--
600-343_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	386,000	--[b]	--
600-343_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	11	--[b]	--
600-343_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	402	2.78E+06	No
600-343_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,170	--[b]	--
600-343_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1.5	--[b]	--
600-343_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	41,900	2.00E+06[c]	No
600-343_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	82,300	--[b]	--
600-343_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	53,500	--[b]	--
600-344_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	18	2.09E+07	No
600-344_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.68E+06	--[b]	--
600-344_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.3	--[b]	--
600-344_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	75,327	No
600-344_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,050	--[b]	--
600-344_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,200	--[b]	--
600-344_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	14	--[b]	--
600-344_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--[b]	--
600-344_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.0	--[b]	--
600-344_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--[b]	--
600-344_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	228	--[b]	--
600-344_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,850	3.02E+07	No
600-344_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	99	--[b]	--
600-344_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,700	--[b]	--
600-344_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	9.1	--[b]	--
600-344_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,410	--[b]	--
600-344_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,310	2.71E+07	No
600-344_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--[b]	--
600-344_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.9	--[b]	--
600-344_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.78E+07	--[b]	--
600-344_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,410	--[b]	--
600-344_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	262,000	--[b]	--
600-344_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	350	2.78E+06	No
600-344_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[b]	--
600-344_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	28	--[b]	--
600-344_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	37,300	2.00E+06[c]	No
600-344_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	43,700	--[b]	--
600-344_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,000	--[b]	--
600-345_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.5	2.09E+07	No
600-345_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.22E+07	--[b]	--
600-345_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,060	--[b]	--
600-345_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	98,400	--[b]	--
600-345_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	346	--[b]	--
600-345_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,960	3.02E+07	No
600-345_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70	--[b]	--
600-345_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,100	--[b]	--
600-345_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.0	--[b]	--
600-345_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,010	--[b]	--
600-345_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,600	2.71E+07	No
600-345_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.0	--[b]	--
600-345_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	6.0	--[b]	--
600-345_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.53E+07	--[b]	--
600-345_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,860	--[b]	--
600-345_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	417,000	--[b]	--
600-345_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	--[b]	--
600-345_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	328	2.78E+06	No
600-345_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,000	--[b]	--
600-345_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	156,000	2.00E+06[c]	No
600-345_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	67,000	--[b]	--
600-345_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,000	--[b]	--
600-346_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	65	299,591	No
600-346_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	62	2.09E+07	No
600-346_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07	--[b]	--
600-346_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--[b]	--
600-346_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,919	--[b]	--
600-346_Shallow	non-Rad	Barium	7440-39-3	µg/kg	86,200	--[b]	--
600-346_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.3	--[b]	--
600-346_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--[b]	--
600-346_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.8	--[b]	--
600-346_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.7	--[b]	--
600-346_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	353	--[b]	--
600-346_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	2.9	312	No
600-346_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,588	3.02E+07	No
600-346_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	67	--[b]	--
600-346_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,778	--[b]	--
600-346_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	167	--[b]	--

Table 7-1. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-346_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,198	--[b]	--
600-346_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,408	2.71E+07	No
600-346_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
600-346_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	3.1	586,957	No
600-346_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--[b]	--
600-346_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	24	1.74E+07	No
600-346_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-346_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.38E+07	--[b]	--
600-346_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,209	--[b]	--
600-346_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	397,658	--[b]	--
600-346_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	443	2.78E+06	No
600-346_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	97	543,215	No
600-346_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,884	--[b]	--
600-346_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	9.1	--[b]	--
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,225	2.00E+06[c]	No
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	77,961	2.00E+06[c]	No
600-346_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	54,091	--[b]	--
600-346_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,531	--[b]	--
600-5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.14E+07	--[b]	--
600-5_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	415	75,327	No
600-5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,570	--[b]	--
600-5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,500	--[b]	--
600-5_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	338	--[b]	--
600-5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,080	3.02E+07	No
600-5_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	135	--[b]	--
600-5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,400	--[b]	--
600-5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,890	--[b]	--
600-5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100	2.71E+07	No
600-5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.34E+07	--[b]	--
600-5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,150	--[b]	--
600-5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	327,000	--[b]	--
600-5_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	362	2.78E+06	No
600-5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[b]	--
600-5_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	23,900	2.00E+06[c]	No
600-5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	59,400	--[b]	--
600-5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,700	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.16E+07	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	335	75,327	No
600-5_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,410	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,700	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	335	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,260	3.02E+07	No
600-5_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	149	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,100	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,760	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	2.71E+07	No
600-5_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.25E+07	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,190	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	330,000	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	344	2.78E+06	No
600-5_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,600	2.00E+06[c]	No
600-5_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	57,100	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	42,300	--[b]	--
628-1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[b]	--
628-1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,000	--[b]	--
628-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--[b]	--
628-1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,600	--[b]	--
628-1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,100	--[b]	--
628-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	9,400	1.00E+06[c]	No

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

-- = Not applicable or no value.

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-100_Shallow	non-Rad	2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	93-76-5	µg/kg	8.6	--[b]	--
600-100_Shallow	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	8.0	2.83E+06	No
600-100_Shallow	non-Rad	Acetone	67-64-1	µg/kg	8.0	1.06E+08	No
600-100_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.88E+06	--[c]	--
600-100_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	489	70,305	No
600-100_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,267	--[c]	--
600-100_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,811	--[c]	--
600-100_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.4	--[c]	--
600-100_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.6	--[c]	--
600-100_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	203	--[c]	--
600-100_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,322	--[b]	--
600-100_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	93	--[c]	--
600-100_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,345	--[c]	--
600-100_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	7,332	--[c]	--
600-100_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,556	381,562	No
600-100_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[c]	--
600-100_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.6	--[c]	--
600-100_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.18E+07	--[c]	--
600-100_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,441	--[c]	--
600-100_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	312,314	--[c]	--
600-100_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	370	4.51E+07	No
600-100_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,072	--[c]	--
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	85,400	--[b]	--
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	32,384	--[b]	--
600-100_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	62,373	--[b]	--
600-100_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	40,723	--[c]	--
600-100_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.91E+06	--[c]	--
600-100_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	485	70,305	No
600-100_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,750	--[c]	--
600-100_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	59,600	--[c]	--
600-100_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	177	--[c]	--
600-100_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	768	--[b]	--
600-100_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	97	--[c]	--
600-100_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,140	--[c]	--
600-100_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,440	--[c]	--
600-100_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900	381,562	No
600-100_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.20E+07	--[c]	--
600-100_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,050	--[c]	--
600-100_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	301,000	--[c]	--
600-100_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	369	4.51E+07	No
600-100_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,300	--[c]	--
600-100_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	3,780	--[b]	--
600-100_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	67,100	--[b]	--
600-100_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	49,900	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	16	1.40E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.26E+06	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,480	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,300	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.1	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.4	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	7.8	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.2	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	241	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	146	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,170	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.4	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,970	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900	381,562	No
600-120 and 600-297_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.1	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	62	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	18	3.00E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,600	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	289,000	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	272	4.51E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	89	1.68E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,750	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	9.2	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	55,400	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,600	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	67,600	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	2.7	1.40E+07	No
600-120 and 600-297_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.26E+06	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.7	--[c]	--

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-120 and 600-297_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,874	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Barium	7440-39-3	µg/kg	64,463	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	0.86	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.3	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.5	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	0.91	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	242	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,028	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	107	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,931	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	2.2	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,619	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,330	381,562	No
600-120 and 600-297_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.94	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	2.8	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.6	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.71E+07	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,520	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	264,473	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	281	4.51E+07	No
600-120 and 600-297_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,778	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	4.3	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	11,830	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,356	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	33,430	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.7	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	14	1.40E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	7.14E+06	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,679	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	65,441	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.7	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.0	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	240	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.5	58	No
600-120 and 600-297_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,638	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	107	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	9,539	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	1.00	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,730	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	11,398	381,562	No
600-120 and 600-297_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.5	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	27	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	8.2	3.00E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.77E+07	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	3,261	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	272,403	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	269	4.51E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Naphthalene	91-20-3	µg/kg	12	1.68E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	9,496	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.3	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	21,462	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	46,470	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	35,055	--[c]	--
600-124_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	192	1.40E+07	No
600-124_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	--[c]	--
600-124_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,106	--[c]	--
600-124_Shallow	non-Rad	Barium	7440-39-3	µg/kg	68,796	--[c]	--
600-124_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	11	--[c]	--
600-124_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	15	--[c]	--
600-124_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[c]	--
600-124_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.3	--[c]	--
600-124_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	255	--[c]	--
600-124_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,241	--[b]	--
600-124_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	171	--[c]	--
600-124_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,608	--[c]	--
600-124_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--[c]	--
600-124_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,700	--[c]	--
600-124_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,160	381,562	No
600-124_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.1	--[c]	--
600-124_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	76	--[c]	--
600-124_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	25	3.00E+07	No

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-124_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.33E+07	--[c]	--
600-124_Shallow	non-Rad	Lead	7439-92-1	µg/kg	3,743	--[c]	--
600-124_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	323,187	--[c]	--
600-124_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	460	4.51E+07	No
600-124_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	113	1.68E+07	No
600-124_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,075	--[c]	--
600-124_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	42	--[c]	--
600-124_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	4,220	--[b]	--
600-124_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	68,302	--[b]	--
600-124_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,558	--[c]	--
600-124_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	1.3	1.40E+07	No
600-124_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	7.00E+06	--[c]	--
600-124_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	286	70,305	No
600-124_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,324	--[c]	--
600-124_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	66,433	--[c]	--
600-124_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--[c]	--
600-124_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.2	--[c]	--
600-124_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.8	--[c]	--
600-124_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.1	--[c]	--
600-124_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	256	--[c]	--
600-124_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,262	--[b]	--
600-124_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	170	--[c]	--
600-124_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	12,157	--[c]	--
600-124_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	2.9	--[c]	--
600-124_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,546	--[c]	--
600-124_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	16,920	381,562	No
600-124_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.0	--[c]	--
600-124_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	7.4	--[c]	--
600-124_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	3.3	3.00E+07	No
600-124_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	12	--[c]	--
600-124_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	2.27E+07	--[c]	--
600-124_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	4,908	--[c]	--
600-124_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	310,485	--[c]	--
600-124_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	770	4.51E+07	No
600-124_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	11,260	--[c]	--
600-124_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--[c]	--
600-124_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	124,798	--[b]	--
600-124_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	66,526	--[b]	--
600-124_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	53,404	--[c]	--
600-125_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[c]	--
600-125_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	445	70,305	No
600-125_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,240	--[c]	--
600-125_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,400	--[c]	--
600-125_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	336	--[c]	--
600-125_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,060	--[b]	--
600-125_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	164	--[c]	--
600-125_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,600	--[c]	--
600-125_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,460	--[c]	--
600-125_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,000	381,562	No
600-125_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.50E+07	--[c]	--
600-125_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,030	--[c]	--
600-125_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	344,000	--[c]	--
600-125_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	412	4.51E+07	No
600-125_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	--[c]	--
600-125_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	16,500	--[b]	--
600-125_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	65,000	--[b]	--
600-125_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,200	--[c]	--
600-125_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.28E+06	--[c]	--
600-125_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	408	70,305	No
600-125_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,730	--[c]	--
600-125_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,200	--[c]	--
600-125_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	214	--[c]	--
600-125_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	796	--[b]	--
600-125_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	107	--[c]	--
600-125_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,890	--[c]	--
600-125_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,110	--[c]	--
600-125_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,300	381,562	No
600-125_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.28E+07	--[c]	--
600-125_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,620	--[c]	--
600-125_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	294,000	--[c]	--
600-125_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	568	4.51E+07	No
600-125_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,500	--[c]	--
600-125_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	69,500	--[b]	--
600-125_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	42,600	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.11E+07	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	434	70,305	No
600-125_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,150	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	89,600	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	352	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,210	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	159	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,800	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	381,562	No
600-125_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.37E+07	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,980	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	369,000	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	405	4.51E+07	No
600-125_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,100	--[c]	--
600-125_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,700	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	63,800	--[b]	--
600-125_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,400	--[c]	--
600-127_Deep	non-Rad	Acetone	67-64-1	µg/kg	8.5	1.06E+08	No
600-127_Deep	non-Rad	Aluminum	7429-90-5	µg/kg	5.23E+06	--[c]	--
600-127_Deep	non-Rad	Arsenic	7440-38-2	µg/kg	2,474	--[c]	--
600-127_Deep	non-Rad	Barium	7440-39-3	µg/kg	44,690	--[c]	--
600-127_Deep	non-Rad	Beryllium	7440-41-7	µg/kg	165	--[c]	--
600-127_Deep	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[c]	--
600-127_Deep	non-Rad	Boron	7440-42-8	µg/kg	1,600	--[b]	--
600-127_Deep	non-Rad	Cadmium	7440-43-9	µg/kg	64	--[c]	--

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-127_Deep	non-Rad	Chromium	7440-47-3	µg/kg	9,544	--[c]	--
600-127_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	4,168	--[c]	--
600-127_Deep	non-Rad	Copper	7440-50-8	µg/kg	10,003	381,562	No
600-127_Deep	non-Rad	Iron	7439-89-6	µg/kg	1.04E+07	--[c]	--
600-127_Deep	non-Rad	Lead	7439-92-1	µg/kg	3,510	--[c]	--
600-127_Deep	non-Rad	Manganese	7439-96-5	µg/kg	228,138	--[c]	--
600-127_Deep	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	787	No
600-127_Deep	non-Rad	Molybdenum	7439-98-7	µg/kg	280	4.51E+07	No
600-127_Deep	non-Rad	Nickel	7440-02-0	µg/kg	9,722	--[c]	--
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,747	--[b]	--
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	24,000	--[b]	--
600-127_Deep	non-Rad	Vanadium	7440-62-2	µg/kg	21,645	--[b]	--
600-127_Deep	non-Rad	Zinc	7440-66-6	µg/kg	24,469	--[c]	--
600-127_Deep_Focused	non-Rad	Acetone	67-64-1	µg/kg	14	1.06E+08	No
600-127_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.89E+06	--[c]	--
600-127_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[c]	--
600-127_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	55,600	--[c]	--
600-127_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	180	--[c]	--
600-127_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	120	--[c]	--
600-127_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,600	--[c]	--
600-127_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	3,400	--[c]	--
600-127_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,000	381,562	No
600-127_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.06E+07	--[c]	--
600-127_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900	--[c]	--
600-127_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	203,000	--[c]	--
600-127_Deep_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	1.8	787	No
600-127_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	410	4.51E+07	No
600-127_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,900	--[c]	--
600-127_Deep_Focused	non-Rad	Phenol	108-95-2	µg/kg	28	2.24E+06	No
600-127_Deep_Focused	non-Rad	Selenium	7782-49-2	µg/kg	890	86,145	No
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	760	--[b]	--
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	1,400	--[b]	--
600-127_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	21,100	--[b]	--
600-127_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	23,000	--[c]	--
600-127_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.04E+07	--[c]	--
600-127_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,800	--[c]	--
600-127_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	121,000	--[c]	--
600-127_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.0	--[c]	--
600-127_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.9	--[c]	--
600-127_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[c]	--
600-127_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,700	--[b]	--
600-127_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[c]	--
600-127_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700	--[c]	--
600-127_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,900	--[c]	--
600-127_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,500	381,562	No
600-127_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.11E+07	--[c]	--
600-127_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,600	--[c]	--
600-127_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	386,000	--[c]	--
600-127_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	6.7	787	No
600-127_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,900	--[c]	--
600-127_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	23	2.24E+06	No
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,000	--[b]	--
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	83,000	--[b]	--
600-127_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,900	--[b]	--
600-127_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	48,000	--[c]	--
600-127_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	1.06E+08	No
600-127_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.39E+06	--[c]	--
600-127_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,790	--[c]	--
600-127_Shallow	non-Rad	Barium	7440-39-3	µg/kg	64,524	--[c]	--
600-127_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	279	--[c]	--
600-127_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	139	--[c]	--
600-127_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,100	--[b]	--
600-127_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	59	--[c]	--
600-127_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,483	--[c]	--
600-127_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,560	--[c]	--
600-127_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,289	381,562	No
600-127_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.55E+07	--[c]	--
600-127_Shallow	non-Rad	Lead	7439-92-1	µg/kg	3,936	--[c]	--
600-127_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	268,426	--[c]	--
600-127_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	787	No
600-127_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	13,097	--[c]	--
600-127_Shallow	non-Rad	Phenol	108-95-2	µg/kg	34	2.24E+06	No
600-127_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	920	86,145	No
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,204	--[b]	--
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	2,375	--[b]	--
600-127_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,823	--[b]	--
600-127_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	34,172	--[c]	--
600-127_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[c]	--
600-127_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[c]	--
600-127_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	96,200	--[c]	--
600-127_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	220	--[c]	--
600-127_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,300	--[b]	--
600-127_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[c]	--
600-127_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,600	--[c]	--
600-127_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,300	--[c]	--
600-127_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,600	381,562	No
600-127_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07	--[c]	--
600-127_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,100	--[c]	--
600-127_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	413,000	--[c]	--
600-127_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	4.9	787	No
600-127_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,100	--[c]	--
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,100	--[b]	--
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	8,900	--[b]	--
600-127_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,700	--[b]	--
600-127_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,500	--[c]	--
600-127_Staging Pile Area_3	non-Rad	1,2-Dichloroethene (Total)	540-59-0	µg/kg	0.69	547,273	No
600-127_Staging Pile Area_3	non-Rad	Acetone	67-64-1	µg/kg	11	1.06E+08	No
600-127_Staging Pile Area_3	non-Rad	Aluminum	7429-90-5	µg/kg	1.15E+07	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Arsenic	7440-38-2	µg/kg	3,277	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Barium	7440-39-3	µg/kg	112,573	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Beryllium	7440-41-7	µg/kg	291	--[c]	--

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-127_Staging Pile Area_3	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	149	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Boron	7440-42-8	µg/kg	5,365	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Chromium	7440-47-3	µg/kg	12,799	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Cobalt	7440-48-4	µg/kg	8,875	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Copper	7440-50-8	µg/kg	15,224	381,562	No
600-127_Staging Pile Area_3	non-Rad	Diethylphthalate	84-66-2	µg/kg	71	6.45E+06	No
600-127_Staging Pile Area_3	non-Rad	Iron	7439-89-6	µg/kg	2.36E+07	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Lead	7439-92-1	µg/kg	6,896	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Manganese	7439-96-5	µg/kg	420,531	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	787	No
600-127_Staging Pile Area_3	non-Rad	Nickel	7440-02-0	µg/kg	12,432	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Phenol	108-95-2	µg/kg	30	2.24E+06	No
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	8,198	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	14,360	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Vanadium	7440-62-2	µg/kg	50,081	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Zinc	7440-66-6	µg/kg	60,059	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Aluminum	7429-90-5	µg/kg	1.06E+07	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Arsenic	7440-38-2	µg/kg	3,321	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Barium	7440-39-3	µg/kg	109,002	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	24	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Beryllium	7440-41-7	µg/kg	235	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	392	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Boron	7440-42-8	µg/kg	7,907	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Cadmium	7440-43-9	µg/kg	118	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Chromium	7440-47-3	µg/kg	12,049	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Chrysene	218-01-9	µg/kg	19	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Cobalt	7440-48-4	µg/kg	8,341	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Copper	7440-50-8	µg/kg	15,751	381,562	No
600-127_Staging Pile Area_4	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Iron	7439-89-6	µg/kg	2.13E+07	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Lead	7439-92-1	µg/kg	6,460	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Manganese	7439-96-5	µg/kg	391,778	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	787	No
600-127_Staging Pile Area_4	non-Rad	Nickel	7440-02-0	µg/kg	12,301	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Phenol	108-95-2	µg/kg	24	2.24E+06	No
600-127_Staging Pile Area_4	non-Rad	Pyrene	129-00-0	µg/kg	48	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,347	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	63,459	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Vanadium	7440-62-2	µg/kg	45,292	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Zinc	7440-66-6	µg/kg	44,294	--[c]	--
600-128_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	--[c]	--
600-128_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	71,100	--[c]	--
600-128_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	170	--[c]	--
600-128_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160	--[c]	--
600-128_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[c]	--
600-128_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,500	--[c]	--
600-128_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	158,000	--[b]	--
600-131_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,200	--[c]	--
600-131_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	65,300	--[c]	--
600-131_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	49	--[c]	--
600-131_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	60	--[c]	--
600-131_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,700	--[c]	--
600-131_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	8.53E+06	No
600-131_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,400	--[c]	--
600-132_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--[c]	--
600-132_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[c]	--
600-132_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--[c]	--
600-132_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	--[c]	--
600-132_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	59,700	--[c]	--
600-132_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	50	--[c]	--
600-132_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	400	--[c]	--
600-132_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,100	--[c]	--
600-132_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	--[c]	--
600-132_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	470	86,145	No
600-132_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	8,500	--[b]	--
600-139_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	--[c]	--
600-139_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,000	--[c]	--
600-139_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	3,500	--[c]	--
600-139_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,000	--[c]	--
600-139_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	3,500	8.53E+06	No
600-139_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,400	--[c]	--
600-139_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[c]	--
600-139_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,900	--[b]	--
600-176_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	12	1.40E+07	No
600-176_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.32E+06	--[c]	--
600-176_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.2	--[c]	--
600-176_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,047	--[c]	--
600-176_Shallow	non-Rad	Barium	7440-39-3	µg/kg	52,001	--[c]	--
600-176_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	8.5	--[c]	--
600-176_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	13	--[c]	--
600-176_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	29	--[c]	--
600-176_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[c]	--
600-176_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	221	--[c]	--
600-176_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,044	--[b]	--
600-176_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	136	--[c]	--
600-176_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	15,654	--[c]	--
600-176_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	8.3	--[c]	--
600-176_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,115	--[c]	--
600-176_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,960	381,562	No
600-176_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.1	--[c]	--
600-176_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--[c]	--
600-176_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.2	--[c]	--
600-176_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.28E+07	--[c]	--
600-176_Shallow	non-Rad	Lead	7439-92-1	µg/kg	3,860	--[c]	--
600-176_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	269,753	--[c]	--
600-176_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.9	787	No
600-176_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	322	4.51E+07	No

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-176_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,978	--[c]	--
600-176_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	21	--[c]	--
600-176_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	348	86,145	No
600-176_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	10,200	--[b]	--
600-176_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	61,816	--[b]	--
600-176_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	34,377	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	17	2.83E+06	No
600-176_Staging Pile Area Footprint_2	non-Rad	2-Hexanone	591-78-6	µg/kg	5.6	633,587	No
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.9	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	9.3	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	9.1	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Acenaphthene	83-32-9	µg/kg	29	1.40E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.0	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Aluminum	7429-90-5	µg/kg	6.89E+06	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Anthracene	120-12-7	µg/kg	5.1	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Antimony	7440-36-0	µg/kg	602	70,305	No
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	104	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	25	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,973	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Barium	7440-39-3	µg/kg	69,614	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.3	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.1	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.2	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Beryllium	7440-41-7	µg/kg	227	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Boron	7440-42-8	µg/kg	2,235	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Cadmium	7440-43-9	µg/kg	213	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Chromium	7440-47-3	µg/kg	60,644	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Chrysene	218-01-9	µg/kg	3.9	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,581	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Copper	7440-50-8	µg/kg	14,874	381,562	No
600-176_Staging Pile Area Footprint_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.4	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Fluoranthene	206-44-0	µg/kg	78	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Fluorene	86-73-7	µg/kg	17	3.00E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	42	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Iron	7439-89-6	µg/kg	1.71E+07	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Lead	7439-92-1	µg/kg	456,552	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Manganese	7439-96-5	µg/kg	265,238	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Methylene chloride	75-09-2	µg/kg	3.4	787	No
600-176_Staging Pile Area Footprint_2	non-Rad	Molybdenum	7439-98-7	µg/kg	309	4.51E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Naphthalene	91-20-3	µg/kg	51	1.68E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Nickel	7440-02-0	µg/kg	10,485	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Pyrene	129-00-0	µg/kg	10	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Toluene	108-88-3	µg/kg	2.3	666,206	No
600-176_Staging Pile Area Footprint_2	non-Rad	Vanadium	7440-62-2	µg/kg	45,984	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Zinc	7440-66-6	µg/kg	46,201	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	16	2.83E+06	No
600-176_Staging Pile Area Footprint_3	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Acenaphthene	83-32-9	µg/kg	63	1.40E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Aluminum	7429-90-5	µg/kg	7.53E+06	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Anthracene	120-12-7	µg/kg	3.3	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.0	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1260	11096-82-5	µg/kg	16	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Arsenic	7440-38-2	µg/kg	2,903	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Barium	7440-39-3	µg/kg	70,774	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.7	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	11	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.8	--[c]	--

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-176_Staging Pile Area Footprint_3	non-Rad	Beryllium	7440-41-7	µg/kg	256	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Boron	7440-42-8	µg/kg	2,050	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Cadmium	7440-43-9	µg/kg	183	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Chromium	7440-47-3	µg/kg	15,017	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Chrysene	218-01-9	µg/kg	3.7	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Cobalt	7440-48-4	µg/kg	6,029	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Copper	7440-50-8	µg/kg	14,379	381,562	No
600-176_Staging Pile Area Footprint_3	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.8	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluoranthene	206-44-0	µg/kg	41	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluorene	86-73-7	µg/kg	5.9	3.00E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Lead	7439-92-1	µg/kg	43,853	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Manganese	7439-96-5	µg/kg	296,528	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	787	No
600-176_Staging Pile Area Footprint_3	non-Rad	Molybdenum	7439-98-7	µg/kg	389	4.51E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Naphthalene	91-20-3	µg/kg	20	1.68E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Nickel	7440-02-0	µg/kg	10,536	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Pyrene	129-00-0	µg/kg	11	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Toluene	108-88-3	µg/kg	2.0	666,206	No
600-176_Staging Pile Area Footprint_3	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	602,000	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Vanadium	7440-62-2	µg/kg	49,986	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Zinc	7440-66-6	µg/kg	43,805	--[c]	--
600-181_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[c]	--
600-181_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	98,100	--[c]	--
600-181_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--[c]	--
600-181_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[c]	--
600-181_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,600	--[c]	--
600-181_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,600	--[c]	--
600-181_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,600	--[b]	--
600-182_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.09E+06	--[c]	--
600-182_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	--[c]	--
600-182_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,900	--[c]	--
600-182_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300	--[c]	--
600-182_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,770	--[b]	--
600-182_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	128	--[c]	--
600-182_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,100	--[c]	--
600-182_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,590	--[c]	--
600-182_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	381,562	No
600-182_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.22E+07	--[c]	--
600-182_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,050	--[c]	--
600-182_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	353,000	--[c]	--
600-182_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	425	4.51E+07	No
600-182_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	--[c]	--
600-182_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	14,500	--[b]	--
600-182_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	57,800	--[b]	--
600-182_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,500	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.51E+06	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Antimony	7440-36-0	µg/kg	270	70,305	No
600-182_Shallow_1_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,990	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,100	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	322	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,750	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	154	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,220	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600	381,562	No
600-182_Shallow_1_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.35E+07	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,620	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	µg/kg	382,000	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	546	4.51E+07	No
600-182_Shallow_1_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	--[c]	--
600-182_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,500	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	72,200	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,700	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.13E+07	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Antimony	7440-36-0	µg/kg	353	70,305	No
600-182_Shallow_2_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,390	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,000	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	344	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,050	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	168	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,000	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,580	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	381,562	No
600-182_Shallow_2_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.42E+07	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,600	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	403	4.51E+07	No
600-182_Shallow_2_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[c]	--
600-182_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	15,900	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	65,200	--[b]	--

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-182_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,400	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.11E+07	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	266	70,305	No
600-182_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,180	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,900	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	334	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,550	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,700	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,340	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,900	381,562	No
600-182_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.39E+07	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,950	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	357,000	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	414	4.51E+07	No
600-182_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[c]	--
600-182_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	5,340	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	64,200	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,700	--[c]	--
600-188_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.2	1.40E+07	No
600-188_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	8.3	1.06E+08	No
600-188_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.45E+06	--[c]	--
600-188_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.83	--[c]	--
600-188_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	299	70,305	No
600-188_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,750	--[c]	--
600-188_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	89,200	--[c]	--
600-188_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[c]	--
600-188_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--[c]	--
600-188_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	79	--[c]	--
600-188_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	40	--[c]	--
600-188_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	375	--[c]	--
600-188_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,230	--[b]	--
600-188_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	226	--[c]	--
600-188_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,800	--[c]	--
600-188_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	40	--[c]	--
600-188_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,750	--[c]	--
600-188_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,500	381,562	No
600-188_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.9	--[c]	--
600-188_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--[c]	--
600-188_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	1.9	3.00E+07	No
600-188_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	70	--[c]	--
600-188_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.32E+07	--[c]	--
600-188_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,450	--[c]	--
600-188_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	383,000	--[c]	--
600-188_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.5	787	No
600-188_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	553	4.51E+07	No
600-188_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,800	--[c]	--
600-188_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	45	--[c]	--
600-188_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	218	86,145	No
600-188_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	39,400	--[b]	--
600-188_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	51,400	--[b]	--
600-188_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	48,700	--[c]	--
600-188_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	1.06E+08	No
600-188_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.38E+06	--[c]	--
600-188_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	239	70,305	No
600-188_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,443	--[c]	--
600-188_Shallow	non-Rad	Barium	7440-39-3	µg/kg	64,047	--[c]	--
600-188_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	244	--[c]	--
600-188_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,139	--[b]	--
600-188_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	139	--[c]	--
600-188_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,577	--[c]	--
600-188_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	3.1	--[c]	--
600-188_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,836	--[c]	--
600-188_Shallow	non-Rad	Copper	7440-50-8	µg/kg	10,774	381,562	No
600-188_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	--[c]	--
600-188_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,925	--[c]	--
600-188_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	308,174	--[c]	--
600-188_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	6.0	787	No
600-188_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	355	4.51E+07	No
600-188_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	12,680	--[c]	--
600-188_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	219	86,145	No
600-188_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,790	--[b]	--
600-188_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	39,522	--[b]	--
600-188_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	31,905	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	58	1.40E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.91E+06	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	296	70,305	No
600-188_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,580	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,900	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	30	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	55	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	99	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	347	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,280	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	203	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,500	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	42	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,740	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	381,562	No
600-188_Staging Pile Area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.4	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	3.1	3.00E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	80	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.27E+07	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,840	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	385,000	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.3	787	No
600-188_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	562	4.51E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,000	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--[c]	--

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-188_Staging Pile Area_Focused	non-Rad	Selenium	7782-49-2	µg/kg	284	86,145	No
600-188_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	36,900	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,600	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,900	--[c]	--
600-190_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	47	--[c]	--
600-190_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,100	--[c]	--
600-190_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--[c]	--
600-190_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[c]	--
600-190_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	81,500	--[c]	--
600-190_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	62	--[c]	--
600-190_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	52	--[c]	--
600-190_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--[c]	--
600-190_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	2,400	--[c]	--
600-190_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[c]	--
600-190_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,800	--[c]	--
600-190_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	53	--[c]	--
600-190_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	16,000	8.53E+06	No
600-190_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	57	--[c]	--
600-190_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,800	--[c]	--
600-190_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	100	1.68E+07	No
600-190_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	47	--[c]	--
600-190_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	24,800	--[b]	--
600-295_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.67E+06	--[c]	--
600-295_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,370	--[c]	--
600-295_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	35,900	--[c]	--
600-295_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210	--[c]	--
600-295_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	799	--[b]	--
600-295_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	100	--[c]	--
600-295_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,200	--[c]	--
600-295_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,940	--[c]	--
600-295_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,300	381,562	No
600-295_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.12E+07	--[c]	--
600-295_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,370	--[c]	--
600-295_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	267,000	--[c]	--
600-295_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.1	787	No
600-295_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	259	4.51E+07	No
600-295_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,200	--[c]	--
600-295_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	52,500	--[b]	--
600-295_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	29,700	--[c]	--
600-296_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	35	--[c]	--
600-296_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.4	--[c]	--
600-296_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	93	--[c]	--
600-296_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.21E+06	--[c]	--
600-296_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	120	--[c]	--
600-296_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,200	--[c]	--
600-296_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	741,000	--[c]	--
600-296_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	65	--[c]	--
600-296_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	55	--[c]	--
600-296_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100	--[b]	--
600-296_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	650	--[c]	--
600-296_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	94	--[c]	--
600-296_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,600	--[c]	--
600-296_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	--[c]	--
600-296_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,000	381,562	No
600-296_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	51	8.53E+06	No
600-296_Shallow_Focused	non-Rad	Endrin	72-20-8	µg/kg	1.6	87	No
600-296_Shallow_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	0.45	2.6	No
600-296_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.60E+07	--[c]	--
600-296_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	59,300	--[c]	--
600-296_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	287,000	--[c]	--
600-296_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	650	--[c]	--
600-296_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	590	4.51E+07	No
600-296_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,700	--[c]	--
600-296_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[c]	--
600-296_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,500	--[b]	--
600-296_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	123,000	--[c]	--
600-302_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.12E+06	--[c]	--
600-302_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	70,305	No
600-302_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.6	--[c]	--
600-302_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[c]	--
600-302_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	64,300	--[c]	--
600-302_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	100	--[c]	--
600-302_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[c]	--
600-302_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	210	--[c]	--
600-302_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,700	--[c]	--
600-302_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,800	--[c]	--
600-302_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,000	381,562	No
600-302_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	1,600	--[c]	--
600-302_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.38E+07	--[c]	--
600-302_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,500	--[c]	--
600-302_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	252,000	--[c]	--
600-302_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.2	--[c]	--
600-302_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	340	4.51E+07	No
600-302_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[c]	--
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	1,300	1.41E+06	No
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	850	1.41E+06	No
600-302_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,500	--[b]	--
600-302_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,680	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Barium	7440-39-3	µg/kg	97,200	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.4	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.1	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,790	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,860	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Chromium	7440-47-3	µg/kg	15,200	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.1	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,100	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,600	381,562	No

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-341:1_Shallow_1_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.60E+07	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,100	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	µg/kg	563,000	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Mercury	7439-97-6	µg/kg	177	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	472	4.51E+07	No
600-341:1_Shallow_1_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,800	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Pyrene	129-00-0	µg/kg	2.3	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	45,300	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	64,700	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	µg/kg	317,000	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.14E+07	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,300	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,200	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.0	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	7.1	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	12	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	449	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,970	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	122	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Chromium	7440-47-3	µg/kg	15,800	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Chrysene	218-01-9	µg/kg	15	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,080	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,800	381,562	No
600-341:1_Shallow_2_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.2	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	18	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.41E+07	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,800	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Manganese	7439-96-5	µg/kg	423,000	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	460	4.51E+07	No
600-341:1_Shallow_2_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,000	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Pyrene	129-00-0	µg/kg	13	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	29,500	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	57,000	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	µg/kg	106,000	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	7.7	1.40E+07	No
600-341:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	70,305	No
600-341:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,060	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	137,000	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.5	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.5	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.2	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,610	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	233	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	15,900	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	5.6	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,000	381,562	No
600-341:2_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.6	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.0	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.11E+07	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	9,820	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	374,000	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	544	4.51E+07	No
600-341:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.8	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	58,600	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,100	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	119,000	--[c]	--
600-343_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	11	1.40E+07	No
600-343_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.15E+06	--[c]	--
600-343_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,130	--[c]	--
600-343_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	56,100	--[c]	--
600-343_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.2	--[c]	--
600-343_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.8	--[c]	--
600-343_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.9	--[c]	--
600-343_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--[c]	--
600-343_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	205	--[c]	--
600-343_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	894	--[b]	--
600-343_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	53	--[c]	--
600-343_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,010	--[c]	--
600-343_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	0.88	--[c]	--
600-343_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	9,840	--[c]	--
600-343_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,300	381,562	No
600-343_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	19	--[c]	--
600-343_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--[c]	--
600-343_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.95E+07	--[c]	--
600-343_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,260	--[c]	--
600-343_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	386,000	--[c]	--
600-343_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	11	--[c]	--
600-343_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	402	4.51E+07	No
600-343_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,170	--[c]	--
600-343_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1.5	--[c]	--
600-343_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	41,900	--[b]	--
600-343_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	82,300	--[b]	--
600-343_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	53,500	--[c]	--
600-344_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	18	1.40E+07	No
600-344_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.68E+06	--[c]	--
600-344_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.3	--[c]	--
600-344_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	70,305	No
600-344_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,050	--[c]	--
600-344_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,200	--[c]	--
600-344_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	14	--[c]	--
600-344_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--[c]	--
600-344_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.0	--[c]	--
600-344_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--[c]	--

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-344_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	228	--[c]	--
600-344_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,850	--[b]	--
600-344_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	99	--[c]	--
600-344_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,700	--[c]	--
600-344_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	9.1	--[c]	--
600-344_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,410	--[c]	--
600-344_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,310	381,562	No
600-344_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--[c]	--
600-344_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.9	--[c]	--
600-344_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.78E+07	--[c]	--
600-344_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,410	--[c]	--
600-344_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	262,000	--[c]	--
600-344_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	350	4.51E+07	No
600-344_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	--[c]	--
600-344_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	28	--[c]	--
600-344_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	37,300	--[b]	--
600-344_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	43,700	--[b]	--
600-344_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,000	--[c]	--
600-345_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.5	1.40E+07	No
600-345_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.22E+07	--[c]	--
600-345_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,060	--[c]	--
600-345_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	98,400	--[c]	--
600-345_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	346	--[c]	--
600-345_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,960	--[b]	--
600-345_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70	--[c]	--
600-345_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,100	--[c]	--
600-345_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.0	--[c]	--
600-345_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,010	--[c]	--
600-345_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,600	381,562	No
600-345_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.0	--[c]	--
600-345_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	6.0	--[c]	--
600-345_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.53E+07	--[c]	--
600-345_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,860	--[c]	--
600-345_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	417,000	--[c]	--
600-345_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	--[c]	--
600-345_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	328	4.51E+07	No
600-345_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,000	--[c]	--
600-345_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	156,000	--[b]	--
600-345_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	67,000	--[b]	--
600-345_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,000	--[c]	--
600-346_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	65	1.30E+06	No
600-346_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	62	1.40E+07	No
600-346_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07	--[c]	--
600-346_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--[c]	--
600-346_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,919	--[c]	--
600-346_Shallow	non-Rad	Barium	7440-39-3	µg/kg	86,200	--[c]	--
600-346_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.3	--[c]	--
600-346_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--[c]	--
600-346_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.8	--[c]	--
600-346_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.7	--[c]	--
600-346_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	353	--[c]	--
600-346_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	2.9	58	No
600-346_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,588	--[b]	--
600-346_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	67	--[c]	--
600-346_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,778	--[c]	--
600-346_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	167	--[c]	--
600-346_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,198	--[c]	--
600-346_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,408	381,562	No
600-346_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[c]	--
600-346_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	3.1	342	No
600-346_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--[c]	--
600-346_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	24	3.00E+07	No
600-346_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[c]	--
600-346_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.38E+07	--[c]	--
600-346_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,209	--[c]	--
600-346_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	397,658	--[c]	--
600-346_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	443	4.51E+07	No
600-346_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	97	1.68E+07	No
600-346_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,884	--[c]	--
600-346_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	9.1	--[c]	--
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,225	--[b]	--
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	77,961	--[b]	--
600-346_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	54,091	--[b]	--
600-346_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,531	--[c]	--
600-5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.14E+07	--[c]	--
600-5_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	415	70,305	No
600-5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,570	--[c]	--
600-5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,500	--[c]	--
600-5_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	338	--[c]	--
600-5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,080	--[b]	--
600-5_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	135	--[c]	--
600-5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,400	--[c]	--
600-5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,890	--[c]	--
600-5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100	381,562	No
600-5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.34E+07	--[c]	--
600-5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,150	--[c]	--
600-5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	327,000	--[c]	--
600-5_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	362	4.51E+07	No
600-5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[c]	--
600-5_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	23,900	--[b]	--
600-5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	59,400	--[b]	--
600-5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,700	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.16E+07	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	335	70,305	No
600-5_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,410	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,700	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	335	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,260	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	149	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,100	--[c]	--

Table 7-2. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-5_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,760	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	381,562	No
600-5_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.25E+07	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,190	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	330,000	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	344	4.51E+07	No
600-5_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500	--[c]	--
600-5_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,600	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	57,100	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	42,300	--[c]	--
628-1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	--[c]	--
628-1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,000	--[c]	--
628-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--[c]	--
628-1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,600	--[c]	--
628-1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,100	--[c]	--
628-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	9,400	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. A soil screening level is not calculated because a surface water cleanup level or surface water standard is not available for the analyte.

c. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

-- = Not applicable or no value.

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-100_Shallow	non-Rad	2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	93-76-5	µg/kg	8.6	--	--
600-100_Shallow	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	8.0	--	--
600-100_Shallow	non-Rad	Acetone	67-64-1	µg/kg	8.0	--	--
600-100_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.88E+06	1.18E+07	No
600-100_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	489	130	Yes
600-100_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,267	6,470	No
600-100_Shallow	non-Rad	Barium	7440-39-3	µg/kg	67,811	132,000	No
600-100_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.4	--	--
600-100_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.6	--	--
600-100_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	203	1,510	No
600-100_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,322	3,890	No
600-100_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	93	563	No
600-100_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	9,345	18,500	No
600-100_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	7,332	15,700	No
600-100_Shallow	non-Rad	Copper	7440-50-8	µg/kg	11,556	22,000	No
600-100_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--	--
600-100_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.6	--	--
600-100_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.18E+07	3.26E+07	No
600-100_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,441	10,200	No
600-100_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	312,314	512,000	No
600-100_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	370	470	No
600-100_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,072	19,100	No
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	85,400	--	--
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	32,384	--	--
600-100_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	62,373	85,100	No
600-100_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	40,723	67,800	No
600-100_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.91E+06	1.18E+07	No
600-100_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	485	130	Yes
600-100_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	1,750	6,470	No
600-100_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	59,600	132,000	No
600-100_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	177	1,510	No
600-100_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	768	3,890	No
600-100_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	97	563	No
600-100_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,140	18,500	No
600-100_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,440	15,700	No
600-100_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900	22,000	No
600-100_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.20E+07	3.26E+07	No
600-100_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,050	10,200	No
600-100_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	301,000	512,000	No
600-100_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	369	470	No
600-100_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,300	19,100	No
600-100_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	3,780	--	--
600-100_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	67,100	85,100	No
600-100_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	49,900	67,800	No
600-120 and 600-297_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	16	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.26E+06	1.18E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,480	6,470	No
600-120 and 600-297_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,300	132,000	No
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.1	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.4	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	7.8	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.2	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	241	1,510	No
600-120 and 600-297_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100	3,890	No
600-120 and 600-297_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	146	563	No
600-120 and 600-297_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,170	18,500	No
600-120 and 600-297_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.4	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,970	15,700	No
600-120 and 600-297_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,900	22,000	No
600-120 and 600-297_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.1	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	62	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	18	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.86E+07	3.26E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,600	10,200	No
600-120 and 600-297_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	289,000	512,000	No
600-120 and 600-297_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	272	470	No
600-120 and 600-297_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	89	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,750	19,100	No
600-120 and 600-297_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	9.2	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	55,400	--	--
600-120 and 600-297_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,600	85,100	No
600-120 and 600-297_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	67,600	67,800	No
600-120 and 600-297_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	2.7	--	--
600-120 and 600-297_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.26E+06	1.18E+07	No
600-120 and 600-297_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.7	--	--
600-120 and 600-297_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,874	6,470	No
600-120 and 600-297_Shallow	non-Rad	Barium	7440-39-3	µg/kg	64,463	132,000	No
600-120 and 600-297_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	0.86	--	--
600-120 and 600-297_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.3	--	--
600-120 and 600-297_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.5	--	--
600-120 and 600-297_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	0.91	--	--
600-120 and 600-297_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	242	1,510	No
600-120 and 600-297_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,028	3,890	Yes

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-120 and 600-297_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	107	563	No
600-120 and 600-297_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,931	18,500	No
600-120 and 600-297_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	2.2	--	--
600-120 and 600-297_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,619	15,700	No
600-120 and 600-297_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,330	22,000	No
600-120 and 600-297_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.94	--	--
600-120 and 600-297_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	2.8	--	--
600-120 and 600-297_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.6	--	--
600-120 and 600-297_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.71E+07	3.26E+07	No
600-120 and 600-297_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,520	10,200	No
600-120 and 600-297_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	264,473	512,000	No
600-120 and 600-297_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	281	470	No
600-120 and 600-297_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,778	19,100	No
600-120 and 600-297_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	4.3	--	--
600-120 and 600-297_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	11,830	--	--
600-120 and 600-297_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	44,356	85,100	No
600-120 and 600-297_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	33,430	67,800	No
600-120 and 600-297_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.7	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	14	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	7.14E+06	1.18E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,679	6,470	No
600-120 and 600-297_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	65,441	132,000	No
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.7	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.0	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	240	1,510	No
600-120 and 600-297_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.5	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,638	3,890	No
600-120 and 600-297_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	107	563	No
600-120 and 600-297_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	9,539	18,500	No
600-120 and 600-297_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	1.00	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	5,730	15,700	No
600-120 and 600-297_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	11,398	22,000	No
600-120 and 600-297_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.5	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	27	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	8.2	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	1.77E+07	3.26E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	3,261	10,200	No
600-120 and 600-297_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	272,403	512,000	No
600-120 and 600-297_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	269	470	No
600-120 and 600-297_Staging Pile Area	non-Rad	Naphthalene	91-20-3	µg/kg	12	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	9,496	19,100	No
600-120 and 600-297_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.3	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	21,462	--	--
600-120 and 600-297_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	46,470	85,100	No
600-120 and 600-297_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	35,055	67,800	No
600-124_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	192	--	--
600-124_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.92E+06	1.18E+07	No
600-124_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,106	6,470	No
600-124_Shallow	non-Rad	Barium	7440-39-3	µg/kg	68,796	132,000	No
600-124_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	11	--	--
600-124_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	15	--	--
600-124_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--	--
600-124_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.3	--	--
600-124_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	255	1,510	No
600-124_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,241	3,890	No
600-124_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	171	563	No
600-124_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,608	18,500	No
600-124_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--	--
600-124_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	6,700	15,700	No
600-124_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,160	22,000	No
600-124_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.1	--	--
600-124_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	76	--	--
600-124_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	25	--	--
600-124_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.33E+07	3.26E+07	No
600-124_Shallow	non-Rad	Lead	7439-92-1	µg/kg	3,743	10,200	No
600-124_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	323,187	512,000	No
600-124_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	460	470	No
600-124_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	113	--	--
600-124_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	10,075	19,100	No
600-124_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	42	--	--
600-124_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	4,220	--	--
600-124_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	68,302	85,100	No
600-124_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,558	67,800	No
600-124_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	1.3	--	--
600-124_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	7.00E+06	1.18E+07	No
600-124_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	286	130	Yes
600-124_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	2,324	6,470	No
600-124_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	66,433	132,000	No
600-124_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--	--

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-124_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.2	--	--
600-124_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.8	--	--
600-124_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.1	--	--
600-124_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	256	1,510	No
600-124_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,262	3,890	No
600-124_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	170	563	No
600-124_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	12,157	18,500	No
600-124_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	2.9	--	--
600-124_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	6,546	15,700	No
600-124_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	16,920	22,000	No
600-124_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.0	--	--
600-124_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	7.4	--	--
600-124_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	3.3	--	--
600-124_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	12	--	--
600-124_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	2.27E+07	3.26E+07	No
600-124_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	4,908	10,200	No
600-124_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	310,485	512,000	No
600-124_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	770	470	Yes
600-124_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	11,260	19,100	No
600-124_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--	--
600-124_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	124,798	--	--
600-124_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	66,526	85,100	No
600-124_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	53,404	67,800	No
600-125_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	1.18E+07	No
600-125_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	445	130	Yes
600-125_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,240	6,470	No
600-125_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,400	132,000	No
600-125_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	336	1,510	No
600-125_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,060	3,890	No
600-125_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	164	563	No
600-125_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,600	18,500	No
600-125_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,460	15,700	No
600-125_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,000	22,000	No
600-125_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.50E+07	3.26E+07	No
600-125_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,030	10,200	No
600-125_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	344,000	512,000	No
600-125_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	412	470	No
600-125_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	19,100	No
600-125_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	16,500	--	--
600-125_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	65,000	85,100	No
600-125_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,200	67,800	No
600-125_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.28E+06	1.18E+07	No
600-125_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	408	130	Yes
600-125_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,730	6,470	No
600-125_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,200	132,000	No
600-125_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	214	1,510	No
600-125_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	796	3,890	No
600-125_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	107	563	No
600-125_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,890	18,500	No
600-125_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,110	15,700	No
600-125_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,300	22,000	No
600-125_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.28E+07	3.26E+07	No
600-125_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,620	10,200	No
600-125_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	294,000	512,000	No
600-125_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	568	470	Yes
600-125_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,500	19,100	No
600-125_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	69,500	85,100	No
600-125_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	42,600	67,800	No
600-125_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.11E+07	1.18E+07	No
600-125_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	434	130	Yes
600-125_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,150	6,470	No
600-125_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	89,600	132,000	No
600-125_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	352	1,510	No
600-125_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,210	3,890	No
600-125_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	159	563	No
600-125_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,800	18,500	No
600-125_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,500	15,700	No
600-125_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	22,000	No
600-125_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.37E+07	3.26E+07	No
600-125_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,980	10,200	No
600-125_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	369,000	512,000	No
600-125_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	405	470	No
600-125_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,100	19,100	No
600-125_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,700	--	--
600-125_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	63,800	85,100	No
600-125_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,400	67,800	No
600-127_Deep	non-Rad	Acetone	67-64-1	µg/kg	8.5	--	--
600-127_Deep	non-Rad	Aluminum	7429-90-5	µg/kg	5.23E+06	1.18E+07	No
600-127_Deep	non-Rad	Arsenic	7440-38-2	µg/kg	2,474	6,470	No
600-127_Deep	non-Rad	Barium	7440-39-3	µg/kg	44,690	132,000	No
600-127_Deep	non-Rad	Beryllium	7440-41-7	µg/kg	165	1,510	No
600-127_Deep	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--	--
600-127_Deep	non-Rad	Boron	7440-42-8	µg/kg	1,600	3,890	No
600-127_Deep	non-Rad	Cadmium	7440-43-9	µg/kg	64	563	No
600-127_Deep	non-Rad	Chromium	7440-47-3	µg/kg	9,544	18,500	No
600-127_Deep	non-Rad	Cobalt	7440-48-4	µg/kg	4,168	15,700	No
600-127_Deep	non-Rad	Copper	7440-50-8	µg/kg	10,003	22,000	No
600-127_Deep	non-Rad	Iron	7439-89-6	µg/kg	1.04E+07	3.26E+07	No
600-127_Deep	non-Rad	Lead	7439-92-1	µg/kg	3,510	10,200	No
600-127_Deep	non-Rad	Manganese	7439-96-5	µg/kg	228,138	512,000	No
600-127_Deep	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	--	--
600-127_Deep	non-Rad	Molybdenum	7439-98-7	µg/kg	280	470	No
600-127_Deep	non-Rad	Nickel	7440-02-0	µg/kg	9,722	19,100	No
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,747	--	--
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	24,000	--	--
600-127_Deep	non-Rad	Vanadium	7440-62-2	µg/kg	21,645	85,100	No
600-127_Deep	non-Rad	Zinc	7440-66-6	µg/kg	24,469	67,800	No
600-127_Deep_Focused	non-Rad	Acetone	67-64-1	µg/kg	14	--	--
600-127_Deep_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	4.89E+06	1.18E+07	No
600-127_Deep_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	6,470	No
600-127_Deep_Focused	non-Rad	Barium	7440-39-3	µg/kg	55,600	132,000	No
600-127_Deep_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	180	1,510	No
600-127_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	120	--	--
600-127_Deep_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,600	18,500	No
600-127_Deep_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	3,400	15,700	No
600-127_Deep_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,000	22,000	No
600-127_Deep_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.06E+07	3.26E+07	No
600-127_Deep_Focused	non-Rad	Lead	7439-92-1	µg/kg	2,900	10,200	No
600-127_Deep_Focused	non-Rad	Manganese	7439-96-5	µg/kg	203,000	512,000	No
600-127_Deep_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	1.8	--	--
600-127_Deep_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	410	470	No
600-127_Deep_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,900	19,100	No
600-127_Deep_Focused	non-Rad	Phenol	108-95-2	µg/kg	28	--	--
600-127_Deep_Focused	non-Rad	Selenium	7782-49-2	µg/kg	890	780	Yes
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	760	--	--

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	1,400	--	--
600-127_Deep_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	21,100	85,100	No
600-127_Deep_Focused	non-Rad	Zinc	7440-66-6	µg/kg	23,000	67,800	No
600-127_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.04E+07	1.18E+07	No
600-127_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,800	6,470	No
600-127_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	121,000	132,000	No
600-127_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.0	--	--
600-127_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.9	--	--
600-127_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210	1,510	No
600-127_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,700	3,890	No
600-127_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	563	No
600-127_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700	18,500	No
600-127_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,900	15,700	No
600-127_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,500	22,000	No
600-127_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.11E+07	3.26E+07	No
600-127_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,600	10,200	Yes
600-127_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	386,000	512,000	No
600-127_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	6.7	--	--
600-127_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,900	19,100	No
600-127_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	23	--	--
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,000	--	--
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	83,000	--	--
600-127_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,900	85,100	No
600-127_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	48,000	67,800	No
600-127_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	--	--
600-127_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.39E+06	1.18E+07	No
600-127_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,790	6,470	No
600-127_Shallow	non-Rad	Barium	7440-39-3	µg/kg	64,524	132,000	No
600-127_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	279	1,510	No
600-127_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	139	--	--
600-127_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,100	3,890	No
600-127_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	59	563	No
600-127_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,483	18,500	No
600-127_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,560	15,700	No
600-127_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,289	22,000	No
600-127_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.55E+07	3.26E+07	No
600-127_Shallow	non-Rad	Lead	7439-92-1	µg/kg	3,936	10,200	No
600-127_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	268,426	512,000	No
600-127_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	--	--
600-127_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	13,097	19,100	No
600-127_Shallow	non-Rad	Phenol	108-95-2	µg/kg	34	--	--
600-127_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	920	780	Yes
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,204	--	--
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	2,375	--	--
600-127_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	33,823	85,100	No
600-127_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	34,172	67,800	No
600-127_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	1.18E+07	No
600-127_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	6,470	No
600-127_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	96,200	132,000	No
600-127_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	220	1,510	No
600-127_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,300	3,890	No
600-127_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140	563	No
600-127_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,600	18,500	No
600-127_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,300	15,700	No
600-127_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,600	22,000	No
600-127_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07	3.26E+07	No
600-127_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,100	10,200	No
600-127_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	413,000	512,000	No
600-127_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	4.9	--	--
600-127_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,100	19,100	No
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,100	--	--
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	8,900	--	--
600-127_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	41,700	85,100	No
600-127_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,500	67,800	No
600-127_Staging Pile Area_3	non-Rad	1,2-Dichloroethene (Total)	540-59-0	µg/kg	0.69	--	--
600-127_Staging Pile Area_3	non-Rad	Acetone	67-64-1	µg/kg	11	--	--
600-127_Staging Pile Area_3	non-Rad	Aluminum	7429-90-5	µg/kg	1.15E+07	1.18E+07	No
600-127_Staging Pile Area_3	non-Rad	Arsenic	7440-38-2	µg/kg	3,277	6,470	No
600-127_Staging Pile Area_3	non-Rad	Barium	7440-39-3	µg/kg	112,573	132,000	No
600-127_Staging Pile Area_3	non-Rad	Beryllium	7440-41-7	µg/kg	291	1,510	No
600-127_Staging Pile Area_3	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	149	--	--
600-127_Staging Pile Area_3	non-Rad	Boron	7440-42-8	µg/kg	5,365	3,890	Yes
600-127_Staging Pile Area_3	non-Rad	Cadmium	7440-43-9	µg/kg	140	563	No
600-127_Staging Pile Area_3	non-Rad	Chromium	7440-47-3	µg/kg	12,799	18,500	No
600-127_Staging Pile Area_3	non-Rad	Cobalt	7440-48-4	µg/kg	8,875	15,700	No
600-127_Staging Pile Area_3	non-Rad	Copper	7440-50-8	µg/kg	15,224	22,000	No
600-127_Staging Pile Area_3	non-Rad	Diethylphthalate	84-66-2	µg/kg	71	--	--
600-127_Staging Pile Area_3	non-Rad	Iron	7439-89-6	µg/kg	2.36E+07	3.26E+07	No
600-127_Staging Pile Area_3	non-Rad	Lead	7439-92-1	µg/kg	6,896	10,200	No
600-127_Staging Pile Area_3	non-Rad	Manganese	7439-96-5	µg/kg	420,531	512,000	No
600-127_Staging Pile Area_3	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	--	--
600-127_Staging Pile Area_3	non-Rad	Nickel	7440-02-0	µg/kg	12,432	19,100	No
600-127_Staging Pile Area_3	non-Rad	Phenol	108-95-2	µg/kg	30	--	--
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	8,198	--	--
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	14,360	--	--
600-127_Staging Pile Area_3	non-Rad	Vanadium	7440-62-2	µg/kg	50,081	85,100	No
600-127_Staging Pile Area_3	non-Rad	Zinc	7440-66-6	µg/kg	60,059	67,800	No
600-127_Staging Pile Area_4	non-Rad	Aluminum	7429-90-5	µg/kg	1.06E+07	1.18E+07	No
600-127_Staging Pile Area_4	non-Rad	Arsenic	7440-38-2	µg/kg	3,321	6,470	No
600-127_Staging Pile Area_4	non-Rad	Barium	7440-39-3	µg/kg	109,002	132,000	No
600-127_Staging Pile Area_4	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--	--
600-127_Staging Pile Area_4	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	24	--	--
600-127_Staging Pile Area_4	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--	--
600-127_Staging Pile Area_4	non-Rad	Beryllium	7440-41-7	µg/kg	235	1,510	No
600-127_Staging Pile Area_4	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	392	--	--
600-127_Staging Pile Area_4	non-Rad	Boron	7440-42-8	µg/kg	7,907	3,890	Yes
600-127_Staging Pile Area_4	non-Rad	Cadmium	7440-43-9	µg/kg	118	563	No
600-127_Staging Pile Area_4	non-Rad	Chromium	7440-47-3	µg/kg	12,049	18,500	No
600-127_Staging Pile Area_4	non-Rad	Chrysene	218-01-9	µg/kg	19	--	--
600-127_Staging Pile Area_4	non-Rad	Cobalt	7440-48-4	µg/kg	8,341	15,700	No
600-127_Staging Pile Area_4	non-Rad	Copper	7440-50-8	µg/kg	15,751	22,000	No
600-127_Staging Pile Area_4	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--	--
600-127_Staging Pile Area_4	non-Rad	Iron	7439-89-6	µg/kg	2.13E+07	3.26E+07	No
600-127_Staging Pile Area_4	non-Rad	Lead	7439-92-1	µg/kg	6,460	10,200	No
600-127_Staging Pile Area_4	non-Rad	Manganese	7439-96-5	µg/kg	391,778	512,000	No
600-127_Staging Pile Area_4	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	--	--
600-127_Staging Pile Area_4	non-Rad	Nickel	7440-02-0	µg/kg	12,301	19,100	No
600-127_Staging Pile Area_4	non-Rad	Phenol	108-95-2	µg/kg	24	--	--
600-127_Staging Pile Area_4	non-Rad	Pyrene	129-00-0	µg/kg	48	--	--
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,347	--	--
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	63,459	--	--
600-127_Staging Pile Area_4	non-Rad	Vanadium	7440-62-2	µg/kg	45,292	85,100	No
600-127_Staging Pile Area_4	non-Rad	Zinc	7440-66-6	µg/kg	44,294	67,800	No
600-128_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,200	6,470	No
600-128_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	71,100	132,000	No

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-128_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	170	--	--
600-128_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	160	563	No
600-128_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	18,500	No
600-128_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,500	10,200	No
600-128_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	158,000	--	--
600-131_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,200	6,470	No
600-131_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	65,300	132,000	No
600-131_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	49	--	--
600-131_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	60	563	No
600-131_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,700	18,500	No
600-131_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	--	--
600-131_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,400	10,200	No
600-132_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--	--
600-132_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--	--
600-132_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--	--
600-132_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,600	6,470	No
600-132_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	59,700	132,000	No
600-132_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	50	--	--
600-132_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	400	563	No
600-132_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,100	18,500	No
600-132_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	10,200	Yes
600-132_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	470	780	No
600-132_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	8,500	--	--
600-139_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,400	6,470	No
600-139_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	72,000	132,000	No
600-139_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	3,500	--	--
600-139_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,000	18,500	No
600-139_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	3,500	--	--
600-139_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,400	10,200	No
600-139_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	13	Yes
600-139_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,900	--	--
600-176_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	12	--	--
600-176_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.32E+06	1.18E+07	No
600-176_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.2	--	--
600-176_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	3,047	6,470	No
600-176_Shallow	non-Rad	Barium	7440-39-3	µg/kg	52,001	132,000	No
600-176_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	8.5	--	--
600-176_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	13	--	--
600-176_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	29	--	--
600-176_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--	--
600-176_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	221	1,510	No
600-176_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,044	3,890	No
600-176_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	136	563	No
600-176_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	15,654	18,500	No
600-176_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	8.3	--	--
600-176_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	5,115	15,700	No
600-176_Shallow	non-Rad	Copper	7440-50-8	µg/kg	12,960	22,000	No
600-176_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.1	--	--
600-176_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--	--
600-176_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.2	--	--
600-176_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.28E+07	3.26E+07	No
600-176_Shallow	non-Rad	Lead	7439-92-1	µg/kg	3,860	10,200	No
600-176_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	269,753	512,000	No
600-176_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.9	--	--
600-176_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	322	470	No
600-176_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,978	19,100	No
600-176_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	21	--	--
600-176_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	348	780	No
600-176_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	10,200	--	--
600-176_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	61,816	85,100	No
600-176_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	34,377	67,800	No
600-176_Staging Pile Area Footprint_2	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	17	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	2-Hexanone	591-78-6	µg/kg	5.6	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.9	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	9.3	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	9.1	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Acenaphthene	83-32-9	µg/kg	29	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.0	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Aluminum	7429-90-5	µg/kg	6.89E+06	1.18E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Anthracene	120-12-7	µg/kg	5.1	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Antimony	7440-36-0	µg/kg	602	130	Yes
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	104	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	25	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Arsenic	7440-38-2	µg/kg	2,973	6,470	No
600-176_Staging Pile Area Footprint_2	non-Rad	Barium	7440-39-3	µg/kg	69,614	132,000	No
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.3	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.1	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.2	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Beryllium	7440-41-7	µg/kg	227	1,510	No
600-176_Staging Pile Area Footprint_2	non-Rad	Boron	7440-42-8	µg/kg	2,235	3,890	No
600-176_Staging Pile Area Footprint_2	non-Rad	Cadmium	7440-43-9	µg/kg	213	563	No
600-176_Staging Pile Area Footprint_2	non-Rad	Chromium	7440-47-3	µg/kg	60,644	18,500	Yes
600-176_Staging Pile Area Footprint_2	non-Rad	Chrysene	218-01-9	µg/kg	3.9	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,581	15,700	No
600-176_Staging Pile Area Footprint_2	non-Rad	Copper	7440-50-8	µg/kg	14,874	22,000	No
600-176_Staging Pile Area Footprint_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.4	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Fluoranthene	206-44-0	µg/kg	78	--	--

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-176_Staging Pile Area Footprint_2	non-Rad	Fluorene	86-73-7	µg/kg	17	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	42	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Iron	7439-89-6	µg/kg	1.71E+07	3.26E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Lead	7439-92-1	µg/kg	456,552	10,200	Yes
600-176_Staging Pile Area Footprint_2	non-Rad	Manganese	7439-96-5	µg/kg	265,238	512,000	No
600-176_Staging Pile Area Footprint_2	non-Rad	Methylene chloride	75-09-2	µg/kg	3.4	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Molybdenum	7439-98-7	µg/kg	309	470	No
600-176_Staging Pile Area Footprint_2	non-Rad	Naphthalene	91-20-3	µg/kg	51	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Nickel	7440-02-0	µg/kg	10,485	19,100	No
600-176_Staging Pile Area Footprint_2	non-Rad	Pyrene	129-00-0	µg/kg	10	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Toluene	108-88-3	µg/kg	2.3	--	--
600-176_Staging Pile Area Footprint_2	non-Rad	Vanadium	7440-62-2	µg/kg	45,984	85,100	No
600-176_Staging Pile Area Footprint_2	non-Rad	Zinc	7440-66-6	µg/kg	46,201	67,800	No
600-176_Staging Pile Area Footprint_3	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	16	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Acenaphthene	83-32-9	µg/kg	63	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aluminum	7429-90-5	µg/kg	7.53E+06	1.18E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Anthracene	120-12-7	µg/kg	3.3	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.0	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1260	11096-82-5	µg/kg	16	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Arsenic	7440-38-2	µg/kg	2,903	6,470	No
600-176_Staging Pile Area Footprint_3	non-Rad	Barium	7440-39-3	µg/kg	70,774	132,000	No
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.7	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	11	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.8	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Beryllium	7440-41-7	µg/kg	256	1,510	No
600-176_Staging Pile Area Footprint_3	non-Rad	Boron	7440-42-8	µg/kg	2,050	3,890	No
600-176_Staging Pile Area Footprint_3	non-Rad	Cadmium	7440-43-9	µg/kg	183	563	No
600-176_Staging Pile Area Footprint_3	non-Rad	Chromium	7440-47-3	µg/kg	15,017	18,500	No
600-176_Staging Pile Area Footprint_3	non-Rad	Chrysene	218-01-9	µg/kg	3.7	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Cobalt	7440-48-4	µg/kg	6,029	15,700	No
600-176_Staging Pile Area Footprint_3	non-Rad	Copper	7440-50-8	µg/kg	14,379	22,000	No
600-176_Staging Pile Area Footprint_3	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.8	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluoranthene	206-44-0	µg/kg	41	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluorene	86-73-7	µg/kg	5.9	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Iron	7439-89-6	µg/kg	1.88E+07	3.26E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Lead	7439-92-1	µg/kg	43,853	10,200	Yes
600-176_Staging Pile Area Footprint_3	non-Rad	Manganese	7439-96-5	µg/kg	296,528	512,000	No
600-176_Staging Pile Area Footprint_3	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Molybdenum	7439-98-7	µg/kg	389	470	No
600-176_Staging Pile Area Footprint_3	non-Rad	Naphthalene	91-20-3	µg/kg	20	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Nickel	7440-02-0	µg/kg	10,536	19,100	No
600-176_Staging Pile Area Footprint_3	non-Rad	Pyrene	129-00-0	µg/kg	11	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Toluene	108-88-3	µg/kg	2.0	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	602,000	--	--
600-176_Staging Pile Area Footprint_3	non-Rad	Vanadium	7440-62-2	µg/kg	49,986	85,100	No
600-176_Staging Pile Area Footprint_3	non-Rad	Zinc	7440-66-6	µg/kg	43,805	67,800	No
600-181_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	6,470	No
600-181_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	98,100	132,000	No
600-181_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--	--
600-181_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	563	No
600-181_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	14,600	18,500	No
600-181_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,600	10,200	No
600-181_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,600	--	--
600-182_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.09E+06	1.18E+07	No
600-182_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,900	6,470	No
600-182_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,900	132,000	No
600-182_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	300	1,510	No
600-182_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,770	3,890	No
600-182_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	128	563	No
600-182_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,100	18,500	No
600-182_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,590	15,700	No
600-182_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	22,000	No
600-182_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.22E+07	3.26E+07	No

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-182_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,050	10,200	No
600-182_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	353,000	512,000	No
600-182_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	425	470	No
600-182_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,900	19,100	No
600-182_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	14,500	--	--
600-182_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	57,800	85,100	No
600-182_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,500	67,800	No
600-182_Shallow_1_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.51E+06	1.18E+07	No
600-182_Shallow_1_Focused	non-Rad	Antimony	7440-36-0	µg/kg	270	130	Yes
600-182_Shallow_1_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,990	6,470	No
600-182_Shallow_1_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,100	132,000	No
600-182_Shallow_1_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	322	1,510	No
600-182_Shallow_1_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,750	3,890	No
600-182_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	154	563	No
600-182_Shallow_1_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,700	18,500	No
600-182_Shallow_1_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,220	15,700	No
600-182_Shallow_1_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,600	22,000	No
600-182_Shallow_1_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.35E+07	3.26E+07	No
600-182_Shallow_1_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,620	10,200	No
600-182_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	µg/kg	382,000	512,000	No
600-182_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	546	470	Yes
600-182_Shallow_1_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	19,100	No
600-182_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,500	--	--
600-182_Shallow_1_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	72,200	85,100	No
600-182_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,700	67,800	No
600-182_Shallow_2_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.13E+07	1.18E+07	No
600-182_Shallow_2_Focused	non-Rad	Antimony	7440-36-0	µg/kg	353	130	Yes
600-182_Shallow_2_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,390	6,470	No
600-182_Shallow_2_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,000	132,000	No
600-182_Shallow_2_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	344	1,510	No
600-182_Shallow_2_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,050	3,890	No
600-182_Shallow_2_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	168	563	No
600-182_Shallow_2_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,000	18,500	No
600-182_Shallow_2_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,580	15,700	No
600-182_Shallow_2_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	22,000	No
600-182_Shallow_2_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.42E+07	3.26E+07	No
600-182_Shallow_2_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,600	10,200	No
600-182_Shallow_2_Focused	non-Rad	Manganese	7439-96-5	µg/kg	364,000	512,000	No
600-182_Shallow_2_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	403	470	No
600-182_Shallow_2_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	19,100	No
600-182_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	15,900	--	--
600-182_Shallow_2_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	65,200	85,100	No
600-182_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,400	67,800	No
600-182_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.11E+07	1.18E+07	No
600-182_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	266	130	Yes
600-182_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,180	6,470	No
600-182_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,900	132,000	No
600-182_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	334	1,510	No
600-182_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,550	3,890	No
600-182_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	563	No
600-182_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,700	18,500	No
600-182_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,340	15,700	No
600-182_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	11,900	22,000	No
600-182_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.39E+07	3.26E+07	No
600-182_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,950	10,200	No
600-182_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	357,000	512,000	No
600-182_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	414	470	No
600-182_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	19,100	No
600-182_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	5,340	--	--
600-182_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	64,200	85,100	No
600-182_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,700	67,800	No
600-188_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.2	--	--
600-188_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	8.3	--	--
600-188_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.45E+06	1.18E+07	No
600-188_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.83	--	--
600-188_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	299	130	Yes
600-188_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,750	6,470	No
600-188_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	89,200	132,000	No
600-188_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--	--
600-188_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--	--
600-188_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	79	--	--
600-188_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	40	--	--
600-188_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	375	1,510	No
600-188_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,230	3,890	No
600-188_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	226	563	No
600-188_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,800	18,500	No
600-188_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	40	--	--
600-188_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,750	15,700	No
600-188_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,500	22,000	No
600-188_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.9	--	--
600-188_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--	--
600-188_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	1.9	--	--
600-188_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	70	--	--
600-188_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.32E+07	3.26E+07	No
600-188_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,450	10,200	No
600-188_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	383,000	512,000	No
600-188_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.5	--	--
600-188_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	553	470	Yes
600-188_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,800	19,100	No
600-188_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	45	--	--
600-188_Overburden_Focused	non-Rad	Selenium	7782-49-2	µg/kg	218	780	No
600-188_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	39,400	--	--
600-188_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	51,400	85,100	No
600-188_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	48,700	67,800	No
600-188_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	--	--
600-188_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	6.38E+06	1.18E+07	No
600-188_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	239	130	Yes
600-188_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,443	6,470	No
600-188_Shallow	non-Rad	Barium	7440-39-3	µg/kg	64,047	132,000	No
600-188_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	244	1,510	No
600-188_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,139	3,890	No
600-188_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	139	563	No
600-188_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,577	18,500	No
600-188_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	3.1	--	--
600-188_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	4,836	15,700	No
600-188_Shallow	non-Rad	Copper	7440-50-8	µg/kg	10,774	22,000	No
600-188_Shallow	non-Rad	Iron	7439-89-6	µg/kg	1.66E+07	3.26E+07	No
600-188_Shallow	non-Rad	Lead	7439-92-1	µg/kg	4,925	10,200	No
600-188_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	308,174	512,000	No
600-188_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	6.0	--	--
600-188_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	355	470	No
600-188_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	12,680	19,100	No
600-188_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	219	780	No
600-188_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,790	--	--
600-188_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	39,522	85,100	No

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-188_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	31,905	67,800	No
600-188_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	58	--	--
600-188_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.91E+06	1.18E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	296	130	Yes
600-188_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,580	6,470	No
600-188_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,900	132,000	No
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	30	--	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	55	--	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	99	--	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--	--
600-188_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	347	1,510	No
600-188_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,280	3,890	No
600-188_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	203	563	No
600-188_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,500	18,500	No
600-188_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	42	--	--
600-188_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,740	15,700	No
600-188_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,900	22,000	No
600-188_Staging Pile Area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.4	--	--
600-188_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--	--
600-188_Staging Pile Area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	3.1	--	--
600-188_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	80	--	--
600-188_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.27E+07	3.26E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,840	10,200	No
600-188_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	385,000	512,000	No
600-188_Staging Pile Area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.3	--	--
600-188_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	562	470	Yes
600-188_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,000	19,100	No
600-188_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--	--
600-188_Staging Pile Area_Focused	non-Rad	Selenium	7782-49-2	µg/kg	284	780	No
600-188_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	36,900	--	--
600-188_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	49,600	85,100	No
600-188_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,900	67,800	No
600-190_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	47	--	--
600-190_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,100	--	--
600-190_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--	--
600-190_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	6,470	No
600-190_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	81,500	132,000	No
600-190_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	62	--	--
600-190_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	52	--	--
600-190_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--	--
600-190_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	2,400	--	--
600-190_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	563	No
600-190_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,800	18,500	No
600-190_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	53	--	--
600-190_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	16,000	--	--
600-190_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	57	--	--
600-190_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,800	10,200	Yes
600-190_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	100	--	--
600-190_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	47	--	--
600-190_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	24,800	--	--
600-295_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.67E+06	1.18E+07	No
600-295_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,370	6,470	No
600-295_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	35,900	132,000	No
600-295_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	210	1,510	No
600-295_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	799	3,890	No
600-295_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	100	563	No
600-295_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,200	18,500	No
600-295_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	4,940	15,700	No
600-295_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,300	22,000	No
600-295_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.12E+07	3.26E+07	No
600-295_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,370	10,200	No
600-295_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	267,000	512,000	No
600-295_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.1	--	--
600-295_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	259	470	No
600-295_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,200	19,100	No
600-295_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	52,500	85,100	No
600-295_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	29,700	67,800	No
600-296_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	35	--	--
600-296_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.4	--	--
600-296_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	93	--	--
600-296_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.21E+06	1.18E+07	No
600-296_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	120	--	--
600-296_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,200	6,470	No
600-296_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	741,000	132,000	Yes
600-296_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	65	1,510	No
600-296_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	55	--	--
600-296_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,100	3,890	No
600-296_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	650	563	Yes
600-296_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	94	--	--
600-296_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,600	18,500	No
600-296_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,200	15,700	No
600-296_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,000	22,000	Yes
600-296_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	51	--	--
600-296_Shallow_Focused	non-Rad	Endrin	72-20-8	µg/kg	1.6	--	--
600-296_Shallow_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	0.45	--	--
600-296_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.60E+07	3.26E+07	No
600-296_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	59,300	10,200	Yes
600-296_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	287,000	512,000	No
600-296_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	650	13	Yes
600-296_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	590	470	Yes
600-296_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,700	19,100	No
600-296_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	167	Yes
600-296_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	38,500	85,100	No
600-296_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	123,000	67,800	Yes
600-302_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.12E+06	1.18E+07	No
600-302_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	130	Yes
600-302_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.6	--	--
600-302_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	6,470	No
600-302_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	64,300	132,000	No
600-302_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	100	1,510	No
600-302_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--	--
600-302_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	210	563	No
600-302_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,700	18,500	No
600-302_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,800	15,700	No
600-302_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,000	22,000	No
600-302_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	1,600	2,810	No
600-302_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.38E+07	3.26E+07	No
600-302_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,500	10,200	No
600-302_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	252,000	512,000	No
600-302_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	9.2	13	No
600-302_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	340	470	No
600-302_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	19,100	No
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	1,300	--	--
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	850	--	--
600-302_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	27,500	85,100	No

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-302_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	67,800	Yes
600-341:1_Shallow_1_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.03E+07	1.18E+07	No
600-341:1_Shallow_1_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,680	6,470	No
600-341:1_Shallow_1_Focused	non-Rad	Barium	7440-39-3	µg/kg	97,200	132,000	No
600-341:1_Shallow_1_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.4	--	--
600-341:1_Shallow_1_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.1	--	--
600-341:1_Shallow_1_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316	1,510	No
600-341:1_Shallow_1_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,790	3,890	No
600-341:1_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,860	563	Yes
600-341:1_Shallow_1_Focused	non-Rad	Chromium	7440-47-3	µg/kg	15,200	18,500	No
600-341:1_Shallow_1_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.1	--	--
600-341:1_Shallow_1_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,100	15,700	No
600-341:1_Shallow_1_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,600	22,000	No
600-341:1_Shallow_1_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.60E+07	3.26E+07	No
600-341:1_Shallow_1_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,100	10,200	Yes
600-341:1_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	µg/kg	563,000	512,000	Yes
600-341:1_Shallow_1_Focused	non-Rad	Mercury	7439-97-6	µg/kg	177	13	Yes
600-341:1_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	472	470	Yes
600-341:1_Shallow_1_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,800	19,100	No
600-341:1_Shallow_1_Focused	non-Rad	Pyrene	129-00-0	µg/kg	2.3	--	--
600-341:1_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	45,300	--	--
600-341:1_Shallow_1_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	64,700	85,100	No
600-341:1_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	µg/kg	317,000	67,800	Yes
600-341:1_Shallow_2_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.14E+07	1.18E+07	No
600-341:1_Shallow_2_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,300	6,470	No
600-341:1_Shallow_2_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,200	132,000	No
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.0	--	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	7.1	--	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	12	--	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--	--
600-341:1_Shallow_2_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	449	1,510	No
600-341:1_Shallow_2_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,970	3,890	No
600-341:1_Shallow_2_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	122	563	No
600-341:1_Shallow_2_Focused	non-Rad	Chromium	7440-47-3	µg/kg	15,800	18,500	No
600-341:1_Shallow_2_Focused	non-Rad	Chrysene	218-01-9	µg/kg	15	--	--
600-341:1_Shallow_2_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,080	15,700	No
600-341:1_Shallow_2_Focused	non-Rad	Copper	7440-50-8	µg/kg	14,800	22,000	No
600-341:1_Shallow_2_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.2	--	--
600-341:1_Shallow_2_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	18	--	--
600-341:1_Shallow_2_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.41E+07	3.26E+07	No
600-341:1_Shallow_2_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,800	10,200	No
600-341:1_Shallow_2_Focused	non-Rad	Manganese	7439-96-5	µg/kg	423,000	512,000	No
600-341:1_Shallow_2_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	460	470	No
600-341:1_Shallow_2_Focused	non-Rad	Nickel	7440-02-0	µg/kg	12,000	19,100	No
600-341:1_Shallow_2_Focused	non-Rad	Pyrene	129-00-0	µg/kg	13	--	--
600-341:1_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	29,500	--	--
600-341:1_Shallow_2_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	57,000	85,100	No
600-341:1_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	µg/kg	106,000	67,800	Yes
600-341:2_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	7.7	--	--
600-341:2_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07	1.18E+07	No
600-341:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	130	Yes
600-341:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,060	6,470	No
600-341:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	137,000	132,000	Yes
600-341:2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--	--
600-341:2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.5	--	--
600-341:2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.5	--	--
600-341:2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.2	--	--
600-341:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	316	1,510	No
600-341:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,610	3,890	No
600-341:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	233	563	No
600-341:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	15,900	18,500	No
600-341:2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	5.6	--	--
600-341:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,900	15,700	No
600-341:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,000	22,000	No
600-341:2_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.6	--	--
600-341:2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--	--
600-341:2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.0	--	--
600-341:2_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.11E+07	3.26E+07	No
600-341:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	9,820	10,200	No
600-341:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	374,000	512,000	No
600-341:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	544	470	Yes
600-341:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	11,600	19,100	No
600-341:2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.8	--	--
600-341:2_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	58,600	--	--
600-341:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	48,100	85,100	No
600-341:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	119,000	67,800	Yes
600-343_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	11	--	--
600-343_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.15E+06	1.18E+07	No
600-343_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,130	6,470	No
600-343_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	56,100	132,000	No
600-343_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.2	--	--
600-343_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.8	--	--
600-343_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.9	--	--
600-343_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--	--
600-343_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	205	1,510	No
600-343_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	894	3,890	No
600-343_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	53	563	No
600-343_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,010	18,500	No
600-343_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	0.88	--	--
600-343_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	9,840	15,700	No
600-343_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,300	22,000	No
600-343_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	19	--	--
600-343_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--	--
600-343_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.95E+07	3.26E+07	No
600-343_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,260	10,200	No
600-343_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	386,000	512,000	No
600-343_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	11	13	No
600-343_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	402	470	No
600-343_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,170	19,100	No
600-343_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1.5	--	--
600-343_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	41,900	--	--
600-343_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	82,300	85,100	No
600-343_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	53,500	67,800	No
600-344_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	18	--	--
600-344_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.68E+06	1.18E+07	No
600-344_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.3	--	--
600-344_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	130	Yes
600-344_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,050	6,470	No
600-344_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,200	132,000	No
600-344_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	14	--	--
600-344_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--	--
600-344_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.0	--	--
600-344_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--	--
600-344_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	228	1,510	No
600-344_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,850	3,890	No

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-344_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	99	563	No
600-344_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,700	18,500	No
600-344_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	9.1	--	--
600-344_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,410	15,700	No
600-344_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,310	22,000	No
600-344_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--	--
600-344_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.9	--	--
600-344_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.78E+07	3.26E+07	No
600-344_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,410	10,200	No
600-344_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	262,000	512,000	No
600-344_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	350	470	No
600-344_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,200	19,100	No
600-344_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	28	--	--
600-344_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	37,300	--	--
600-344_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	43,700	85,100	No
600-344_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	39,000	67,800	No
600-345_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.5	--	--
600-345_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.22E+07	1.18E+07	Yes
600-345_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,060	6,470	No
600-345_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	98,400	132,000	No
600-345_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	346	1,510	No
600-345_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,960	3,890	No
600-345_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	70	563	No
600-345_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,100	18,500	No
600-345_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.0	--	--
600-345_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,010	15,700	No
600-345_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,600	22,000	No
600-345_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.0	--	--
600-345_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	6.0	--	--
600-345_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.53E+07	3.26E+07	No
600-345_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,860	10,200	No
600-345_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	417,000	512,000	No
600-345_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	13	Yes
600-345_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	328	470	No
600-345_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,000	19,100	No
600-345_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	156,000	--	--
600-345_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	67,000	85,100	No
600-345_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	44,000	67,800	No
600-346_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	65	--	--
600-346_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	62	--	--
600-346_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	1.07E+07	1.18E+07	No
600-346_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--	--
600-346_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,919	6,470	No
600-346_Shallow	non-Rad	Barium	7440-39-3	µg/kg	86,200	132,000	No
600-346_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.3	--	--
600-346_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--	--
600-346_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.8	--	--
600-346_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.7	--	--
600-346_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	353	1,510	No
600-346_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	2.9	--	--
600-346_Shallow	non-Rad	Boron	7440-42-8	µg/kg	2,588	3,890	No
600-346_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	67	563	No
600-346_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,778	18,500	No
600-346_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	167	--	--
600-346_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,198	15,700	No
600-346_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,408	22,000	No
600-346_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--	--
600-346_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	3.1	--	--
600-346_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--	--
600-346_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	24	--	--
600-346_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--	--
600-346_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.38E+07	3.26E+07	No
600-346_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,209	10,200	No
600-346_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	397,658	512,000	No
600-346_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	443	470	No
600-346_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	97	--	--
600-346_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,884	19,100	No
600-346_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	9.1	--	--
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,225	--	--
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	77,961	--	--
600-346_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	54,091	85,100	No
600-346_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	42,531	67,800	No
600-5_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.14E+07	1.18E+07	No
600-5_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	415	130	Yes
600-5_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,570	6,470	No
600-5_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,500	132,000	No
600-5_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	338	1,510	No
600-5_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,080	3,890	No
600-5_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	135	563	No
600-5_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,400	18,500	No
600-5_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,890	15,700	No
600-5_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,100	22,000	No
600-5_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.34E+07	3.26E+07	No
600-5_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,150	10,200	No
600-5_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	327,000	512,000	No
600-5_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	362	470	No
600-5_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	19,100	No
600-5_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	23,900	--	--
600-5_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	59,400	85,100	No
600-5_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	40,700	67,800	No
600-5_Staging Pile Area_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.16E+07	1.18E+07	No
600-5_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	335	130	Yes
600-5_Staging Pile Area_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,410	6,470	No
600-5_Staging Pile Area_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,700	132,000	No
600-5_Staging Pile Area_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	335	1,510	No
600-5_Staging Pile Area_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,260	3,890	No
600-5_Staging Pile Area_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	149	563	No
600-5_Staging Pile Area_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,100	18,500	No
600-5_Staging Pile Area_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,760	15,700	No
600-5_Staging Pile Area_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,200	22,000	No
600-5_Staging Pile Area_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.25E+07	3.26E+07	No
600-5_Staging Pile Area_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,190	10,200	No
600-5_Staging Pile Area_Focused	non-Rad	Manganese	7439-96-5	µg/kg	330,000	512,000	No
600-5_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	344	470	No
600-5_Staging Pile Area_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,500	19,100	No
600-5_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,600	--	--
600-5_Staging Pile Area_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	57,100	85,100	No
600-5_Staging Pile Area_Focused	non-Rad	Zinc	7440-66-6	µg/kg	42,300	67,800	No
628-1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,000	6,470	No
628-1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,000	132,000	No
628-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--	--
628-1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,600	18,500	No
628-1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,100	10,200	No
628-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	9,400	--	--

Notes:

Table 7-3. Comparison of EPCs for Waste Site Decision Units in 100-IU-2 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?

-- = Not applicable or no value.

Table 7-4. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-100_Shallow	non-Rad	2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	93-76-5	µg/kg	8.6	45,656	No
600-100_Shallow	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	8.0	55,130	No
600-100_Shallow	non-Rad	Acetone	67-64-1	µg/kg	8.0	1.03E+06	No
600-100_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	489	75,327	No
600-100_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.4	--[b]	--
600-100_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.6	--[b]	--
600-100_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-100_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.6	--[b]	--
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	85,400	2.00E+06[c]	No
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	32,384	2.00E+06[c]	No
600-100_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	485	75,327	No
600-100_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	3,780	2.00E+06[c]	No
600-120 and 600-297_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	16	2.09E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.1	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.4	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	7.8	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.2	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.4	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.1	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	62	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	18	1.74E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	89	543,215	No
600-120 and 600-297_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	9.2	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	55,400	2.00E+06[c]	No
600-120 and 600-297_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	2.7	2.09E+07	No
600-120 and 600-297_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.7	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	0.86	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.3	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.5	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	0.91	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,028	3.02E+07	No
600-120 and 600-297_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	2.2	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.94	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	2.8	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.6	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	4.3	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	11,830	2.00E+06[c]	No
600-120 and 600-297_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.7	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	14	2.09E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.7	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.0	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.5	312	No
600-120 and 600-297_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	1.00	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.5	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	27	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	8.2	1.74E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Naphthalene	91-20-3	µg/kg	12	543,215	No
600-120 and 600-297_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.3	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	21,462	2.00E+06[c]	No
600-124_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	192	2.09E+07	No
600-124_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	11	--[b]	--
600-124_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	15	--[b]	--
600-124_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-124_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.3	--[b]	--
600-124_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--[b]	--
600-124_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.1	--[b]	--
600-124_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	76	--[b]	--
600-124_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	25	1.74E+07	No
600-124_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	113	543,215	No
600-124_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	42	--[b]	--
600-124_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	4,220	2.00E+06[c]	No
600-124_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	1.3	2.09E+07	No
600-124_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	286	75,327	No
600-124_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--[b]	--
600-124_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.2	--[b]	--
600-124_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.8	--[b]	--
600-124_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.1	--[b]	--
600-124_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	2.9	--[b]	--
600-124_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.0	--[b]	--
600-124_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	7.4	--[b]	--
600-124_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	3.3	1.74E+07	No
600-124_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	12	--[b]	--
600-124_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	770	2.78E+06	No

Table 7-4. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-124_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--[b]	--
600-124_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	124,798	2.00E+06[c]	No
600-125_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	445	75,327	No
600-125_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	16,500	2.00E+06[c]	No
600-125_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	408	75,327	No
600-125_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	568	2.78E+06	No
600-125_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	434	75,327	No
600-125_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,700	2.00E+06[c]	No
600-127_Deep	non-Rad	Acetone	67-64-1	µg/kg	8.5	1.03E+06	No
600-127_Deep	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
600-127_Deep	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	855	No
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,747	2.00E+06[c]	No
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	24,000	2.00E+06[c]	No
600-127_Deep_Focused	non-Rad	Acetone	67-64-1	µg/kg	14	1.03E+06	No
600-127_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	120	--[b]	--
600-127_Deep_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	1.8	855	No
600-127_Deep_Focused	non-Rad	Phenol	108-95-2	µg/kg	28	537,413	No
600-127_Deep_Focused	non-Rad	Selenium	7782-49-2	µg/kg	890	861,453	No
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	760	2.00E+06[c]	No
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	1,400	2.00E+06[c]	No
600-127_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.0	--[b]	--
600-127_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.9	--[b]	--
600-127_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,600	--[b]	--
600-127_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	6.7	855	No
600-127_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	23	537,413	No
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,000	2.00E+06[c]	No
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	83,000	2.00E+06[c]	No
600-127_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	1.03E+06	No
600-127_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	139	--[b]	--
600-127_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	855	No
600-127_Shallow	non-Rad	Phenol	108-95-2	µg/kg	34	537,413	No
600-127_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	920	861,453	No
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,204	2.00E+06[c]	No
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	2,375	2.00E+06[c]	No
600-127_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	4.9	855	No
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,100	2.00E+06[c]	No
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	8,900	2.00E+06[c]	No
600-127_Staging Pile Area_3	non-Rad	1,2-Dichloroethene (Total)	540-59-0	µg/kg	0.69	18,745	No
600-127_Staging Pile Area_3	non-Rad	Acetone	67-64-1	µg/kg	11	1.03E+06	No
600-127_Staging Pile Area_3	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	149	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Boron	7440-42-8	µg/kg	5,365	3.02E+07	No
600-127_Staging Pile Area_3	non-Rad	Diethylphthalate	84-66-2	µg/kg	71	4.86E+06	No
600-127_Staging Pile Area_3	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	855	No
600-127_Staging Pile Area_3	non-Rad	Phenol	108-95-2	µg/kg	30	537,413	No
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	8,198	2.00E+06[c]	No
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	14,360	2.00E+06[c]	No
600-127_Staging Pile Area_4	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	24	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	392	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Boron	7440-42-8	µg/kg	7,907	3.02E+07	No
600-127_Staging Pile Area_4	non-Rad	Chrysene	218-01-9	µg/kg	19	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	855	No
600-127_Staging Pile Area_4	non-Rad	Phenol	108-95-2	µg/kg	24	537,413	No
600-127_Staging Pile Area_4	non-Rad	Pyrene	129-00-0	µg/kg	48	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,347	2.00E+06[c]	No
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	63,459	2.00E+06[c]	No
600-128_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	170	--[b]	--
600-128_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	158,000	1.00E+06[c]	No
600-131_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	49	--[b]	--
600-131_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	6.82E+06	No
600-132_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--[b]	--
600-132_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[b]	--
600-132_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--[b]	--
600-132_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	50	--[b]	--
600-132_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	--[b]	--
600-132_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	8,500	1.00E+06[c]	No
600-139_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	3,500	--[b]	--
600-139_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	3,500	6.82E+06	No
600-139_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
600-139_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,900	1.00E+06[c]	No
600-176_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	12	2.09E+07	No
600-176_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.2	--[b]	--
600-176_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	8.5	--[b]	--
600-176_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	13	--[b]	--
600-176_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	29	--[b]	--
600-176_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[b]	--
600-176_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	8.3	--[b]	--
600-176_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.1	--[b]	--
600-176_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--[b]	--
600-176_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.2	--[b]	--
600-176_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.9	855	No
600-176_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	21	--[b]	--
600-176_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	10,200	2.00E+06[c]	No
600-176_Staging Pile Area Footprint_2	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	17	55,130	No
600-176_Staging Pile Area Footprint_2	non-Rad	2-Hexanone	591-78-6	µg/kg	5.6	7,390	No
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.9	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	9.3	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	9.1	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Acenaphthene	83-32-9	µg/kg	29	2.09E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.0	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Anthracene	120-12-7	µg/kg	5.1	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Antimony	7440-36-0	µg/kg	602	75,327	No
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	104	--[b]	--

Table 7-4. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	25	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.3	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.1	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.2	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Chromium	7440-47-3	µg/kg	60,644	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Chrysene	218-01-9	µg/kg	3.9	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.4	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Fluoranthene	206-44-0	µg/kg	78	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Fluorene	86-73-7	µg/kg	17	1.74E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	42	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Lead	7439-92-1	µg/kg	456,552	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Methylene chloride	75-09-2	µg/kg	3.4	855	No
600-176_Staging Pile Area Footprint_2	non-Rad	Naphthalene	91-20-3	µg/kg	51	543,215	No
600-176_Staging Pile Area Footprint_2	non-Rad	Pyrene	129-00-0	µg/kg	10	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Toluene	108-88-3	µg/kg	2.3	327,978	No
600-176_Staging Pile Area Footprint_3	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	16	55,130	No
600-176_Staging Pile Area Footprint_3	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Acenaphthene	83-32-9	µg/kg	63	2.09E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Anthracene	120-12-7	µg/kg	3.3	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.0	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1260	11096-82-5	µg/kg	16	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.7	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	11	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.8	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Chrysene	218-01-9	µg/kg	3.7	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.8	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluoranthene	206-44-0	µg/kg	41	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluorene	86-73-7	µg/kg	5.9	1.74E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Lead	7439-92-1	µg/kg	43,853	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	855	No
600-176_Staging Pile Area Footprint_3	non-Rad	Naphthalene	91-20-3	µg/kg	20	543,215	No
600-176_Staging Pile Area Footprint_3	non-Rad	Pyrene	129-00-0	µg/kg	11	--[b]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Toluene	108-88-3	µg/kg	2.0	327,978	No
600-176_Staging Pile Area Footprint_3	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	602,000	2.00E+06[c]	No
600-181_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--[b]	--
600-181_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,600	1.00E+06[c]	No
600-182_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	14,500	2.00E+06[c]	No
600-182_Shallow_1_Focused	non-Rad	Antimony	7440-36-0	µg/kg	270	75,327	No
600-182_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	546	2.78E+06	No
600-182_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,500	2.00E+06[c]	No
600-182_Shallow_2_Focused	non-Rad	Antimony	7440-36-0	µg/kg	353	75,327	No
600-182_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	15,900	2.00E+06[c]	No
600-182_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	266	75,327	No
600-182_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	5,340	2.00E+06[c]	No
600-188_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.2	2.09E+07	No
600-188_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	8.3	1.03E+06	No
600-188_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.83	--[b]	--
600-188_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	299	75,327	No
600-188_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[b]	--
600-188_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--[b]	--
600-188_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	79	--[b]	--
600-188_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	40	--[b]	--
600-188_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	40	--[b]	--
600-188_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.9	--[b]	--
600-188_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--[b]	--
600-188_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	1.9	1.74E+07	No
600-188_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	70	--[b]	--
600-188_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.5	855	No
600-188_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	553	2.78E+06	No
600-188_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	45	--[b]	--
600-188_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	39,400	2.00E+06[c]	No
600-188_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	1.03E+06	No
600-188_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	239	75,327	No
600-188_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	3.1	--[b]	--
600-188_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	6.0	855	No
600-188_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,790	2.00E+06[c]	No
600-188_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	58	2.09E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	296	75,327	No
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	30	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	55	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	99	--[b]	--

Table 7-4. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-188_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	42	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.4	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	3.1	1.74E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	80	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.3	855	No
600-188_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	562	2.78E+06	No
600-188_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	36,900	2.00E+06[c]	No
600-190_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	47	--[b]	--
600-190_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,100	--[b]	--
600-190_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--[b]	--
600-190_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	62	--[b]	--
600-190_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	52	--[b]	--
600-190_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--[b]	--
600-190_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	2,400	--[b]	--
600-190_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	53	--[b]	--
600-190_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	16,000	6.82E+06	No
600-190_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	57	--[b]	--
600-190_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,800	--[b]	--
600-190_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	100	543,215	No
600-190_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	47	--[b]	--
600-190_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	24,800	1.00E+06[c]	No
600-295_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.1	855	No
600-296_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	35	--[b]	--
600-296_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.4	--[b]	--
600-296_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	93	--[b]	--
600-296_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	120	--[b]	--
600-296_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	741,000	--[b]	--
600-296_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	55	--[b]	--
600-296_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	650	--[b]	--
600-296_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	94	--[b]	--
600-296_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,000	2.71E+07	No
600-296_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	51	6.82E+06	No
600-296_Shallow_Focused	non-Rad	Endrin	72-20-8	µg/kg	1.6	75,630	No
600-296_Shallow_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	0.45	652	No
600-296_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	59,300	--[b]	--
600-296_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	650	--[b]	--
600-296_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	590	2.78E+06	No
600-296_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--
600-296_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	123,000	--[b]	--
600-302_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	75,327	No
600-302_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.6	--[b]	--
600-302_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[b]	--
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	1,300	1.41E+06	No
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	850	1.41E+06	No
600-302_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.4	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.1	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,860	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.1	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,100	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	µg/kg	563,000	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Mercury	7439-97-6	µg/kg	177	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	472	2.78E+06	No
600-341:1_Shallow_1_Focused	non-Rad	Pyrene	129-00-0	µg/kg	2.3	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	45,300	2.00E+06[c]	No
600-341:1_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	µg/kg	317,000	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.0	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	7.1	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	12	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Chrysene	218-01-9	µg/kg	15	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.2	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	18	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Pyrene	129-00-0	µg/kg	13	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	29,500	2.00E+06[c]	No
600-341:1_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	µg/kg	106,000	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	7.7	2.09E+07	No
600-341:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	75,327	No
600-341:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	137,000	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.5	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.5	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.2	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	5.6	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.6	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.0	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	544	2.78E+06	No
600-341:2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.8	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	58,600	2.00E+06[c]	No
600-341:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	119,000	--[b]	--
600-343_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	11	2.09E+07	No
600-343_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.2	--[b]	--
600-343_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.8	--[b]	--
600-343_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.9	--[b]	--
600-343_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--[b]	--
600-343_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	0.88	--[b]	--
600-343_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	19	--[b]	--
600-343_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--[b]	--
600-343_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1.5	--[b]	--
600-343_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	41,900	2.00E+06[c]	No
600-344_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	18	2.09E+07	No
600-344_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.3	--[b]	--
600-344_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	75,327	No
600-344_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	14	--[b]	--
600-344_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--[b]	--
600-344_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.0	--[b]	--
600-344_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--[b]	--
600-344_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	9.1	--[b]	--

Table 7-4. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-344_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--[b]	--
600-344_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.9	--[b]	--
600-344_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	28	--[b]	--
600-344_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	37,300	2.00E+06[c]	No
600-345_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.5	2.09E+07	No
600-345_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.22E+07	--[b]	--
600-345_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.0	--[b]	--
600-345_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.0	--[b]	--
600-345_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	6.0	--[b]	--
600-345_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	--[b]	--
600-345_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	156,000	2.00E+06[c]	No
600-346_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	65	299,591	No
600-346_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	62	2.09E+07	No
600-346_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--[b]	--
600-346_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.3	--[b]	--
600-346_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--[b]	--
600-346_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.8	--[b]	--
600-346_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.7	--[b]	--
600-346_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	2.9	312	No
600-346_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	167	--[b]	--
600-346_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[b]	--
600-346_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	3.1	586,957	No
600-346_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--[b]	--
600-346_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	24	1.74E+07	No
600-346_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-346_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	97	543,215	No
600-346_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	9.1	--[b]	--
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,225	2.00E+06[c]	No
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	77,961	2.00E+06[c]	No
600-5_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	415	75,327	No
600-5_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	23,900	2.00E+06[c]	No
600-5_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	335	75,327	No
600-5_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,600	2.00E+06[c]	No
628-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--[b]	--
628-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	9,400	1.00E+06[c]	No

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

-- = Not applicable or no value.

Table 7-5. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-100_Shallow	non-Rad	2,4,5-T(2,4,5-Trichlorophenoxyacetic acid)	93-76-5	µg/kg	8.6	--[b]	--
600-100_Shallow	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	8.0	2.83E+06	No
600-100_Shallow	non-Rad	Acetone	67-64-1	µg/kg	8.0	1.06E+08	No
600-100_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	489	70,305	No
600-100_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.4	--[c]	--
600-100_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.6	--[c]	--
600-100_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[c]	--
600-100_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.6	--[c]	--
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	85,400	--[b]	--
600-100_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	32,384	--[b]	--
600-100_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	485	70,305	No
600-100_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	3,780	--[b]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	16	1.40E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.1	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.4	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	7.8	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.2	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.4	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.1	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	62	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	18	3.00E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	24	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	89	1.68E+07	No
600-120 and 600-297_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	9.2	--[c]	--
600-120 and 600-297_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	55,400	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	2.7	1.40E+07	No
600-120 and 600-297_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.7	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	0.86	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.3	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.5	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	0.91	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Boron	7440-42-8	µg/kg	4,028	--[b]	--
600-120 and 600-297_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	2.2	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.94	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	2.8	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.6	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	4.3	--[c]	--
600-120 and 600-297_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	11,830	--[b]	--
600-120 and 600-297_Staging Pile Area	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.7	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	14	1.40E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	1.0	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.7	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	8.0	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.2	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	1.5	58	No
600-120 and 600-297_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	1.00	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.5	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	27	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	8.2	3.00E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	74	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Naphthalene	91-20-3	µg/kg	12	1.68E+07	No
600-120 and 600-297_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.3	--[c]	--
600-120 and 600-297_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	21,462	--[b]	--
600-124_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	192	1.40E+07	No
600-124_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	11	--[c]	--
600-124_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	15	--[c]	--
600-124_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[c]	--
600-124_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.3	--[c]	--
600-124_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	26	--[c]	--
600-124_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.1	--[c]	--
600-124_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	76	--[c]	--
600-124_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	25	3.00E+07	No
600-124_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	113	1.68E+07	No
600-124_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	42	--[c]	--
600-124_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	4,220	--[b]	--
600-124_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	1.3	1.40E+07	No
600-124_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	286	70,305	No
600-124_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--[c]	--
600-124_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.2	--[c]	--
600-124_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	4.8	--[c]	--
600-124_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.1	--[c]	--
600-124_Staging Pile Area	non-Rad	Chrysene	218-01-9	µg/kg	2.9	--[c]	--
600-124_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.0	--[c]	--
600-124_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	7.4	--[c]	--
600-124_Staging Pile Area	non-Rad	Fluorene	86-73-7	µg/kg	3.3	3.00E+07	No
600-124_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	12	--[c]	--
600-124_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	770	4.51E+07	No

Table 7-5. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-124_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--[c]	--
600-124_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	124,798	--[b]	--
600-125_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	445	70,305	No
600-125_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	16,500	--[b]	--
600-125_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	408	70,305	No
600-125_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	568	4.51E+07	No
600-125_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	434	70,305	No
600-125_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,700	--[b]	--
600-127_Deep	non-Rad	Acetone	67-64-1	µg/kg	8.5	1.06E+08	No
600-127_Deep	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[c]	--
600-127_Deep	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	787	No
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	5,747	--[b]	--
600-127_Deep	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	24,000	--[b]	--
600-127_Deep_Focused	non-Rad	Acetone	67-64-1	µg/kg	14	1.06E+08	No
600-127_Deep_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	120	--[c]	--
600-127_Deep_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	1.8	787	No
600-127_Deep_Focused	non-Rad	Phenol	108-95-2	µg/kg	28	2.24E+06	No
600-127_Deep_Focused	non-Rad	Selenium	7782-49-2	µg/kg	890	86,145	No
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	760	--[b]	--
600-127_Deep_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	1,400	--[b]	--
600-127_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.0	--[c]	--
600-127_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.9	--[c]	--
600-127_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,600	--[c]	--
600-127_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	6.7	787	No
600-127_Overburden_Focused	non-Rad	Phenol	108-95-2	µg/kg	23	2.24E+06	No
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,000	--[b]	--
600-127_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	83,000	--[b]	--
600-127_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	1.06E+08	No
600-127_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	139	--[c]	--
600-127_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	787	No
600-127_Shallow	non-Rad	Phenol	108-95-2	µg/kg	34	2.24E+06	No
600-127_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	920	86,145	No
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	1,204	--[b]	--
600-127_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	2,375	--[b]	--
600-127_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	4.9	787	No
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,100	--[b]	--
600-127_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	8,900	--[b]	--
600-127_Staging Pile Area_3	non-Rad	1,2-Dichloroethene (Total)	540-59-0	µg/kg	0.69	547,273	No
600-127_Staging Pile Area_3	non-Rad	Acetone	67-64-1	µg/kg	11	1.06E+08	No
600-127_Staging Pile Area_3	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	149	--[c]	--
600-127_Staging Pile Area_3	non-Rad	Boron	7440-42-8	µg/kg	5,365	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Diethylphthalate	84-66-2	µg/kg	71	6.45E+06	No
600-127_Staging Pile Area_3	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	787	No
600-127_Staging Pile Area_3	non-Rad	Phenol	108-95-2	µg/kg	30	2.24E+06	No
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	8,198	--[b]	--
600-127_Staging Pile Area_3	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	14,360	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	12	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	24	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	7.6	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	392	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Boron	7440-42-8	µg/kg	7,907	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Chrysene	218-01-9	µg/kg	19	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Methylene chloride	75-09-2	µg/kg	4.1	787	No
600-127_Staging Pile Area_4	non-Rad	Phenol	108-95-2	µg/kg	24	2.24E+06	No
600-127_Staging Pile Area_4	non-Rad	Pyrene	129-00-0	µg/kg	48	--[c]	--
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	34,347	--[b]	--
600-127_Staging Pile Area_4	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	63,459	--[b]	--
600-128_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	170	--[c]	--
600-128_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	158,000	--[b]	--
600-131_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	49	--[c]	--
600-131_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	22	8.53E+06	No
600-132_Shallow_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--[c]	--
600-132_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	190	--[c]	--
600-132_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	32	--[c]	--
600-132_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	50	--[c]	--
600-132_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,300	--[c]	--
600-132_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	8,500	--[b]	--
600-139_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	3,500	--[c]	--
600-139_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	3,500	8.53E+06	No
600-139_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[c]	--
600-139_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,900	--[b]	--
600-176_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	12	1.40E+07	No
600-176_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.2	--[c]	--
600-176_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	8.5	--[c]	--
600-176_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	13	--[c]	--
600-176_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	29	--[c]	--
600-176_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[c]	--
600-176_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	8.3	--[c]	--
600-176_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.1	--[c]	--
600-176_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	22	--[c]	--
600-176_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.2	--[c]	--
600-176_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	3.9	787	No
600-176_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	21	--[c]	--
600-176_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	10,200	--[b]	--
600-176_Staging Pile Area Footprint_2	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	17	2.83E+06	No
600-176_Staging Pile Area Footprint_2	non-Rad	2-Hexanone	591-78-6	µg/kg	5.6	633,587	No
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	4.9	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	9.3	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	9.1	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Acenaphthene	83-32-9	µg/kg	29	1.40E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	5.0	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Anthracene	120-12-7	µg/kg	5.1	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Antimony	7440-36-0	µg/kg	602	70,305	No
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1254	11097-69-1	µg/kg	104	--[c]	--

Table 7-5. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-176_Staging Pile Area Footprint_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	25	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.3	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	9.1	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.2	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Chromium	7440-47-3	µg/kg	60,644	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Chrysene	218-01-9	µg/kg	3.9	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.4	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Fluoranthene	206-44-0	µg/kg	78	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Fluorene	86-73-7	µg/kg	17	3.00E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	42	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Lead	7439-92-1	µg/kg	456,552	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Methylene chloride	75-09-2	µg/kg	3.4	787	No
600-176_Staging Pile Area Footprint_2	non-Rad	Naphthalene	91-20-3	µg/kg	51	1.68E+07	No
600-176_Staging Pile Area Footprint_2	non-Rad	Pyrene	129-00-0	µg/kg	10	--[c]	--
600-176_Staging Pile Area Footprint_2	non-Rad	Toluene	108-88-3	µg/kg	2.3	666,206	No
600-176_Staging Pile Area Footprint_3	non-Rad	2,4-DB(4-(2,4-Dichlorophenoxy)butanoic acid)	94-82-6	µg/kg	16	2.83E+06	No
600-176_Staging Pile Area Footprint_3	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	3.4	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Acenaphthene	83-32-9	µg/kg	63	1.40E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Anthracene	120-12-7	µg/kg	3.3	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1254	11097-69-1	µg/kg	8.0	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Aroclor-1260	11096-82-5	µg/kg	16	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.7	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	11	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	4.8	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Chrysene	218-01-9	µg/kg	3.7	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	2.8	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluoranthene	206-44-0	µg/kg	41	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Fluorene	86-73-7	µg/kg	5.9	3.00E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	22	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Lead	7439-92-1	µg/kg	43,853	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Methylene chloride	75-09-2	µg/kg	3.1	787	No
600-176_Staging Pile Area Footprint_3	non-Rad	Naphthalene	91-20-3	µg/kg	20	1.68E+07	No
600-176_Staging Pile Area Footprint_3	non-Rad	Pyrene	129-00-0	µg/kg	11	--[c]	--
600-176_Staging Pile Area Footprint_3	non-Rad	Toluene	108-88-3	µg/kg	2.0	666,206	No
600-176_Staging Pile Area Footprint_3	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	602,000	--[b]	--
600-181_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	47	--[c]	--
600-181_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	7,600	--[b]	--
600-182_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	14,500	--[b]	--
600-182_Shallow_1_Focused	non-Rad	Antimony	7440-36-0	µg/kg	270	70,305	No
600-182_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	546	4.51E+07	No
600-182_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	12,500	--[b]	--
600-182_Shallow_2_Focused	non-Rad	Antimony	7440-36-0	µg/kg	353	70,305	No
600-182_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	15,900	--[b]	--
600-182_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	266	70,305	No
600-182_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	5,340	--[b]	--
600-188_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.2	1.40E+07	No
600-188_Overburden_Focused	non-Rad	Acetone	67-64-1	µg/kg	8.3	1.06E+08	No
600-188_Overburden_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.83	--[c]	--
600-188_Overburden_Focused	non-Rad	Antimony	7440-36-0	µg/kg	299	70,305	No
600-188_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	26	--[c]	--
600-188_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	64	--[c]	--
600-188_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	79	--[c]	--
600-188_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	40	--[c]	--
600-188_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	40	--[c]	--
600-188_Overburden_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.9	--[c]	--
600-188_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	72	--[c]	--
600-188_Overburden_Focused	non-Rad	Fluorene	86-73-7	µg/kg	1.9	3.00E+07	No
600-188_Overburden_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	70	--[c]	--
600-188_Overburden_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	8.5	787	No
600-188_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	553	4.51E+07	No
600-188_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	45	--[c]	--
600-188_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	39,400	--[b]	--
600-188_Shallow	non-Rad	Acetone	67-64-1	µg/kg	11	1.06E+08	No
600-188_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	239	70,305	No
600-188_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	3.1	--[c]	--
600-188_Shallow	non-Rad	Methylene chloride	75-09-2	µg/kg	6.0	787	No
600-188_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,790	--[b]	--
600-188_Staging Pile Area_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	58	1.40E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	296	70,305	No
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	30	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	55	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	99	--[c]	--

Table 7-5. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-188_Staging Pile Area_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Chrysene	218-01-9	µg/kg	42	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.4	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Fluorene	86-73-7	µg/kg	3.1	3.00E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	80	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	7.3	787	No
600-188_Staging Pile Area_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	562	4.51E+07	No
600-188_Staging Pile Area_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--[c]	--
600-188_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	36,900	--[b]	--
600-190_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	47	--[c]	--
600-190_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,100	--[c]	--
600-190_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	130	--[c]	--
600-190_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	62	--[c]	--
600-190_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	52	--[c]	--
600-190_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	44	--[c]	--
600-190_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	2,400	--[c]	--
600-190_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	53	--[c]	--
600-190_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	16,000	8.53E+06	No
600-190_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	57	--[c]	--
600-190_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	10,800	--[c]	--
600-190_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	100	1.68E+07	No
600-190_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	47	--[c]	--
600-190_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	24,800	--[b]	--
600-295_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.1	787	No
600-296_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	35	--[c]	--
600-296_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	3.4	--[c]	--
600-296_Shallow_Focused	non-Rad	Alpha-Chlordane	5103-71-9	µg/kg	93	--[c]	--
600-296_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	120	--[c]	--
600-296_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	741,000	--[c]	--
600-296_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	55	--[c]	--
600-296_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	650	--[c]	--
600-296_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	94	--[c]	--
600-296_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,000	381,562	No
600-296_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	51	8.53E+06	No
600-296_Shallow_Focused	non-Rad	Endrin	72-20-8	µg/kg	1.6	87	No
600-296_Shallow_Focused	non-Rad	Heptachlor	76-44-8	µg/kg	0.45	2.6	No
600-296_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	59,300	--[c]	--
600-296_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	650	--[c]	--
600-296_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	590	4.51E+07	No
600-296_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[c]	--
600-296_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	123,000	--[c]	--
600-302_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	70,305	No
600-302_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	7.6	--[c]	--
600-302_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	87	--[c]	--
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	1,300	1.41E+06	No
600-302_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	850	1.41E+06	No
600-302_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	122,000	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.4	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.1	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,860	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.1	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Lead	7439-92-1	µg/kg	13,100	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Manganese	7439-96-5	µg/kg	563,000	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Mercury	7439-97-6	µg/kg	177	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	472	4.51E+07	No
600-341:1_Shallow_1_Focused	non-Rad	Pyrene	129-00-0	µg/kg	2.3	--[c]	--
600-341:1_Shallow_1_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	45,300	--[b]	--
600-341:1_Shallow_1_Focused	non-Rad	Zinc	7440-66-6	µg/kg	317,000	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	7.0	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	7.1	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	12	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	5.9	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Chrysene	218-01-9	µg/kg	15	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.2	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	18	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Pyrene	129-00-0	µg/kg	13	--[c]	--
600-341:1_Shallow_2_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	29,500	--[b]	--
600-341:1_Shallow_2_Focused	non-Rad	Zinc	7440-66-6	µg/kg	106,000	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	7.7	1.40E+07	No
600-341:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	520	70,305	No
600-341:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	137,000	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.5	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.5	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.2	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	5.6	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	4.6	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	2.0	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	544	4.51E+07	No
600-341:2_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.8	--[c]	--
600-341:2_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	58,600	--[b]	--
600-341:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	119,000	--[c]	--
600-343_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	11	1.40E+07	No
600-343_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.2	--[c]	--
600-343_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.8	--[c]	--
600-343_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.9	--[c]	--
600-343_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--[c]	--
600-343_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	0.88	--[c]	--
600-343_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	19	--[c]	--
600-343_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	16	--[c]	--
600-343_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	1.5	--[c]	--
600-343_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	41,900	--[b]	--
600-344_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	18	1.40E+07	No
600-344_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	1.3	--[c]	--
600-344_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	400	70,305	No
600-344_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	14	--[c]	--
600-344_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	10	--[c]	--
600-344_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	8.0	--[c]	--
600-344_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.7	--[c]	--
600-344_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	9.1	--[c]	--
600-344_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	26	--[c]	--

Table 7-5. Comparison of EPCs from 100-IU-2 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-344_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.9	--[c]	--
600-344_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	28	--[c]	--
600-344_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	37,300	--[b]	--
600-345_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	1.5	1.40E+07	No
600-345_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.22E+07	--[c]	--
600-345_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.0	--[c]	--
600-345_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.0	--[c]	--
600-345_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	6.0	--[c]	--
600-345_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	--[c]	--
600-345_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	156,000	--[b]	--
600-346_Shallow	non-Rad	2-Methylnaphthalene	91-57-6	µg/kg	65	1.30E+06	No
600-346_Shallow	non-Rad	Acenaphthene	83-32-9	µg/kg	62	1.40E+07	No
600-346_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--[c]	--
600-346_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.3	--[c]	--
600-346_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--[c]	--
600-346_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.8	--[c]	--
600-346_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.7	--[c]	--
600-346_Shallow	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	2.9	58	No
600-346_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	167	--[c]	--
600-346_Shallow	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	18	--[c]	--
600-346_Shallow	non-Rad	Endosulfan I	959-98-8	µg/kg	3.1	342	No
600-346_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	127	--[c]	--
600-346_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	24	3.00E+07	No
600-346_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[c]	--
600-346_Shallow	non-Rad	Naphthalene	91-20-3	µg/kg	97	1.68E+07	No
600-346_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	9.1	--[c]	--
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	24,225	--[b]	--
600-346_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	77,961	--[b]	--
600-5_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	415	70,305	No
600-5_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	23,900	--[b]	--
600-5_Staging Pile Area_Focused	non-Rad	Antimony	7440-36-0	µg/kg	335	70,305	No
600-5_Staging Pile Area_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	33,600	--[b]	--
628-1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	54	--[c]	--
628-1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	9,400	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. A soil screening level is not calculated because a surface water cleanup level or surface water standard is not available for the analyte.

c. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

-- = Not applicable or no value.

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-107_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.084	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	45	3.73E+07	No
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.5	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.9	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	10	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	20	--[b]	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	0.89	3.73E+07	No
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	0.91	--[b]	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	3.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	6.0	3.73E+07	No
600-109_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.58E+06	--[b]	--
600-109_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	15,300	--[b]	--
600-109_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	99,000	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.8	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.0	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.5	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	312	--[b]	--
600-109_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,530	5.38E+07	No
600-109_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	191	--[b]	--
600-109_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,300	--[b]	--
600-109_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,520	--[b]	--
600-109_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	1.11E+08	No
600-109_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-109_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.19E+07	--[b]	--
600-109_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	71,900	--[b]	--
600-109_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	354,000	--[b]	--
600-109_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	233	1.18E+07	No
600-109_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	--[b]	--
600-109_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	3.6	--[b]	--
600-109_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	26,600	2.00E+06[c]	--
600-109_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	54,500	--[b]	--
600-109_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	52,800	--[b]	--
600-109_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.47E+06	--[b]	--
600-109_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.4	--[b]	--
600-109_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	375	134,420	No
600-109_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,746	--[b]	--
600-109_Shallow	non-Rad	Barium	7440-39-3	µg/kg	87,937	--[b]	--
600-109_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.2	--[b]	--
600-109_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.6	--[b]	--
600-109_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--[b]	--
600-109_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.8	--[b]	--
600-109_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	250	--[b]	--
600-109_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,045	5.38E+07	No
600-109_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	116	--[b]	--
600-109_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,803	--[b]	--
600-109_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	6.4	--[b]	--
600-109_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	9,870	--[b]	--
600-109_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,671	1.11E+08	No
600-109_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	7.0	--[b]	--
600-109_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	1.6	3.11E+07	No
600-109_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-109_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.77E+07	--[b]	--
600-109_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,219	--[b]	--
600-109_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	368,917	--[b]	--
600-109_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	378	1.18E+07	No
600-109_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,238	--[b]	--
600-109_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--[b]	--
600-109_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	8,926	2.00E+06[c]	--
600-109_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	80,728	--[b]	--
600-109_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,684	--[b]	--
600-109_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.15E+06	--[b]	--
600-109_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.88	--[b]	--
600-109_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	6,070	--[b]	--
600-109_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,500	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.1	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.4	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.1	--[b]	--
600-109_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	269	--[b]	--
600-109_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	5.38E+07	No
600-109_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	113	--[b]	--
600-109_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[b]	--
600-109_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	3.0	--[b]	--
600-109_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,340	--[b]	--
600-109_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,400	1.11E+08	No
600-109_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	7.5	--[b]	--
600-109_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07	--[b]	--
600-109_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,700	--[b]	--
600-109_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	307,000	--[b]	--
600-109_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	190	1.18E+07	No
600-109_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
600-109_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.4	--[b]	--
600-109_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	6,950	2.00E+06[c]	--
600-109_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	52,500	--[b]	--
600-109_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,600	--[b]	--
600-109_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	30	3.73E+07	No
600-109_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	8.35E+06	--[b]	--
600-109_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	2.1	--[b]	--
600-109_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	781	134,420	No

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-109_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	24,017	--[b]	--
600-109_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	95,226	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.3	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--[b]	--
600-109_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	284	--[b]	--
600-109_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,068	5.38E+07	No
600-109_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	186	--[b]	--
600-109_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	11,217	--[b]	--
600-109_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,697	--[b]	--
600-109_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	14,532	1.11E+08	No
600-109_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.4	--[b]	--
600-109_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-109_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-109_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	2.17E+07	--[b]	--
600-109_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	125,620	--[b]	--
600-109_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	357,262	--[b]	--
600-109_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	456	1.18E+07	No
600-109_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,405	--[b]	--
600-109_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--[b]	--
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,487	2.00E+06[c]	--
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	30,132	2.00E+06[c]	--
600-109_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	53,018	--[b]	--
600-109_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	67,999	--[b]	--
600-111_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	1.04E+07	--[b]	--
600-111_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,200	134,420	No
600-111_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,253	--[b]	--
600-111_Shallow	non-Rad	Barium	7440-39-3	µg/kg	150,934	--[b]	--
600-111_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	967	--[b]	--
600-111_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	37	--[b]	--
600-111_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,200	5.38E+07	No
600-111_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,678	--[b]	--
600-111_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	10,665	--[b]	--
600-111_Shallow	non-Rad	Copper	7440-50-8	µg/kg	22,631	1.11E+08	No
600-111_Shallow	non-Rad	Iron	7439-89-6	µg/kg	3.38E+07	--[b]	--
600-111_Shallow	non-Rad	Isophorone	78-59-1	µg/kg	20	22,968	No
600-111_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,659	--[b]	--
600-111_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	513,612	--[b]	--
600-111_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
600-111_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	1,074	1.18E+07	No
600-111_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	14,865	--[b]	--
600-111_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	18	--[b]	--
600-111_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	75,684	--[b]	--
600-111_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	62,190	--[b]	--
600-111_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.08E+07	--[b]	--
600-111_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	200	134,420	No
600-111_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,700	--[b]	--
600-111_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	138,000	--[b]	--
600-111_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	660	--[b]	--
600-111_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	5.38E+07	No
600-111_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	360	--[b]	--
600-111_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,900	--[b]	--
600-111_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	9,700	--[b]	--
600-111_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	29,100	1.11E+08	No
600-111_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.47E+07	--[b]	--
600-111_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,400	--[b]	--
600-111_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	441,000	--[b]	--
600-111_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
600-111_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	540	1.18E+07	No
600-111_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,600	--[b]	--
600-111_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	290	1.54E+06	No
600-111_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	60,400	--[b]	--
600-111_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	60,000	--[b]	--
600-111_Shallow_Focused	Rad	Americium-241	14596-10-2	pCi/g	0.23	--[b]	--
600-111_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.82	--[b]	--
600-146_Shallow_Focused	non-Rad	2,4-Dinitrotoluene	121-14-2	µg/kg	121	330	No
600-146_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.44E+06	--[b]	--
600-146_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,090	134,420	No
600-146_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	32	--[b]	--
600-146_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--[b]	--
600-146_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,020	--[b]	--
600-146_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	79,500	--[b]	--
600-146_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	213	--[b]	--
600-146_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,660	5.38E+07	No
600-146_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	254	--[b]	--
600-146_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,220	--[b]	--
600-146_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,460	--[b]	--
600-146_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	475,000	1.11E+08	No
600-146_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.39E+07	--[b]	--
600-146_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,200	--[b]	--
600-146_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	362,000	--[b]	--
600-146_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	--[b]	--
600-146_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	1,526	No
600-146_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	402	1.18E+07	No
600-146_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	39,400	--[b]	--
600-146_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	732	1.54E+06	No
600-146_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	305	--[b]	--
600-146_Shallow_Focused	non-Rad	Styrene	100-42-5	µg/kg	1.7	502,420	No
600-146_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	72,600	--[b]	--
600-146_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	154,000	--[b]	--
600-149:2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	380	134,420	No
600-149:2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,173	--[b]	--
600-149:2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	89,076	--[b]	--
600-149:2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	170	--[b]	--
600-149:2_Shallow	non-Rad	Boron	7440-42-8	µg/kg	987	5.38E+07	No
600-149:2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	145	--[b]	--
600-149:2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,989	--[b]	--
600-149:2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,419	--[b]	--
600-149:2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,954	1.11E+08	No

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-149:2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,309	--[b]	--
600-149:2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	393,085	--[b]	--
600-149:2_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	541	1.18E+07	No
600-149:2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	13,790	--[b]	--
600-149:2_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	873	1.54E+06	No
600-149:2_Shallow	non-Rad	Tin	7440-31-5	µg/kg	980	--[b]	--
600-149:2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	54,219	--[b]	--
600-149:2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	51,198	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	540	134,420	No
600-149:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,800	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900	5.38E+07	No
600-149:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	280	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,000	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	10,900	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,700	1.11E+08	No
600-149:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	153,000	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	367,000	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	610	1.18E+07	No
600-149:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	18,900	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	1.54E+06	No
600-149:2_Shallow_Focused	non-Rad	Tin	7440-31-5	µg/kg	850	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	72,800	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	50,100	--[b]	--
600-178_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	7.8	--[b]	--
600-178_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
600-178_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.22E+06	--[b]	--
600-178_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,780	--[b]	--
600-178_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,600	--[b]	--
600-178_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	230	--[b]	--
600-178_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	905	5.38E+07	No
600-178_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	121	--[b]	--
600-178_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,700	--[b]	--
600-178_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,560	--[b]	--
600-178_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,870	1.11E+08	No
600-178_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.25E+07	--[b]	--
600-178_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,820	--[b]	--
600-178_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	307,000	--[b]	--
600-178_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	359	1.18E+07	No
600-178_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	6,930	--[b]	--
600-178_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	66,000	--[b]	--
600-178_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,600	--[b]	--
600-178_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	13	--[b]	--
600-178_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.50E+06	--[b]	--
600-178_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,120	--[b]	--
600-178_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,100	--[b]	--
600-178_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	264	--[b]	--
600-178_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,110	5.38E+07	No
600-178_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	131	--[b]	--
600-178_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,580	--[b]	--
600-178_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	9,250	--[b]	--
600-178_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,500	1.11E+08	No
600-178_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.23E+07	--[b]	--
600-178_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,770	--[b]	--
600-178_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	337,000	--[b]	--
600-178_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	363	1.18E+07	No
600-178_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,910	--[b]	--
600-178_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	62,900	--[b]	--
600-178_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,000	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.7	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.7	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.56E+06	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,820	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,600	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	258	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,260	5.38E+07	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	108	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,240	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,130	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,750	1.11E+08	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.01E+07	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,070	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	290,000	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	335	1.18E+07	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	7,700	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	52,100	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,900	--[b]	--
600-186_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.21E+07	--[b]	--
600-186_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	650	134,420	No
600-186_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	50	--[b]	--
600-186_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,640	--[b]	--
600-186_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	139,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.3	--[b]	--

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-186_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	471	--[b]	--
600-186_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,290	5.38E+07	No
600-186_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	871	--[b]	--
600-186_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	98,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.6	--[b]	--
600-186_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,990	--[b]	--
600-186_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	42,300	1.11E+08	No
600-186_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.98	--[b]	--
600-186_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.6	--[b]	--
600-186_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[d]	No
600-186_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	5.8	--[b]	--
600-186_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.01E+08	--[b]	--
600-186_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	93,500	--[b]	--
600-186_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	307,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	854	--[b]	--
600-186_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,230	1.18E+07	No
600-186_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	17,400	--[b]	--
600-186_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.1	--[b]	--
600-186_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	393	1.54E+06	No
600-186_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	21,900	--[b]	--
600-186_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	18,500	2.00E+06[c]	--
600-186_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	141,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	137,000	--[b]	--
600-202_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	9.2	3.73E+07	No
600-202_Shallow_1	non-Rad	Aldrin	309-00-2	µg/kg	2.9	--[b]	--
600-202_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	8.41E+06	--[b]	--
600-202_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	403	134,420	No
600-202_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	5,034	--[b]	--
600-202_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	84,721	--[b]	--
600-202_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.2	--[b]	--
600-202_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	317	--[b]	--
600-202_Shallow_1	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.3	556	No
600-202_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	1,746	5.38E+07	No
600-202_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	84	--[b]	--
600-202_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	17,641	--[b]	--
600-202_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	2.4	--[b]	--
600-202_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	5,433	--[b]	--
600-202_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	13,520	1.11E+08	No
600-202_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	4.3	--[b]	--
600-202_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.3	--[b]	--
600-202_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.92E+07	--[b]	--
600-202_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	5,428	--[b]	--
600-202_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	308,336	--[b]	--
600-202_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	235	1.18E+07	No
600-202_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	15,979	--[b]	--
600-202_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	46,058	--[b]	--
600-202_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	40,454	--[b]	--
600-202_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	7.9	3.73E+07	No
600-202_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	1.14E+07	--[b]	--
600-202_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	2.0	--[b]	--
600-202_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	6,830	--[b]	--
600-202_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	101,572	--[b]	--
600-202_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	420	--[b]	--
600-202_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	3,117	5.38E+07	No
600-202_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	156	--[b]	--
600-202_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	22,382	--[b]	--
600-202_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	7,211	--[b]	--
600-202_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	16,341	1.11E+08	No
600-202_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	5.1	--[b]	--
600-202_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	35	3.11E+07	No
600-202_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	2.19E+07	--[b]	--
600-202_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	6,814	--[b]	--
600-202_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	368,794	--[b]	--
600-202_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	335	1.18E+07	No
600-202_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	21	969,259	No
600-202_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	19,045	--[b]	--
600-202_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	2.6	--[b]	--
600-202_Shallow_2	non-Rad	Selenium	7782-49-2	µg/kg	337	1.54E+06	No
600-202_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	8,170	2.00E+06[c]	--
600-202_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	48,606	--[b]	--
600-202_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	49,589	--[b]	--
600-202_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	14	3.73E+07	No
600-202_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	2.0	121	No
600-202_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.01E+07	--[b]	--
600-202_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	11	--[b]	--
600-202_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	735	134,420	No
600-202_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	--[b]	--
600-202_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	201,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	17	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.2	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-202_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	876	--[b]	--
600-202_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	15	556	No
600-202_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	69	--[b]	--
600-202_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,000	5.38E+07	No
600-202_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,290	--[b]	--
600-202_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	21,900	--[b]	--
600-202_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--[b]	--
600-202_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,300	--[b]	--
600-202_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	87,900	1.11E+08	No
600-202_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	36	1.22E+07	No
600-202_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	3.0	1.05E+06	No
600-202_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	61	--[b]	--
600-202_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	15	3.11E+07	No
600-202_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--[b]	--
600-202_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.21E+07	--[b]	--
600-202_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	278,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	411,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,170	1.18E+07	No

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-202_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	27	969,259	No
600-202_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,700	--[b]	--
600-202_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--[b]	--
600-202_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,540	--[b]	--
600-202_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	104,000	2.00E+06[c]	--
600-202_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,300	--[b]	--
600-202_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	403,000	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.5	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.0	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	43	3.73E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Aldrin	309-00-2	µg/kg	6.0	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.55E+06	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.8	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	713	134,420	No
600-202_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	5,082	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	108,339	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	24	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	12	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	245	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	9,973	5.38E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	405	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	15,595	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	53	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,092	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	40,782	1.11E+08	No
600-202_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	14	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Endrin	72-20-8	µg/kg	2.2	136,151	No
600-202_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	116	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	7.8	3.11E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	6,000[d]	No
600-202_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	2.73E+07	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	63,502	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	344,273	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Methoxychlor	72-43-5	µg/kg	1.6	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	953	1.18E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Naphthalene	91-20-3	µg/kg	11	969,259	No
600-202_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	12,835	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	206	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	275	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	11,500	2.00E+06[c]	--
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	114,498	2.00E+06[c]	--
600-202_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	55,794	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	174,723	--[b]	--
600-204_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[b]	--
600-204_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	166,000	--[b]	--
600-204_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--[b]	--
600-204_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	80	--[b]	--
600-204_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,800	--[b]	--
600-204_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	27,700	--[b]	--
600-204_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	41,200	1.00E+06[c]	No
600-205_Shallow_Focused	non-Rad	2,4-Dimethylphenol	105-67-9	µg/kg	21	209,969	No
600-205_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	68	--[b]	--
600-205_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	59	3.73E+07	No
600-205_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.11E+06	--[b]	--
600-205_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	9.3	--[b]	--
600-205_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	670	134,420	No
600-205_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,420	--[b]	--
600-205_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,200	--[b]	--
600-205_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.5	--[b]	--
600-205_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	14	--[b]	--
600-205_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	1,800	--[b]	--
600-205_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--[b]	--
600-205_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	5.38E+07	No
600-205_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	25	4.13E+06	No
600-205_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	670	--[b]	--
600-205_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	6.5	--[b]	--
600-205_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,200	--[b]	--
600-205_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	420	--[b]	--
600-205_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	10,600	--[b]	--
600-205_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	22,000	1.11E+08	No
600-205_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	79	1.22E+07	No
600-205_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	12	1.05E+06	No
600-205_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--[b]	--
600-205_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.2	3.11E+07	No
600-205_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	3.19E+07	--[b]	--
600-205_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	40,300	--[b]	--
600-205_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	427,000	--[b]	--
600-205_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	890	1.18E+07	No
600-205_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,700	--[b]	--
600-205_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	62	--[b]	--
600-205_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	500	1.54E+06	No
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.90E+06	1.00E+06[c]	Yes
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,200	2.00E+06[c]	--
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	7,860	2.00E+06[c]	--
600-205_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	86,200	--[b]	--
600-205_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	61,700	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	3.4	3.73E+07	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.59E+06	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,180	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	75,000	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.5	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.6	--[b]	--

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-205_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	275	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,260	5.38E+07	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	250	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,020	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,810	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,200	1.11E+08	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	146	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.6	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.04E+07	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,000	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	318,000	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	287	1.18E+07	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,230	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	4.9	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	103,000	2.00E+06[c]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	53,000	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,700	--[b]	--
600-23_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,516	--[b]	--
600-23_Overburden	non-Rad	Barium	7440-39-3	µg/kg	75,900	--[b]	--
600-23_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	74	--[b]	--
600-23_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	11,100	--[b]	--
600-23_Overburden	non-Rad	Lead	7439-92-1	µg/kg	12,902	--[b]	--
600-23_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	295,027	--[b]	--
600-23_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	290	1.54E+06	No
600-23_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	67,433	--[b]	--
600-23_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,866	--[b]	--
600-23_Shallow	non-Rad	Barium	7440-39-3	µg/kg	70,525	--[b]	--
600-23_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	187	--[b]	--
600-23_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,238	--[b]	--
600-23_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	6,000[d]	No
600-23_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,475	--[b]	--
600-23_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	293,839	--[b]	--
600-23_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	290	1.54E+06	No
600-23_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	63,472	--[b]	--
600-23_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,300	--[b]	--
600-23_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[b]	--
600-23_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,200	--[b]	--
600-23_Shallow_Focused	non-Rad	Benzene	71-43-2	µg/kg	2.0	459	No
600-23_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	180	--[b]	--
600-23_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,500	--[b]	--
600-23_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,900	--[b]	--
600-23_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	330,000	--[b]	--
600-23_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	9.0	1,526	No
600-23_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	660	1.54E+06	No
600-23_Shallow_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	585,162	No
600-23_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	560	321,298[e]	No
600-23_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	55,100	--[b]	--
600-23_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.018	--[b]	--
600-23_Shallow_Focused	Rad	Europium-155	14391-16-3	pCi/g	0.042	--[b]	--
600-23_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.19	--[f]	--
600-280_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.64E+06	--[b]	--
600-280_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,660	134,420	No
600-280_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,420	--[b]	--
600-280_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	61,200	--[b]	--
600-280_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	255	--[b]	--
600-280_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	916	5.38E+07	No
600-280_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	5,700	--[b]	--
600-280_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,570	--[b]	--
600-280_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,500	1.11E+08	No
600-280_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.30E+07	--[b]	--
600-280_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,700	--[b]	--
600-280_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	311,000	--[b]	--
600-280_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	406	1.18E+07	No
600-280_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	7,630	--[b]	--
600-280_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	76,100	2.00E+06[c]	--
600-280_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	65,500	--[b]	--
600-280_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,300	--[b]	--
600-3_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	21	3.73E+07	No
600-3_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	7.98E+06	--[b]	--
600-3_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--[b]	--
600-3_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	335	134,420	No
600-3_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	12	--[b]	--
600-3_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	3,019	--[b]	--
600-3_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	72,952	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	17	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.2	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.2	--[b]	--
600-3_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	312	--[b]	--
600-3_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	954	5.38E+07	No
600-3_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	118	--[b]	--
600-3_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	9,965	--[b]	--
600-3_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	11	--[b]	--
600-3_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,718	--[b]	--

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-3_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	12,939	1.11E+08	No
600-3_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.7	--[b]	--
600-3_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--[b]	--
600-3_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	0.95	3.11E+07	No
600-3_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.3	--[b]	--
600-3_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	2.29E+07	--[b]	--
600-3_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	7,365	--[b]	--
600-3_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	314,529	--[b]	--
600-3_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	375	1.18E+07	No
600-3_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	9,437	--[b]	--
600-3_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	62	--[b]	--
600-3_Shallow_1	non-Rad	Selenium	7782-49-2	µg/kg	377	1.54E+06	No
600-3_Shallow_1	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	4,960	2.00E+06[c]	--
600-3_Shallow_1	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,000	321,298[e]	No
600-3_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	62,613	--[b]	--
600-3_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	41,668	--[b]	--
600-3_Shallow_1	Rad	Cesium-137	10045-97-3	pCi/g	0.033	--[b]	--
600-3_Shallow_1	Rad	Uranium-233/234	U-233/234	pCi/g	0.70	--[f]	--
600-3_Shallow_1	Rad	Uranium-238	U-238	pCi/g	0.67	--[f]	--
600-3_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	28	3.73E+07	No
600-3_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.32E+06	--[b]	--
600-3_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	3.9	--[b]	--
600-3_Shallow_2	non-Rad	Antimony	7440-36-0	µg/kg	388	134,420	No
600-3_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	5.8	--[b]	--
600-3_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	3,187	--[b]	--
600-3_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	58,538	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	136	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	68	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--[b]	--
600-3_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	281	--[b]	--
600-3_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	1,038	5.38E+07	No
600-3_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	102	--[b]	--
600-3_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,176	--[b]	--
600-3_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	13	--[b]	--
600-3_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,449	--[b]	--
600-3_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	16,811	1.11E+08	No
600-3_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.3	--[b]	--
600-3_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	49	--[b]	--
600-3_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	3.0	3.11E+07	No
600-3_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	38	--[b]	--
600-3_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.80E+07	--[b]	--
600-3_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	65,041	--[b]	--
600-3_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	246,287	--[b]	--
600-3_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	297	1.18E+07	No
600-3_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	10.0	969,259	No
600-3_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,155	--[b]	--
600-3_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	15	--[b]	--
600-3_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	24,700	2.00E+06[c]	--
600-3_Shallow_2	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,900	321,298[e]	No
600-3_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	49,260	--[b]	--
600-3_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	39,739	--[b]	--
600-3_Shallow_2	Rad	Cesium-137	10045-97-3	pCi/g	0.085	--[b]	--
600-3_Shallow_2	Rad	Uranium-233/234	U-233/234	pCi/g	0.62	--[f]	--
600-3_Shallow_2	Rad	Uranium-238	U-238	pCi/g	0.64	--[f]	--
600-3_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6	--[b]	--
600-3_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	3.73E+07	No
600-3_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.00E+07	--[b]	--
600-3_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	13	--[b]	--
600-3_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	11,700	134,420	No
600-3_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	31	--[b]	--
600-3_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--[b]	--
600-3_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,140	--[b]	--
600-3_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	841,000	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	89	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	119	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	92	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--[b]	--
600-3_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	361	--[b]	--
600-3_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,790	5.38E+07	No
600-3_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	296	--[b]	--
600-3_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	19,400	--[b]	--
600-3_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	32	--[b]	--
600-3_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,840	--[b]	--
600-3_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	152,000	1.11E+08	No
600-3_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	12	--[b]	--
600-3_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--[b]	--
600-3_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.8	3.11E+07	No
600-3_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	91	--[b]	--
600-3_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.60E+07	--[b]	--
600-3_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	1.64E+06	--[b]	--
600-3_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	383,000	--[b]	--
600-3_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	916	1.18E+07	No
600-3_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	1.6	969,259	No
600-3_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,800	--[b]	--
600-3_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	88	--[b]	--
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	133,000	2.00E+06[c]	--
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	48,900	2.00E+06[c]	--
600-3_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,533	321,298[e]	No
600-3_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	68,400	--[b]	--
600-3_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	384,000	--[b]	--
600-3_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.015	--[b]	--
600-3_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.74	--[f]	--
600-3_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.85	--[f]	--
600-3_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	27	3.73E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	8.21E+06	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.6	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	8,861	--[b]	--

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-3_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	80,420	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	32	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	307	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,584	5.38E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	199	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	9,690	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	31	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,802	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	13,715	1.11E+08	No
600-3_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.9	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	3.0	3.11E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	18	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	2.33E+07	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	22,247	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	340,091	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	360	1.18E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	9,460	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	49	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	7,320	2.00E+06[c]	--
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	17,326	2.00E+06[c]	--
600-3_Staging Pile Area Footprint	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,878	321,298[e]	No
600-3_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	62,937	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	59,275	--[b]	--
600-3_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.068	--[b]	--
600-3_Staging Pile Area Footprint	Rad	Uranium-233/234	U-233/234	pCi/g	0.75	--[f]	--
600-3_Staging Pile Area Footprint	Rad	Uranium-238	U-238	pCi/g	0.63	--[f]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.17E+06	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	617	134,420	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,570	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	69,100	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	265	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,390	5.38E+07	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,870	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,390	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,450	1.11E+08	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.23E+07	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	236,000	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	320,000	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	412	1.18E+07	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	7,420	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	63,100	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,800	--[b]	--
600-315_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	3.06E+06	--[b]	--
600-315_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000	--[b]	--
600-315_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,100	--[b]	--
600-315_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	460	--[b]	--
600-315_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,300	5.38E+07	No
600-315_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	640	--[b]	--
600-315_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	5,300	--[b]	--
600-315_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	3,500	--[b]	--
600-315_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	7,900	1.11E+08	No
600-315_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	8.98E+06	--[b]	--
600-315_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,400	--[b]	--
600-315_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	169,000	--[b]	--
600-315_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	17	--[b]	--
600-315_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	410	1.18E+07	No
600-315_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	4,900	--[b]	--
600-315_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,400	1.54E+06	No
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	66,000	2.00E+06[c]	--
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	110,000	2.00E+06[c]	--
600-315_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	17,600	--[b]	--
600-315_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	24,200	--[b]	--
600-322_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.6	--[b]	--
600-322_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.90E+06	--[b]	--
600-322_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,100	134,420	No
600-322_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,900	--[b]	--
600-322_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	77,500	--[b]	--
600-322_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	120	--[b]	--
600-322_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	5.38E+07	No
600-322_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	250	--[b]	--
600-322_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,800	--[b]	--
600-322_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,700	--[b]	--
600-322_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	57,400	1.11E+08	No
600-322_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	9.46E+07	--[b]	--
600-322_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	72,200	--[b]	--
600-322_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	556,000	--[b]	--
600-322_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	37	--[b]	--
600-322_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	4,300	1.18E+07	No
600-322_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	35,400	--[b]	--
600-322_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--
600-322_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,200	--[b]	--

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-322_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	62,900	--[b]	--
600-323_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	31	3.73E+07	No
600-323_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.34E+07	--[b]	--
600-323_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,300	--[b]	--
600-323_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	549,000	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	50	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	9.9	--[b]	--
600-323_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	680	--[b]	--
600-323_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	34,000	5.38E+07	No
600-323_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[b]	--
600-323_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,600	--[b]	--
600-323_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	170	--[b]	--
600-323_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
600-323_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	20,400	1.11E+08	No
600-323_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	87	--[b]	--
600-323_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.97E+07	--[b]	--
600-323_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,200	--[b]	--
600-323_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	357,000	--[b]	--
600-323_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	18	--[b]	--
600-323_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	1.18E+07	No
600-323_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	120	969,259	No
600-323_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,100	--[b]	--
600-323_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	2,200	1.54E+06	No
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	50,000	2.00E+06[c]	--
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	68,000	2.00E+06[c]	--
600-323_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,000	--[b]	--
600-323_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,400	--[b]	--
600-327_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.18E+07	--[b]	--
600-327_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,800	--[b]	--
600-327_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	116,000	--[b]	--
600-327_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160	--[b]	--
600-327_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,100	5.38E+07	No
600-327_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[b]	--
600-327_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,400	--[b]	--
600-327_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,100	--[b]	--
600-327_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,500	1.11E+08	No
600-327_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	41	3.11E+07	No
600-327_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	2,100	--[b]	--
600-327_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07	--[b]	--
600-327_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,700	--[b]	--
600-327_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	342,000	--[b]	--
600-327_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	6.0	--[b]	--
600-327_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	15,900	--[b]	--
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	2,700	2.52E+06	No
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	2,700	2.52E+06	No
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,200	2.00E+06[c]	--
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	3,000	2.00E+06[c]	--
600-327_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,000	--[b]	--
600-327_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,500	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.07E+06	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,200	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	85,400	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.8	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	25	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	150	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,300	5.38E+07	No
600-334:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	400	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,800	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	39	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,800	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,500	1.11E+08	No
600-334:1_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	34	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.85E+07	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,200	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	329,000	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,900	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	290	1.18E+07	No
600-334:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	259,000	2.52E+06	No
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	287,000	2.52E+06	No
600-334:1_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	78	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	220	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	7,900	2.00E+06[c]	--
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	74,000	2.00E+06[c]	--
600-334:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	43,200	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	73,000	--[b]	--
600-350_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	3.1	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	21	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.6	--[b]	--
600-350_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	20	--[b]	--
600-350_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	52	--[b]	--
600-350_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--[b]	--
600-350_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--[b]	--
JA JONES 1_Overburden	non-Rad	Barium	7440-39-3	µg/kg	80,600	--[b]	--
JA JONES 1_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	470	--[b]	--
JA JONES 1_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	10,000	--[b]	--
JA JONES 1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	17,100	--[b]	--
JA JONES 1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	84,191	--[b]	--
JA JONES 1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	485	--[b]	--
JA JONES 1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	16,349	--[b]	--
JA JONES 1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	54,479	--[b]	--
JA JONES 1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,600	--[b]	--

Table 7-6. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
JA JONES 1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	80	--[b]	--
JA JONES 1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	--[b]	--
JA JONES 1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,100	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

d. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

e. The soil screening level for Total_U_Isotopes is the same as the value calculated for total uranium (CAS # 7440-61-1).

f. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.

-- = Not applicable or no value.

Table 7-7. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-107_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.084	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	45	2.50E+07	No
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.5	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.9	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	10	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	20	--[b]	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	0.89	2.50E+07	No
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	0.91	--[b]	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	3.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	6.0	2.50E+07	No
600-109_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.58E+06	--[b]	--
600-109_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	15,300	--[b]	--
600-109_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	99,000	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.8	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.0	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.5	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	312	--[b]	--
600-109_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,530	--[c]	--
600-109_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	191	--[b]	--
600-109_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,300	--[b]	--
600-109_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,520	--[b]	--
600-109_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	1.56E+06	No
600-109_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-109_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.19E+07	--[b]	--
600-109_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	71,900	--[b]	--
600-109_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	354,000	--[b]	--
600-109_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	233	1.92E+08	No
600-109_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	--[b]	--
600-109_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	3.6	--[b]	--
600-109_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	26,600	--[c]	--
600-109_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	54,500	--[c]	--
600-109_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	52,800	--[b]	--
600-109_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.47E+06	--[b]	--
600-109_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.4	--[b]	--
600-109_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	375	125,458	No
600-109_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,746	--[b]	--
600-109_Shallow	non-Rad	Barium	7440-39-3	µg/kg	87,937	--[b]	--
600-109_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.2	--[b]	--
600-109_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.6	--[b]	--
600-109_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--[b]	--
600-109_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.8	--[b]	--
600-109_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	250	--[b]	--
600-109_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,045	--[c]	--
600-109_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	116	--[b]	--
600-109_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,803	--[b]	--
600-109_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	6.4	--[b]	--
600-109_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	9,870	--[b]	--
600-109_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,671	1.56E+06	No
600-109_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	7.0	--[b]	--
600-109_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	1.6	5.35E+07	No
600-109_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-109_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.77E+07	--[b]	--
600-109_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,219	--[b]	--
600-109_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	368,917	--[b]	--
600-109_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	378	1.92E+08	No
600-109_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,238	--[b]	--
600-109_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--[b]	--
600-109_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	8,926	--[c]	--
600-109_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	80,728	--[c]	--
600-109_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,684	--[b]	--
600-109_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.15E+06	--[b]	--
600-109_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.88	--[b]	--
600-109_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	6,070	--[b]	--
600-109_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,500	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.1	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.4	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.1	--[b]	--
600-109_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	269	--[b]	--
600-109_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	--[c]	--
600-109_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	113	--[b]	--
600-109_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	--[b]	--
600-109_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	3.0	--[b]	--
600-109_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,340	--[b]	--
600-109_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,400	1.56E+06	No
600-109_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	7.5	--[b]	--
600-109_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07	--[b]	--
600-109_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,700	--[b]	--
600-109_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	307,000	--[b]	--
600-109_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	190	1.92E+08	No
600-109_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	--[b]	--
600-109_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.4	--[b]	--
600-109_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	6,950	--[c]	--
600-109_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	52,500	--[c]	--
600-109_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,600	--[b]	--
600-109_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	30	2.50E+07	No
600-109_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	8.35E+06	--[b]	--
600-109_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	2.1	--[b]	--
600-109_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	781	125,458	No
600-109_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	24,017	--[b]	--
600-109_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	95,226	--[b]	--

Table 7-7. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-109_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.3	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--[b]	--
600-109_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	284	--[b]	--
600-109_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,068	--[c]	--
600-109_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	186	--[b]	--
600-109_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	11,217	--[b]	--
600-109_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,697	--[b]	--
600-109_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	14,532	1.56E+06	No
600-109_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.4	--[b]	--
600-109_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-109_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-109_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	2.17E+07	--[b]	--
600-109_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	125,620	--[b]	--
600-109_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	357,262	--[b]	--
600-109_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	456	1.92E+08	No
600-109_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,405	--[b]	--
600-109_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--[b]	--
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,487	--[c]	--
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	30,132	--[c]	--
600-109_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	53,018	--[c]	--
600-109_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	67,999	--[b]	--
600-111_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	1.04E+07	--[b]	--
600-111_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,200	125,458	No
600-111_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,253	--[b]	--
600-111_Shallow	non-Rad	Barium	7440-39-3	µg/kg	150,934	--[b]	--
600-111_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	967	--[b]	--
600-111_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	37	--[b]	--
600-111_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,200	--[c]	--
600-111_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,678	--[b]	--
600-111_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	10,665	--[b]	--
600-111_Shallow	non-Rad	Copper	7440-50-8	µg/kg	22,631	1.56E+06	No
600-111_Shallow	non-Rad	Iron	7439-89-6	µg/kg	3.38E+07	--[b]	--
600-111_Shallow	non-Rad	Isophorone	78-59-1	µg/kg	20	4,189	No
600-111_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,659	--[b]	--
600-111_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	513,612	--[b]	--
600-111_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
600-111_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	1,074	1.92E+08	No
600-111_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	14,865	--[b]	--
600-111_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	18	--[b]	--
600-111_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	75,684	--[c]	--
600-111_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	62,190	--[b]	--
600-111_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.08E+07	--[b]	--
600-111_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	200	125,458	No
600-111_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,700	--[b]	--
600-111_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	138,000	--[b]	--
600-111_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	660	--[b]	--
600-111_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	--[c]	--
600-111_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	360	--[b]	--
600-111_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,900	--[b]	--
600-111_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	9,700	--[b]	--
600-111_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	29,100	1.56E+06	No
600-111_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.47E+07	--[b]	--
600-111_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,400	--[b]	--
600-111_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	441,000	--[b]	--
600-111_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
600-111_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	540	1.92E+08	No
600-111_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,600	--[b]	--
600-111_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	290	153,723	No
600-111_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	60,400	--[c]	--
600-111_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	60,000	--[b]	--
600-111_Shallow_Focused	Rad	Americium-241	14596-10-2	pCi/g	0.23	--[b]	--
600-111_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.82	--[b]	--
600-146_Shallow_Focused	non-Rad	2,4-Dinitrotoluene	121-14-2	µg/kg	121	330	No
600-146_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.44E+06	--[b]	--
600-146_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,090	125,458	No
600-146_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	32	--[b]	--
600-146_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--[b]	--
600-146_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,020	--[b]	--
600-146_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	79,500	--[b]	--
600-146_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	213	--[b]	--
600-146_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,660	--[c]	--
600-146_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	254	--[b]	--
600-146_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,220	--[b]	--
600-146_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,460	--[b]	--
600-146_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	475,000	1.56E+06	No
600-146_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.39E+07	--[b]	--
600-146_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,200	--[b]	--
600-146_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	362,000	--[b]	--
600-146_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	--[b]	--
600-146_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	1,404	No
600-146_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	402	1.92E+08	No
600-146_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	39,400	--[b]	--
600-146_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	732	153,723	No
600-146_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	305	--[b]	--
600-146_Shallow_Focused	non-Rad	Styrene	100-42-5	µg/kg	1.7	1.93E+08	No
600-146_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	72,600	--[c]	--
600-146_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	154,000	--[b]	--
600-149:2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	380	125,458	No
600-149:2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,173	--[b]	--
600-149:2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	89,076	--[b]	--
600-149:2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	170	--[b]	--
600-149:2_Shallow	non-Rad	Boron	7440-42-8	µg/kg	987	--[c]	--
600-149:2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	145	--[b]	--
600-149:2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,989	--[b]	--
600-149:2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,419	--[b]	--
600-149:2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,954	1.56E+06	No
600-149:2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,309	--[b]	--
600-149:2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	393,085	--[b]	--
600-149:2_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	541	1.92E+08	No
600-149:2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	13,790	--[b]	--

Table 7-7. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-149:2_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	873	153,723	No
600-149:2_Shallow	non-Rad	Tin	7440-31-5	µg/kg	980	--[b]	--
600-149:2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	54,219	--[c]	--
600-149:2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	51,198	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	540	125,458	No
600-149:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,800	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900	--[c]	--
600-149:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	280	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,000	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	10,900	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,700	1.56E+06	No
600-149:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	153,000	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	367,000	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	610	1.92E+08	No
600-149:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	18,900	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	153,723	No
600-149:2_Shallow_Focused	non-Rad	Tin	7440-31-5	µg/kg	850	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	72,800	--[c]	--
600-149:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	50,100	--[b]	--
600-178_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	7.8	--[b]	--
600-178_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
600-178_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.22E+06	--[b]	--
600-178_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,780	--[b]	--
600-178_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,600	--[b]	--
600-178_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	230	--[b]	--
600-178_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	905	--[c]	--
600-178_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	121	--[b]	--
600-178_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,700	--[b]	--
600-178_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,560	--[b]	--
600-178_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,870	1.56E+06	No
600-178_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.25E+07	--[b]	--
600-178_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,820	--[b]	--
600-178_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	307,000	--[b]	--
600-178_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	359	1.92E+08	No
600-178_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	6,930	--[b]	--
600-178_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	66,000	--[c]	--
600-178_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,600	--[b]	--
600-178_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	13	--[b]	--
600-178_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.50E+06	--[b]	--
600-178_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,120	--[b]	--
600-178_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,100	--[b]	--
600-178_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	264	--[b]	--
600-178_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,110	--[c]	--
600-178_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	131	--[b]	--
600-178_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,580	--[b]	--
600-178_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	9,250	--[b]	--
600-178_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,500	1.56E+06	No
600-178_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.23E+07	--[b]	--
600-178_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,770	--[b]	--
600-178_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	337,000	--[b]	--
600-178_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	363	1.92E+08	No
600-178_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,910	--[b]	--
600-178_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	62,900	--[c]	--
600-178_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,000	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.7	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.7	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.56E+06	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,820	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,600	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	258	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,260	--[c]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	108	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,240	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,130	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,750	1.56E+06	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.01E+07	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,070	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	290,000	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	335	1.92E+08	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	7,700	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	52,100	--[c]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,900	--[b]	--
600-186_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.21E+07	--[b]	--
600-186_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	650	125,458	No
600-186_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	50	--[b]	--
600-186_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,640	--[b]	--
600-186_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	139,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.3	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	471	--[b]	--
600-186_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,290	--[c]	--
600-186_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	871	--[b]	--
600-186_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	98,000	--[b]	--

Table 7-7. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-186_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.6	--[b]	--
600-186_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,990	--[b]	--
600-186_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	42,300	1.56E+06	No
600-186_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.98	--[b]	--
600-186_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.6	--[b]	--
600-186_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[d]	No
600-186_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	5.8	--[b]	--
600-186_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.01E+08	--[b]	--
600-186_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	93,500	--[b]	--
600-186_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	307,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	854	--[b]	--
600-186_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,230	1.92E+08	No
600-186_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	17,400	--[b]	--
600-186_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.1	--[b]	--
600-186_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	393	153,723	No
600-186_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	21,900	--[b]	--
600-186_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	18,500	--[c]	--
600-186_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	141,000	--[c]	--
600-186_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	137,000	--[b]	--
600-202_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	9.2	2.50E+07	No
600-202_Shallow_1	non-Rad	Aldrin	309-00-2	µg/kg	2.9	--[b]	--
600-202_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	8.41E+06	--[b]	--
600-202_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	403	125,458	No
600-202_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	5,034	--[b]	--
600-202_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	84,721	--[b]	--
600-202_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.2	--[b]	--
600-202_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	317	--[b]	--
600-202_Shallow_1	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.3	104	No
600-202_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	1,746	--[c]	--
600-202_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	84	--[b]	--
600-202_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	17,641	--[b]	--
600-202_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	2.4	--[b]	--
600-202_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	5,433	--[b]	--
600-202_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	13,520	1.56E+06	No
600-202_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	4.3	--[b]	--
600-202_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.3	--[b]	--
600-202_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.92E+07	--[b]	--
600-202_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	5,428	--[b]	--
600-202_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	308,336	--[b]	--
600-202_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	235	1.92E+08	No
600-202_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	15,979	--[b]	--
600-202_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	46,058	--[c]	--
600-202_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	40,454	--[b]	--
600-202_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	7.9	2.50E+07	No
600-202_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	1.14E+07	--[b]	--
600-202_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	2.0	--[b]	--
600-202_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	6,830	--[b]	--
600-202_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	101,572	--[b]	--
600-202_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	420	--[b]	--
600-202_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	3,117	--[c]	--
600-202_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	156	--[b]	--
600-202_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	22,382	--[b]	--
600-202_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	7,211	--[b]	--
600-202_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	16,341	1.56E+06	No
600-202_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	5.1	--[b]	--
600-202_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	35	5.35E+07	No
600-202_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	2.19E+07	--[b]	--
600-202_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	6,814	--[b]	--
600-202_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	368,794	--[b]	--
600-202_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	335	1.92E+08	No
600-202_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	21	2.99E+07	No
600-202_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	19,045	--[b]	--
600-202_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	2.6	--[b]	--
600-202_Shallow_2	non-Rad	Selenium	7782-49-2	µg/kg	337	153,723	No
600-202_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	8,170	--[c]	--
600-202_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	48,606	--[c]	--
600-202_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	49,589	--[b]	--
600-202_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	14	2.50E+07	No
600-202_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	2.0	23	No
600-202_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.01E+07	--[b]	--
600-202_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	11	--[b]	--
600-202_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	735	125,458	No
600-202_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	--[b]	--
600-202_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	201,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	17	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.2	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-202_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	876	--[b]	--
600-202_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	15	104	No
600-202_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	69	--[b]	--
600-202_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,000	--[c]	--
600-202_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,290	--[b]	--
600-202_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	21,900	--[b]	--
600-202_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--[b]	--
600-202_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,300	--[b]	--
600-202_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	87,900	1.56E+06	No
600-202_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	36	1.52E+07	No
600-202_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	3.0	611	No
600-202_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	61	--[b]	--
600-202_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	15	5.35E+07	No
600-202_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--[b]	--
600-202_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.21E+07	--[b]	--
600-202_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	278,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	411,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,170	1.92E+08	No
600-202_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	27	2.99E+07	No
600-202_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,700	--[b]	--
600-202_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--[b]	--
600-202_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,540	--[b]	--
600-202_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	104,000	--[c]	--
600-202_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,300	--[c]	--
600-202_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	403,000	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.5	--[b]	--

Table 7-7. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.0	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	43	2.50E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Aldrin	309-00-2	µg/kg	6.0	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.55E+06	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.8	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	713	125,458	No
600-202_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	5,082	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	108,339	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	24	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	12	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	245	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	9,973	--[c]	--
600-202_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	405	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	15,595	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	53	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,092	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	40,782	1.56E+06	No
600-202_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	14	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Endrin	72-20-8	µg/kg	2.2	157	No
600-202_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	116	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	7.8	5.35E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	6,000[d]	No
600-202_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	2.73E+07	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	63,502	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	344,273	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Methoxychlor	72-43-5	µg/kg	1.6	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	953	1.92E+08	No
600-202_Staging Pile Area Footprint	non-Rad	Naphthalene	91-20-3	µg/kg	11	2.99E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	12,835	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	206	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	275	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	11,500	--[c]	--
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	114,498	--[c]	--
600-202_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	55,794	--[c]	--
600-202_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	174,723	--[b]	--
600-204_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	--[b]	--
600-204_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	166,000	--[b]	--
600-204_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--[b]	--
600-204_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	80	--[b]	--
600-204_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,800	--[b]	--
600-204_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	27,700	--[b]	--
600-204_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	41,200	--[c]	--
600-205_Shallow_Focused	non-Rad	2,4-Dimethylphenol	105-67-9	µg/kg	21	498,677	No
600-205_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	68	--[b]	--
600-205_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	59	2.50E+07	No
600-205_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.11E+06	--[b]	--
600-205_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	9.3	--[b]	--
600-205_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	670	125,458	No
600-205_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,420	--[b]	--
600-205_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,200	--[b]	--
600-205_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.5	--[b]	--
600-205_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	14	--[b]	--
600-205_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	1,800	--[b]	--
600-205_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--[b]	--
600-205_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	--[c]	--
600-205_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	25	739,096	No
600-205_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	670	--[b]	--
600-205_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	6.5	--[b]	--
600-205_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,200	--[b]	--
600-205_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	420	--[b]	--
600-205_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	10,600	--[b]	--
600-205_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	22,000	1.56E+06	No
600-205_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	79	1.52E+07	No
600-205_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	12	611	No
600-205_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--[b]	--
600-205_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.2	5.35E+07	No
600-205_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	3.19E+07	--[b]	--
600-205_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	40,300	--[b]	--
600-205_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	427,000	--[b]	--
600-205_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	890	1.92E+08	No
600-205_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,700	--[b]	--
600-205_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	62	--[b]	--
600-205_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	500	153,723	No
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.90E+06	--[c]	--
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,200	--[c]	--
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	7,860	--[c]	--
600-205_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	86,200	--[c]	--
600-205_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	61,700	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	3.4	2.50E+07	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.59E+06	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,180	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	75,000	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.5	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.6	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	275	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,260	--[c]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	250	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,020	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,810	--[b]	--

Table 7-7. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-205_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,200	1.56E+06	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	146	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.6	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.04E+07	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,000	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	318,000	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	287	1.92E+08	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,230	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	4.9	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	103,000	--[c]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	53,000	--[c]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,700	--[b]	--
600-23_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,516	--[b]	--
600-23_Overburden	non-Rad	Barium	7440-39-3	µg/kg	75,900	--[b]	--
600-23_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	74	--[b]	--
600-23_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	11,100	--[b]	--
600-23_Overburden	non-Rad	Lead	7439-92-1	µg/kg	12,902	--[b]	--
600-23_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	295,027	--[b]	--
600-23_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	290	153,723	No
600-23_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	67,433	--[b]	--
600-23_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,866	--[b]	--
600-23_Shallow	non-Rad	Barium	7440-39-3	µg/kg	70,525	--[b]	--
600-23_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	187	--[b]	--
600-23_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,238	--[b]	--
600-23_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	6,000[d]	No
600-23_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,475	--[b]	--
600-23_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	293,839	--[b]	--
600-23_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	290	153,723	No
600-23_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	63,472	--[b]	--
600-23_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,300	--[b]	--
600-23_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	--[b]	--
600-23_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,200	--[b]	--
600-23_Shallow_Focused	non-Rad	Benzene	71-43-2	µg/kg	2.0	692	No
600-23_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	180	--[b]	--
600-23_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,500	--[b]	--
600-23_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,900	--[b]	--
600-23_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	330,000	--[b]	--
600-23_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	9.0	1,404	No
600-23_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	660	153,723	No
600-23_Shallow_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	1.19E+06	No
600-23_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	560	8.33E+06[e]	No
600-23_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	55,100	--[b]	--
600-23_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.018	--[b]	--
600-23_Shallow_Focused	Rad	Europium-155	14391-16-3	pCi/g	0.042	--[b]	--
600-23_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.19	--[f]	--
600-280_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.64E+06	--[b]	--
600-280_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,660	125,458	No
600-280_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,420	--[b]	--
600-280_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	61,200	--[b]	--
600-280_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	255	--[b]	--
600-280_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	916	--[c]	--
600-280_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	5,700	--[b]	--
600-280_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,570	--[b]	--
600-280_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,500	1.56E+06	No
600-280_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.30E+07	--[b]	--
600-280_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,700	--[b]	--
600-280_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	311,000	--[b]	--
600-280_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	406	1.92E+08	No
600-280_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	7,630	--[b]	--
600-280_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	76,100	--[c]	--
600-280_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	65,500	--[c]	--
600-280_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,300	--[b]	--
600-3_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	21	2.50E+07	No
600-3_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	7.98E+06	--[b]	--
600-3_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--[b]	--
600-3_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	335	125,458	No
600-3_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	12	--[b]	--
600-3_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	3,019	--[b]	--
600-3_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	72,952	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	17	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.2	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.2	--[b]	--
600-3_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	312	--[b]	--
600-3_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	954	--[c]	--
600-3_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	118	--[b]	--
600-3_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	9,965	--[b]	--
600-3_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	11	--[b]	--
600-3_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,718	--[b]	--
600-3_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	12,939	1.56E+06	No
600-3_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.7	--[b]	--
600-3_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--[b]	--
600-3_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	0.95	5.35E+07	No
600-3_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.3	--[b]	--
600-3_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	2.29E+07	--[b]	--
600-3_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	7,365	--[b]	--
600-3_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	314,529	--[b]	--
600-3_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	375	1.92E+08	No
600-3_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	9,437	--[b]	--
600-3_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	62	--[b]	--
600-3_Shallow_1	non-Rad	Selenium	7782-49-2	µg/kg	377	153,723	No
600-3_Shallow_1	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	4,960	--[c]	--

Table 7-7. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-3_Shallow_1	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,000	8.33E+06[e]	No
600-3_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	62,613	--[c]	--
600-3_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	41,668	--[b]	--
600-3_Shallow_1	Rad	Cesium-137	10045-97-3	pCi/g	0.033	--[b]	--
600-3_Shallow_1	Rad	Uranium-233/234	U-233/234	pCi/g	0.70	--[f]	--
600-3_Shallow_1	Rad	Uranium-238	U-238	pCi/g	0.67	--[f]	--
600-3_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	28	2.50E+07	No
600-3_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.32E+06	--[b]	--
600-3_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	3.9	--[b]	--
600-3_Shallow_2	non-Rad	Antimony	7440-36-0	µg/kg	388	125,458	No
600-3_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	5.8	--[b]	--
600-3_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	3,187	--[b]	--
600-3_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	58,538	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	136	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	68	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--[b]	--
600-3_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	281	--[b]	--
600-3_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	1,038	--[c]	--
600-3_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	102	--[b]	--
600-3_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,176	--[b]	--
600-3_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	13	--[b]	--
600-3_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,449	--[b]	--
600-3_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	16,811	1.56E+06	No
600-3_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.3	--[b]	--
600-3_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	49	--[b]	--
600-3_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	3.0	5.35E+07	No
600-3_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	38	--[b]	--
600-3_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.80E+07	--[b]	--
600-3_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	65,041	--[b]	--
600-3_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	246,287	--[b]	--
600-3_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	297	1.92E+08	No
600-3_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	10.0	2.99E+07	No
600-3_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,155	--[b]	--
600-3_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	15	--[b]	--
600-3_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	24,700	--[c]	--
600-3_Shallow_2	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,900	8.33E+06[e]	No
600-3_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	49,260	--[c]	--
600-3_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	39,739	--[b]	--
600-3_Shallow_2	Rad	Cesium-137	10045-97-3	pCi/g	0.085	--[b]	--
600-3_Shallow_2	Rad	Uranium-233/234	U-233/234	pCi/g	0.62	--[f]	--
600-3_Shallow_2	Rad	Uranium-238	U-238	pCi/g	0.64	--[f]	--
600-3_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6	--[b]	--
600-3_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	2.50E+07	No
600-3_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.00E+07	--[b]	--
600-3_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	13	--[b]	--
600-3_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	11,700	125,458	No
600-3_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	31	--[b]	--
600-3_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--[b]	--
600-3_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,140	--[b]	--
600-3_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	841,000	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	89	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	119	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	92	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--[b]	--
600-3_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	361	--[b]	--
600-3_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,790	--[c]	--
600-3_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	296	--[b]	--
600-3_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	19,400	--[b]	--
600-3_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	32	--[b]	--
600-3_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,840	--[b]	--
600-3_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	152,000	1.56E+06	No
600-3_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	12	--[b]	--
600-3_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--[b]	--
600-3_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.8	5.35E+07	No
600-3_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	91	--[b]	--
600-3_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.60E+07	--[b]	--
600-3_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	1.64E+06	--[b]	--
600-3_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	383,000	--[b]	--
600-3_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	916	1.92E+08	No
600-3_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	1.6	2.99E+07	No
600-3_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,800	--[b]	--
600-3_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	88	--[b]	--
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	133,000	--[c]	--
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	48,900	--[c]	--
600-3_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	2,533	8.33E+06[e]	No
600-3_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	68,400	--[c]	--
600-3_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	384,000	--[b]	--
600-3_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.015	--[b]	--
600-3_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.74	--[f]	--
600-3_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.85	--[f]	--
600-3_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	27	2.50E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	8.21E+06	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.6	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	8,861	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	80,420	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	32	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	307	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,584	--[c]	--
600-3_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	199	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	9,690	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	31	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,802	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	13,715	1.56E+06	No
600-3_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.9	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--[b]	--

Table 7-7. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-3_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	3.0	5.35E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	18	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	2.33E+07	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	22,247	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	340,091	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	360	1.92E+08	No
600-3_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	9,460	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	49	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	7,320	--[c]	--
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	17,326	--[c]	--
600-3_Staging Pile Area Footprint	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	1,878	8.33E+06[e]	No
600-3_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	62,937	--[c]	--
600-3_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	59,275	--[b]	--
600-3_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.068	--[b]	--
600-3_Staging Pile Area Footprint	Rad	Uranium-233/234	U-233/234	pCi/g	0.75	--[f]	--
600-3_Staging Pile Area Footprint	Rad	Uranium-238	U-238	pCi/g	0.63	--[f]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.17E+06	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	617	125,458	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,570	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	69,100	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	265	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,390	--[c]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,870	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,390	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,450	1.56E+06	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.23E+07	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	236,000	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	320,000	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	412	1.92E+08	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	7,420	--[b]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	63,100	--[c]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,800	--[b]	--
600-315_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	3.06E+06	--[b]	--
600-315_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000	--[b]	--
600-315_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,100	--[b]	--
600-315_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	460	--[b]	--
600-315_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,300	--[c]	--
600-315_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	640	--[b]	--
600-315_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	5,300	--[b]	--
600-315_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	3,500	--[b]	--
600-315_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	7,900	1.56E+06	No
600-315_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	8.98E+06	--[b]	--
600-315_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,400	--[b]	--
600-315_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	169,000	--[b]	--
600-315_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	17	--[b]	--
600-315_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	410	1.92E+08	No
600-315_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	4,900	--[b]	--
600-315_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,400	153,723	No
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	66,000	--[c]	--
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	110,000	--[c]	--
600-315_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	17,600	--[c]	--
600-315_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	24,200	--[b]	--
600-322_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.6	--[b]	--
600-322_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.90E+06	--[b]	--
600-322_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,100	125,458	No
600-322_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,900	--[b]	--
600-322_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	77,500	--[b]	--
600-322_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	120	--[b]	--
600-322_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	--[c]	--
600-322_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	250	--[b]	--
600-322_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,800	--[b]	--
600-322_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,700	--[b]	--
600-322_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	57,400	1.56E+06	No
600-322_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	9.46E+07	--[b]	--
600-322_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	72,200	--[b]	--
600-322_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	556,000	--[b]	--
600-322_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	37	--[b]	--
600-322_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	4,300	1.92E+08	No
600-322_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	35,400	--[b]	--
600-322_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--
600-322_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,200	--[c]	--
600-322_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	62,900	--[b]	--
600-323_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	31	2.50E+07	No
600-323_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.34E+07	--[b]	--
600-323_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,300	--[b]	--
600-323_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	549,000	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	50	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	9.9	--[b]	--
600-323_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	680	--[b]	--
600-323_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	34,000	--[c]	--
600-323_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140	--[b]	--
600-323_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,600	--[b]	--
600-323_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	170	--[b]	--
600-323_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	--[b]	--
600-323_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	20,400	1.56E+06	No

Table 7-7. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (Without Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-323_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	87	--[b]	--
600-323_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.97E+07	--[b]	--
600-323_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,200	--[b]	--
600-323_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	357,000	--[b]	--
600-323_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	18	--[b]	--
600-323_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	1.92E+08	No
600-323_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	120	2.99E+07	No
600-323_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,100	--[b]	--
600-323_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	2,200	153,723	No
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	50,000	--[c]	--
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	68,000	--[c]	--
600-323_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,000	--[c]	--
600-323_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,400	--[b]	--
600-327_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.18E+07	--[b]	--
600-327_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,800	--[b]	--
600-327_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	116,000	--[b]	--
600-327_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160	--[b]	--
600-327_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,100	--[c]	--
600-327_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	--[b]	--
600-327_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,400	--[b]	--
600-327_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,100	--[b]	--
600-327_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,500	1.56E+06	No
600-327_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	41	5.35E+07	No
600-327_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	2,100	--[b]	--
600-327_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07	--[b]	--
600-327_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,700	--[b]	--
600-327_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	342,000	--[b]	--
600-327_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	6.0	--[b]	--
600-327_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	15,900	--[b]	--
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	2,700	2.52E+06	No
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	2,700	2.52E+06	No
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,200	--[c]	--
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	3,000	--[c]	--
600-327_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,000	--[c]	--
600-327_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,500	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.07E+06	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,200	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	85,400	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.8	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	25	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	150	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,300	--[c]	--
600-334:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	400	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,800	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	39	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,800	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,500	1.56E+06	No
600-334:1_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	34	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.85E+07	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,200	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	329,000	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,900	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	290	1.92E+08	No
600-334:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	259,000	2.52E+06	No
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	287,000	2.52E+06	No
600-334:1_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	78	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	220	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	7,900	--[c]	--
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	74,000	--[c]	--
600-334:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	43,200	--[c]	--
600-334:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	73,000	--[b]	--
600-350_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	3.1	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	21	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.6	--[b]	--
600-350_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	20	--[b]	--
600-350_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	52	--[b]	--
600-350_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--[b]	--
600-350_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--[b]	--
JA JONES 1_Overburden	non-Rad	Barium	7440-39-3	µg/kg	80,600	--[b]	--
JA JONES 1_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	470	--[b]	--
JA JONES 1_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	10,000	--[b]	--
JA JONES 1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	17,100	--[b]	--
JA JONES 1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	84,191	--[b]	--
JA JONES 1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	485	--[b]	--
JA JONES 1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	16,349	--[b]	--
JA JONES 1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	54,479	--[b]	--
JA JONES 1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,600	--[b]	--
JA JONES 1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	80	--[b]	--
JA JONES 1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	--[b]	--
JA JONES 1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,100	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. A soil screening level is not calculated because a surface water cleanup level or surface water standard is not available for the analyte.

d. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

e. The soil screening level for Total_U_Isotopes is the same as the value calculated for total uranium (CAS # 7440-61-1).

f. A soil screening level is calculated for total uranium (CAS # 7440-61-1) but not isotopic uranium because an MCL is not available for isotopic uranium. When total uranium analytical results (µg/kg) are available, exposure point concentrations are compared to the total uranium soil screening level. When only isotopic uranium results (pCi/g) are available, uranium is addressed by converting the isotopic uranium from activity-based (pCi/g) to mass-based (µg/kg) concentrations and summing to provide a mass-based total uranium exposure point concentration (identified as Total_U_Isotopes), as described in ECF-100FR1-11-0020. The Total_U_Isotopes exposure point concentration is then compared to the total uranium soil screening level.

-- = Not applicable or no value.

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-107_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.084	1.1	No
600-108 and 600-257_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	45	--	--
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--	--
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.5	--	--
600-108 and 600-257_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.9	--	--
600-108 and 600-257_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	10	--	--
600-108 and 600-257_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	20	--	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	0.89	--	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	0.91	--	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	3.3	--	--
600-109_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	6.0	--	--
600-109_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.58E+06	1.18E+07	No
600-109_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	15,300	6,470	Yes
600-109_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	99,000	132,000	No
600-109_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.8	--	--
600-109_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.0	--	--
600-109_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.5	--	--
600-109_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.3	--	--
600-109_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	312	1,510	No
600-109_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,530	3,890	No
600-109_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	191	563	No
600-109_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	13,300	18,500	No
600-109_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.3	--	--
600-109_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,520	15,700	No
600-109_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	12,000	22,000	No
600-109_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--	--
600-109_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.19E+07	3.26E+07	No
600-109_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	71,900	10,200	Yes
600-109_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	354,000	512,000	No
600-109_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	233	470	No
600-109_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,800	19,100	No
600-109_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	3.6	--	--
600-109_Overburden_Focused	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	26,600	--	--
600-109_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	54,500	85,100	No
600-109_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	52,800	67,800	No
600-109_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	7.47E+06	1.18E+07	No
600-109_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.4	--	--
600-109_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	375	130	Yes
600-109_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,746	6,470	Yes
600-109_Shallow	non-Rad	Barium	7440-39-3	µg/kg	87,937	132,000	No
600-109_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.2	--	--
600-109_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.6	--	--
600-109_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--	--
600-109_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.8	--	--
600-109_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	250	1,510	No
600-109_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,045	3,890	No
600-109_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	116	563	No
600-109_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	8,803	18,500	No
600-109_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	6.4	--	--
600-109_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	9,870	15,700	No
600-109_Shallow	non-Rad	Copper	7440-50-8	µg/kg	15,671	22,000	No
600-109_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	7.0	--	--
600-109_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	1.6	--	--
600-109_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--	--
600-109_Shallow	non-Rad	Iron	7439-89-6	µg/kg	2.77E+07	3.26E+07	No
600-109_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,219	10,200	Yes
600-109_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	368,917	512,000	No
600-109_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	378	470	No
600-109_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	11,238	19,100	No
600-109_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--	--
600-109_Shallow	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	8,926	--	--
600-109_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	80,728	85,100	No
600-109_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	52,684	67,800	No
600-109_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	8.15E+06	1.18E+07	No
600-109_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.88	--	--
600-109_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	6,070	6,470	No
600-109_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	84,500	132,000	No
600-109_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--	--
600-109_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.1	--	--
600-109_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.4	--	--
600-109_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.1	--	--
600-109_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	269	1,510	No
600-109_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,700	3,890	No
600-109_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	113	563	No
600-109_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,900	18,500	No
600-109_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	3.0	--	--
600-109_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,340	15,700	No
600-109_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	16,400	22,000	No
600-109_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	7.5	--	--
600-109_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.03E+07	3.26E+07	No
600-109_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,700	10,200	Yes
600-109_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	307,000	512,000	No
600-109_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	190	470	No
600-109_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,600	19,100	No
600-109_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.4	--	--
600-109_Shallow_Focused	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	6,950	--	--
600-109_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	52,500	85,100	No
600-109_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,600	67,800	No
600-109_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	30	--	--
600-109_Staging Pile Area	non-Rad	Aluminum	7429-90-5	µg/kg	8.35E+06	1.18E+07	No

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-109_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	2.1	--	--
600-109_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	781	130	Yes
600-109_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	24,017	6,470	Yes
600-109_Staging Pile Area	non-Rad	Barium	7440-39-3	µg/kg	95,226	132,000	No
600-109_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--	--
600-109_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--	--
600-109_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.3	--	--
600-109_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--	--
600-109_Staging Pile Area	non-Rad	Beryllium	7440-41-7	µg/kg	284	1,510	No
600-109_Staging Pile Area	non-Rad	Boron	7440-42-8	µg/kg	2,068	3,890	No
600-109_Staging Pile Area	non-Rad	Cadmium	7440-43-9	µg/kg	186	563	No
600-109_Staging Pile Area	non-Rad	Chromium	7440-47-3	µg/kg	11,217	18,500	No
600-109_Staging Pile Area	non-Rad	Cobalt	7440-48-4	µg/kg	7,697	15,700	No
600-109_Staging Pile Area	non-Rad	Copper	7440-50-8	µg/kg	14,532	22,000	No
600-109_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.4	--	--
600-109_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--	--
600-109_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--	--
600-109_Staging Pile Area	non-Rad	Iron	7439-89-6	µg/kg	2.17E+07	3.26E+07	No
600-109_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	125,620	10,200	Yes
600-109_Staging Pile Area	non-Rad	Manganese	7439-96-5	µg/kg	357,262	512,000	No
600-109_Staging Pile Area	non-Rad	Molybdenum	7439-98-7	µg/kg	456	470	No
600-109_Staging Pile Area	non-Rad	Nickel	7440-02-0	µg/kg	10,405	19,100	No
600-109_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--	--
600-109_Staging Pile Area	non-Rad	tal petroleum hydrocarbons - diesel ran	TPHDIESEL	µg/kg	16,487	--	--
600-109_Staging Pile Area	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	30,132	--	--
600-109_Staging Pile Area	non-Rad	Vanadium	7440-62-2	µg/kg	53,018	85,100	No
600-109_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	67,999	67,800	Yes
600-111_Shallow	non-Rad	Aluminum	7429-90-5	µg/kg	1.04E+07	1.18E+07	No
600-111_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,200	130	Yes
600-111_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,253	6,470	No
600-111_Shallow	non-Rad	Barium	7440-39-3	µg/kg	150,934	132,000	Yes
600-111_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	967	1,510	No
600-111_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	37	--	--
600-111_Shallow	non-Rad	Boron	7440-42-8	µg/kg	1,200	3,890	No
600-111_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	11,678	18,500	No
600-111_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	10,665	15,700	No
600-111_Shallow	non-Rad	Copper	7440-50-8	µg/kg	22,631	22,000	Yes
600-111_Shallow	non-Rad	Iron	7439-89-6	µg/kg	3.38E+07	3.26E+07	Yes
600-111_Shallow	non-Rad	Isophorone	78-59-1	µg/kg	20	--	--
600-111_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,659	10,200	Yes
600-111_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	513,612	512,000	Yes
600-111_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	30	13	Yes
600-111_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	1,074	470	Yes
600-111_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	14,865	19,100	No
600-111_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	18	--	--
600-111_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	75,684	85,100	No
600-111_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	62,190	67,800	No
600-111_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.08E+07	1.18E+07	No
600-111_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	200	130	Yes
600-111_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,700	6,470	Yes
600-111_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	138,000	132,000	Yes
600-111_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	660	1,510	No
600-111_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	3,890	No
600-111_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	360	563	No
600-111_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	17,900	18,500	No
600-111_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	9,700	15,700	No
600-111_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	29,100	22,000	Yes
600-111_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.47E+07	3.26E+07	No
600-111_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,400	10,200	Yes
600-111_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	441,000	512,000	No
600-111_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	13	Yes
600-111_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	540	470	Yes
600-111_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,600	19,100	Yes
600-111_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	290	780	No
600-111_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	60,400	85,100	No
600-111_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	60,000	67,800	No
600-111_Shallow_Focused	Rad	Americium-241	14596-10-2	pCi/g	0.23	--	--
600-111_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.82	0.025	Yes
600-146_Shallow_Focused	non-Rad	2,4-Dinitrotoluene	121-14-2	µg/kg	121	--	--
600-146_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.44E+06	1.18E+07	No
600-146_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,090	130	Yes
600-146_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	32	--	--
600-146_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--	--
600-146_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,020	6,470	No
600-146_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	79,500	132,000	No
600-146_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	213	1,510	No
600-146_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	2,660	3,890	No
600-146_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	254	563	No
600-146_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,220	18,500	No
600-146_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,460	15,700	No
600-146_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	475,000	22,000	Yes
600-146_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.39E+07	3.26E+07	No
600-146_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,200	10,200	Yes
600-146_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	362,000	512,000	No
600-146_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	13	Yes
600-146_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	--	--
600-146_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	402	470	No
600-146_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	39,400	19,100	Yes
600-146_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	732	780	No
600-146_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	305	167	Yes
600-146_Shallow_Focused	non-Rad	Styrene	100-42-5	µg/kg	1.7	--	--
600-146_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	72,600	85,100	No
600-146_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	154,000	67,800	Yes
600-149:2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	380	130	Yes
600-149:2_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	5,173	6,470	No
600-149:2_Shallow	non-Rad	Barium	7440-39-3	µg/kg	89,076	132,000	No
600-149:2_Shallow	non-Rad	Beryllium	7440-41-7	µg/kg	170	1,510	No
600-149:2_Shallow	non-Rad	Boron	7440-42-8	µg/kg	987	3,890	No
600-149:2_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	145	563	No

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-149:2_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	13,989	18,500	No
600-149:2_Shallow	non-Rad	Cobalt	7440-48-4	µg/kg	8,419	15,700	No
600-149:2_Shallow	non-Rad	Copper	7440-50-8	µg/kg	16,954	22,000	No
600-149:2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,309	10,200	Yes
600-149:2_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	393,085	512,000	No
600-149:2_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	541	470	Yes
600-149:2_Shallow	non-Rad	Nickel	7440-02-0	µg/kg	13,790	19,100	No
600-149:2_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	873	780	Yes
600-149:2_Shallow	non-Rad	Tin	7440-31-5	µg/kg	980	--	--
600-149:2_Shallow	non-Rad	Vanadium	7440-62-2	µg/kg	54,219	85,100	No
600-149:2_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	51,198	67,800	No
600-149:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	540	130	Yes
600-149:2_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,100	6,470	No
600-149:2_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	83,800	132,000	No
600-149:2_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	400	1,510	No
600-149:2_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,900	3,890	No
600-149:2_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	280	563	No
600-149:2_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,000	18,500	No
600-149:2_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	10,900	15,700	No
600-149:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,700	22,000	Yes
600-149:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	153,000	10,200	Yes
600-149:2_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	367,000	512,000	No
600-149:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	610	470	Yes
600-149:2_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	18,900	19,100	No
600-149:2_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	780	Yes
600-149:2_Shallow_Focused	non-Rad	Tin	7440-31-5	µg/kg	850	--	--
600-149:2_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	72,800	85,100	No
600-149:2_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	50,100	67,800	No
600-178_Overburden_Focused	non-Rad	4'-DDE (Dichlorodiphenyldichloroethyler	72-55-9	µg/kg	7.8	--	--
600-178_Overburden_Focused	non-Rad	4'-DDT (Dichlorodiphenyltrichloroethan	50-29-3	µg/kg	1.5	--	--
600-178_Overburden_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.22E+06	1.18E+07	No
600-178_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,780	6,470	No
600-178_Overburden_Focused	non-Rad	Barium	7440-39-3	µg/kg	62,600	132,000	No
600-178_Overburden_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	230	1,510	No
600-178_Overburden_Focused	non-Rad	Boron	7440-42-8	µg/kg	905	3,890	No
600-178_Overburden_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	121	563	No
600-178_Overburden_Focused	non-Rad	Chromium	7440-47-3	µg/kg	6,700	18,500	No
600-178_Overburden_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,560	15,700	No
600-178_Overburden_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,870	22,000	No
600-178_Overburden_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.25E+07	3.26E+07	No
600-178_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	3,820	10,200	No
600-178_Overburden_Focused	non-Rad	Manganese	7439-96-5	µg/kg	307,000	512,000	No
600-178_Overburden_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	359	470	No
600-178_Overburden_Focused	non-Rad	Nickel	7440-02-0	µg/kg	6,930	19,100	No
600-178_Overburden_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	66,000	85,100	No
600-178_Overburden_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,600	67,800	No
600-178_Shallow_Focused	non-Rad	4'-DDE (Dichlorodiphenyldichloroethyler	72-55-9	µg/kg	13	--	--
600-178_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.50E+06	1.18E+07	No
600-178_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,120	6,470	No
600-178_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	76,100	132,000	No
600-178_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	264	1,510	No
600-178_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,110	3,890	No
600-178_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	131	563	No
600-178_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,580	18,500	No
600-178_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	9,250	15,700	No
600-178_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,500	22,000	No
600-178_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.23E+07	3.26E+07	No
600-178_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,770	10,200	No
600-178_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	337,000	512,000	No
600-178_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	363	470	No
600-178_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	8,910	19,100	No
600-178_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	62,900	85,100	No
600-178_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,000	67,800	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	4'-DDE (Dichlorodiphenyldichloroethyler	72-55-9	µg/kg	4.7	--	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	4'-DDT (Dichlorodiphenyltrichloroethan	50-29-3	µg/kg	1.7	--	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.56E+06	1.18E+07	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,820	6,470	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	67,600	132,000	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	258	1,510	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,260	3,890	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	108	563	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	8,240	18,500	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,130	15,700	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,750	22,000	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.01E+07	3.26E+07	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,070	10,200	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	290,000	512,000	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	335	470	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	7,700	19,100	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	52,100	85,100	No
600-178_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	38,900	67,800	No

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-186_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.21E+07	1.18E+07	Yes
600-186_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	650	130	Yes
600-186_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	50	--	--
600-186_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,640	6,470	No
600-186_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	139,000	132,000	Yes
600-186_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.7	--	--
600-186_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.3	--	--
600-186_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.7	--	--
600-186_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.7	--	--
600-186_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	471	1,510	No
600-186_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,290	3,890	No
600-186_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	871	563	Yes
600-186_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	98,000	18,500	Yes
600-186_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.6	--	--
600-186_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,990	15,700	No
600-186_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	42,300	22,000	Yes
600-186_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.98	--	--
600-186_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.6	--	--
600-186_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	--	--
600-186_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	5.8	--	--
600-186_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.01E+08	3.26E+07	Yes
600-186_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	93,500	10,200	Yes
600-186_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	307,000	512,000	No
600-186_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	854	13	Yes
600-186_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,230	470	Yes
600-186_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	17,400	19,100	No
600-186_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.1	--	--
600-186_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	393	780	No
600-186_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	21,900	167	Yes
600-186_Shallow_Focused	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	18,500	--	--
600-186_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	141,000	85,100	Yes
600-186_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	137,000	67,800	Yes
600-202_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	9.2	--	--
600-202_Shallow_1	non-Rad	Aldrin	309-00-2	µg/kg	2.9	--	--
600-202_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	8.41E+06	1.18E+07	No
600-202_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	403	130	Yes
600-202_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	5,034	6,470	No
600-202_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	84,721	132,000	No
600-202_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.2	--	--
600-202_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	317	1,510	No
600-202_Shallow_1	non-Rad	,2,3,4,5,6-Hexachlorocyclohexane (beta	319-85-7	µg/kg	3.3	--	--
600-202_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	1,746	3,890	No
600-202_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	84	563	No
600-202_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	17,641	18,500	No
600-202_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	2.4	--	--
600-202_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	5,433	15,700	No
600-202_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	13,520	22,000	No
600-202_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	4.3	--	--
600-202_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.3	--	--
600-202_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	1.92E+07	3.26E+07	No
600-202_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	5,428	10,200	No
600-202_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	308,336	512,000	No
600-202_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	235	470	No
600-202_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	15,979	19,100	No
600-202_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	46,058	85,100	No
600-202_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	40,454	67,800	No
600-202_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	7.9	--	--
600-202_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	1.14E+07	1.18E+07	No
600-202_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	2.0	--	--
600-202_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	6,830	6,470	Yes
600-202_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	101,572	132,000	No
600-202_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	420	1,510	No
600-202_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	3,117	3,890	No
600-202_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	156	563	No
600-202_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	22,382	18,500	Yes
600-202_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	7,211	15,700	No
600-202_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	16,341	22,000	No
600-202_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	5.1	--	--
600-202_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	35	--	--
600-202_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	2.19E+07	3.26E+07	No
600-202_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	6,814	10,200	No
600-202_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	368,794	512,000	No
600-202_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	335	470	No
600-202_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	21	--	--
600-202_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	19,045	19,100	No
600-202_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	2.6	--	--
600-202_Shallow_2	non-Rad	Selenium	7782-49-2	µg/kg	337	780	No
600-202_Shallow_2	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	8,170	--	--
600-202_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	48,606	85,100	No
600-202_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	49,589	67,800	No
600-202_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	14	--	--
600-202_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	2.0	--	--
600-202_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.01E+07	1.18E+07	No
600-202_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	11	--	--
600-202_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	735	130	Yes
600-202_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	6,470	Yes
600-202_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	201,000	132,000	Yes
600-202_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	17	--	--
600-202_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.2	--	--
600-202_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--	--
600-202_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	876	1,510	No
600-202_Shallow_Focused	non-Rad	,2,3,4,5,6-Hexachlorocyclohexane (beta	319-85-7	µg/kg	15	--	--
600-202_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	69	--	--
600-202_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,000	3,890	Yes
600-202_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,290	563	Yes
600-202_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	21,900	18,500	Yes
600-202_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--	--
600-202_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,300	15,700	No
600-202_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	87,900	22,000	Yes

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-202_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	36	--	--
600-202_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	3.0	--	--
600-202_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	61	--	--
600-202_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	15	--	--
600-202_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--	--
600-202_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.21E+07	3.26E+07	No
600-202_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	278,000	10,200	Yes
600-202_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	411,000	512,000	No
600-202_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,170	470	Yes
600-202_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	27	--	--
600-202_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,700	19,100	Yes
600-202_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--	--
600-202_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,540	167	Yes
600-202_Shallow_Focused	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	104,000	--	--
600-202_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,300	85,100	No
600-202_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	403,000	67,800	Yes
600-202_Staging Pile Area Footprint	non-Rad	4'-DDD (Dichlorodiphenyldichloroethan	72-54-8	µg/kg	2.5	--	--
600-202_Staging Pile Area Footprint	non-Rad	4'-DDE (Dichlorodiphenyldichloroethyler	72-55-9	µg/kg	2.0	--	--
600-202_Staging Pile Area Footprint	non-Rad	4'-DDT (Dichlorodiphenyltrichloroethan	50-29-3	µg/kg	2.1	--	--
600-202_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	43	--	--
600-202_Staging Pile Area Footprint	non-Rad	Aldrin	309-00-2	µg/kg	6.0	--	--
600-202_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	6.55E+06	1.18E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.8	--	--
600-202_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	713	130	Yes
600-202_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	5,082	6,470	No
600-202_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	108,339	132,000	No
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	24	--	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	12	--	--
600-202_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	245	1,510	No
600-202_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	9,973	3,890	Yes
600-202_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	405	563	No
600-202_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	15,595	18,500	No
600-202_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	53	--	--
600-202_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	7,092	15,700	No
600-202_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	40,782	22,000	Yes
600-202_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	14	--	--
600-202_Staging Pile Area Footprint	non-Rad	Endrin	72-20-8	µg/kg	2.2	--	--
600-202_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	116	--	--
600-202_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	7.8	--	--
600-202_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	--	--
600-202_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	2.73E+07	3.26E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	63,502	10,200	Yes
600-202_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	344,273	512,000	No
600-202_Staging Pile Area Footprint	non-Rad	Methoxychlor	72-43-5	µg/kg	1.6	--	--
600-202_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	953	470	Yes
600-202_Staging Pile Area Footprint	non-Rad	Naphthalene	91-20-3	µg/kg	11	--	--
600-202_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	12,835	19,100	No
600-202_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	206	--	--
600-202_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	275	167	Yes
600-202_Staging Pile Area Footprint	non-Rad	tal petroleum hydrocarbons - diesel ran	TPHDIESEL	µg/kg	11,500	--	--
600-202_Staging Pile Area Footprint	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	114,498	--	--
600-202_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	55,794	85,100	No
600-202_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	174,723	67,800	Yes
600-204_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,700	6,470	No
600-204_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	166,000	132,000	Yes
600-204_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--	--
600-204_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	80	563	No
600-204_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,800	18,500	No
600-204_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	27,700	10,200	Yes
600-204_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	41,200	--	--
600-205_Shallow_Focused	non-Rad	2,4-Dimethylphenol	105-67-9	µg/kg	21	--	--
600-205_Shallow_Focused	non-Rad	4'-DDD (Dichlorodiphenyldichloroethan	72-54-8	µg/kg	68	--	--
600-205_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	59	--	--
600-205_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	9.11E+06	1.18E+07	No
600-205_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	9.3	--	--
600-205_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	670	130	Yes
600-205_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	5,420	6,470	No
600-205_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,200	132,000	No
600-205_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.5	--	--
600-205_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	14	--	--
600-205_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	1,800	1,510	Yes
600-205_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--	--
600-205_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	3,890	No
600-205_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	25	--	--
600-205_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	670	563	Yes
600-205_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	6.5	--	--
600-205_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,200	18,500	No
600-205_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	420	--	--
600-205_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	10,600	15,700	No
600-205_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	22,000	22,000	No
600-205_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	79	--	--
600-205_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	12	--	--
600-205_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--	--
600-205_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.2	--	--
600-205_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	3.19E+07	3.26E+07	No
600-205_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	40,300	10,200	Yes
600-205_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	427,000	512,000	No
600-205_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	890	470	Yes
600-205_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	13,700	19,100	No
600-205_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	62	--	--
600-205_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	500	780	No
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.90E+06	--	--
600-205_Shallow_Focused	non-Rad	tal petroleum hydrocarbons - diesel ran	TPHDIESEL	µg/kg	3,200	--	--
600-205_Shallow_Focused	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	7,860	--	--
600-205_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	86,200	85,100	Yes
600-205_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	61,700	67,800	No

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-205_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	3.4	--	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.59E+06	1.18E+07	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,180	6,470	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	75,000	132,000	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.5	--	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.6	--	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	275	1,510	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,260	3,890	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	250	563	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	9,020	18,500	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,810	15,700	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	13,200	22,000	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	146	--	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.6	--	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.04E+07	3.26E+07	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,000	10,200	Yes
600-205_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	318,000	512,000	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	287	470	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	9,230	19,100	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	4.9	--	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	103,000	--	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	53,000	85,100	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,700	67,800	No
600-23_Overburden	non-Rad	Arsenic	7440-38-2	µg/kg	3,516	6,470	No
600-23_Overburden	non-Rad	Barium	7440-39-3	µg/kg	75,900	132,000	No
600-23_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	74	563	No
600-23_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	11,100	18,500	No
600-23_Overburden	non-Rad	Lead	7439-92-1	µg/kg	12,902	10,200	Yes
600-23_Overburden	non-Rad	Manganese	7439-96-5	µg/kg	295,027	512,000	No
600-23_Overburden	non-Rad	Selenium	7782-49-2	µg/kg	290	780	No
600-23_Overburden	non-Rad	Zinc	7440-66-6	µg/kg	67,433	67,800	No
600-23_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	2,866	6,470	No
600-23_Shallow	non-Rad	Barium	7440-39-3	µg/kg	70,525	132,000	No
600-23_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	187	563	No
600-23_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	10,238	18,500	No
600-23_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	--	--
600-23_Shallow	non-Rad	Lead	7439-92-1	µg/kg	5,475	10,200	No
600-23_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	293,839	512,000	No
600-23_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	290	780	No
600-23_Shallow	non-Rad	Zinc	7440-66-6	µg/kg	63,472	67,800	No
600-23_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,300	--	--
600-23_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,500	6,470	No
600-23_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	86,200	132,000	No
600-23_Shallow_Focused	non-Rad	Benzene	71-43-2	µg/kg	2.0	--	--
600-23_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	180	563	No
600-23_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	18,500	18,500	No
600-23_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	4,900	10,200	No
600-23_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	330,000	512,000	No
600-23_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	9.0	--	--
600-23_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	660	780	No
600-23_Shallow_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	--	--
600-23_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotopes	µg/kg	560	3,210	No
600-23_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	55,100	67,800	No
600-23_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.018	1.1	No
600-23_Shallow_Focused	Rad	Europium-155	14391-16-3	pCi/g	0.042	0.054	No
600-23_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.19	1.1	No
600-280_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	5.64E+06	1.18E+07	No
600-280_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,660	130	Yes
600-280_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,420	6,470	No
600-280_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	61,200	132,000	No
600-280_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	255	1,510	No
600-280_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	916	3,890	No
600-280_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	5,700	18,500	No
600-280_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,570	15,700	No
600-280_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	10,500	22,000	No
600-280_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.30E+07	3.26E+07	No
600-280_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,700	10,200	Yes
600-280_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	311,000	512,000	No
600-280_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	406	470	No
600-280_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	7,630	19,100	No
600-280_Shallow_Focused	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	76,100	--	--
600-280_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	65,500	85,100	No
600-280_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	43,300	67,800	No
600-3_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	21	--	--

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-3_Shallow_1	non-Rad	Aluminum	7429-90-5	µg/kg	7.98E+06	1.18E+07	No
600-3_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--	--
600-3_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	335	130	Yes
600-3_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	12	--	--
600-3_Shallow_1	non-Rad	Arsenic	7440-38-2	µg/kg	3,019	6,470	No
600-3_Shallow_1	non-Rad	Barium	7440-39-3	µg/kg	72,952	132,000	No
600-3_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--	--
600-3_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	17	--	--
600-3_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.2	--	--
600-3_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.2	--	--
600-3_Shallow_1	non-Rad	Beryllium	7440-41-7	µg/kg	312	1,510	No
600-3_Shallow_1	non-Rad	Boron	7440-42-8	µg/kg	954	3,890	No
600-3_Shallow_1	non-Rad	Cadmium	7440-43-9	µg/kg	118	563	No
600-3_Shallow_1	non-Rad	Chromium	7440-47-3	µg/kg	9,965	18,500	No
600-3_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	11	--	--
600-3_Shallow_1	non-Rad	Cobalt	7440-48-4	µg/kg	6,718	15,700	No
600-3_Shallow_1	non-Rad	Copper	7440-50-8	µg/kg	12,939	22,000	No
600-3_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.7	--	--
600-3_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--	--
600-3_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	0.95	--	--
600-3_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.3	--	--
600-3_Shallow_1	non-Rad	Iron	7439-89-6	µg/kg	2.29E+07	3.26E+07	No
600-3_Shallow_1	non-Rad	Lead	7439-92-1	µg/kg	7,365	10,200	No
600-3_Shallow_1	non-Rad	Manganese	7439-96-5	µg/kg	314,529	512,000	No
600-3_Shallow_1	non-Rad	Molybdenum	7439-98-7	µg/kg	375	470	No
600-3_Shallow_1	non-Rad	Nickel	7440-02-0	µg/kg	9,437	19,100	No
600-3_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	62	--	--
600-3_Shallow_1	non-Rad	Selenium	7782-49-2	µg/kg	377	780	No
600-3_Shallow_1	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	4,960	--	--
600-3_Shallow_1	non-Rad	Total_U_Isotopes	otal_U_Isotope	µg/kg	2,000	3,210	No
600-3_Shallow_1	non-Rad	Vanadium	7440-62-2	µg/kg	62,613	85,100	No
600-3_Shallow_1	non-Rad	Zinc	7440-66-6	µg/kg	41,668	67,800	No
600-3_Shallow_1	Rad	Cesium-137	10045-97-3	pCi/g	0.033	1.1	No
600-3_Shallow_1	Rad	Uranium-233/234	U-233/234	pCi/g	0.70	1.1	No
600-3_Shallow_1	Rad	Uranium-238	U-238	pCi/g	0.67	1.1	No
600-3_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	28	--	--
600-3_Shallow_2	non-Rad	Aluminum	7429-90-5	µg/kg	7.32E+06	1.18E+07	No
600-3_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	3.9	--	--
600-3_Shallow_2	non-Rad	Antimony	7440-36-0	µg/kg	388	130	Yes
600-3_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	5.8	--	--
600-3_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	3,187	6,470	No
600-3_Shallow_2	non-Rad	Barium	7440-39-3	µg/kg	58,538	132,000	No
600-3_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	136	--	--
600-3_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	68	--	--
600-3_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--	--
600-3_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--	--
600-3_Shallow_2	non-Rad	Beryllium	7440-41-7	µg/kg	281	1,510	No
600-3_Shallow_2	non-Rad	Boron	7440-42-8	µg/kg	1,038	3,890	No
600-3_Shallow_2	non-Rad	Cadmium	7440-43-9	µg/kg	102	563	No
600-3_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	11,176	18,500	No
600-3_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	13	--	--
600-3_Shallow_2	non-Rad	Cobalt	7440-48-4	µg/kg	5,449	15,700	No
600-3_Shallow_2	non-Rad	Copper	7440-50-8	µg/kg	16,811	22,000	No
600-3_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.3	--	--
600-3_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	49	--	--
600-3_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	3.0	--	--
600-3_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	38	--	--
600-3_Shallow_2	non-Rad	Iron	7439-89-6	µg/kg	1.80E+07	3.26E+07	No
600-3_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	65,041	10,200	Yes
600-3_Shallow_2	non-Rad	Manganese	7439-96-5	µg/kg	246,287	512,000	No
600-3_Shallow_2	non-Rad	Molybdenum	7439-98-7	µg/kg	297	470	No
600-3_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	10.0	--	--
600-3_Shallow_2	non-Rad	Nickel	7440-02-0	µg/kg	11,155	19,100	No
600-3_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	15	--	--
600-3_Shallow_2	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	24,700	--	--
600-3_Shallow_2	non-Rad	Total_U_Isotopes	otal_U_Isotope	µg/kg	1,900	3,210	No
600-3_Shallow_2	non-Rad	Vanadium	7440-62-2	µg/kg	49,260	85,100	No
600-3_Shallow_2	non-Rad	Zinc	7440-66-6	µg/kg	39,739	67,800	No
600-3_Shallow_2	Rad	Cesium-137	10045-97-3	pCi/g	0.085	1.1	No
600-3_Shallow_2	Rad	Uranium-233/234	U-233/234	pCi/g	0.62	1.1	No
600-3_Shallow_2	Rad	Uranium-238	U-238	pCi/g	0.64	1.1	No
600-3_Shallow_Focused	non-Rad	'-DDE (Dichlorodiphenyldichloroethyler	72-55-9	µg/kg	1.6	--	--
600-3_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	--	--
600-3_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.00E+07	1.18E+07	No
600-3_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	13	--	--
600-3_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	11,700	130	Yes
600-3_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	31	--	--
600-3_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--	--
600-3_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	3,140	6,470	No
600-3_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	841,000	132,000	Yes
600-3_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	89	--	--
600-3_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	119	--	--
600-3_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	92	--	--
600-3_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--	--
600-3_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	361	1,510	No
600-3_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,790	3,890	No
600-3_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	296	563	No
600-3_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	19,400	18,500	Yes
600-3_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	32	--	--
600-3_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,840	15,700	No
600-3_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	152,000	22,000	Yes
600-3_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	12	--	--
600-3_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--	--
600-3_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.8	--	--
600-3_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	91	--	--
600-3_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.60E+07	3.26E+07	No
600-3_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	1.64E+06	10,200	Yes
600-3_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	383,000	512,000	No
600-3_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	916	470	Yes

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-3_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	1.6	--	--
600-3_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,800	19,100	No
600-3_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	88	--	--
600-3_Shallow_Focused	non-Rad	tal petroleum hydrocarbons - diesel ran	TPHDIESEL	µg/kg	133,000	--	--
600-3_Shallow_Focused	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	48,900	--	--
600-3_Shallow_Focused	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	2,533	3,210	No
600-3_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	68,400	85,100	No
600-3_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	384,000	67,800	Yes
600-3_Shallow_Focused	Rad	Cesium-137	10045-97-3	pCi/g	0.015	1.1	No
600-3_Shallow_Focused	Rad	Uranium-233/234	U-233/234	pCi/g	0.74	1.1	No
600-3_Shallow_Focused	Rad	Uranium-238	U-238	pCi/g	0.85	1.1	No
600-3_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	27	--	--
600-3_Staging Pile Area Footprint	non-Rad	Aluminum	7429-90-5	µg/kg	8.21E+06	1.18E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.6	--	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--	--
600-3_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	8,861	6,470	Yes
600-3_Staging Pile Area Footprint	non-Rad	Barium	7440-39-3	µg/kg	80,420	132,000	No
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	32	--	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--	--
600-3_Staging Pile Area Footprint	non-Rad	Beryllium	7440-41-7	µg/kg	307	1,510	No
600-3_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	1,584	3,890	No
600-3_Staging Pile Area Footprint	non-Rad	Cadmium	7440-43-9	µg/kg	199	563	No
600-3_Staging Pile Area Footprint	non-Rad	Chromium	7440-47-3	µg/kg	9,690	18,500	No
600-3_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	31	--	--
600-3_Staging Pile Area Footprint	non-Rad	Cobalt	7440-48-4	µg/kg	6,802	15,700	No
600-3_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	13,715	22,000	No
600-3_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.9	--	--
600-3_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--	--
600-3_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	3.0	--	--
600-3_Staging Pile Area Footprint	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	18	--	--
600-3_Staging Pile Area Footprint	non-Rad	Iron	7439-89-6	µg/kg	2.33E+07	3.26E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	22,247	10,200	Yes
600-3_Staging Pile Area Footprint	non-Rad	Manganese	7439-96-5	µg/kg	340,091	512,000	No
600-3_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	360	470	No
600-3_Staging Pile Area Footprint	non-Rad	Nickel	7440-02-0	µg/kg	9,460	19,100	No
600-3_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	49	--	--
600-3_Staging Pile Area Footprint	non-Rad	tal petroleum hydrocarbons - diesel ran	TPHDIESEL	µg/kg	7,320	--	--
600-3_Staging Pile Area Footprint	non-Rad	troleum hydrocarbons - motor oil (high	TPH/OILH	µg/kg	17,326	--	--
600-3_Staging Pile Area Footprint	non-Rad	Total_U_Isotopes	Total_U_Isotope	µg/kg	1,878	3,210	No
600-3_Staging Pile Area Footprint	non-Rad	Vanadium	7440-62-2	µg/kg	62,937	85,100	No
600-3_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	59,275	67,800	No
600-3_Staging Pile Area Footprint	Rad	Cesium-137	10045-97-3	pCi/g	0.068	1.1	No
600-3_Staging Pile Area Footprint	Rad	Uranium-233/234	U-233/234	pCi/g	0.75	1.1	No
600-3_Staging Pile Area Footprint	Rad	Uranium-238	U-238	pCi/g	0.63	1.1	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.17E+06	1.18E+07	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	617	130	Yes
600-3_Staging Pile Area Footprint_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,570	6,470	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Barium	7440-39-3	µg/kg	69,100	132,000	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	265	1,510	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,390	3,890	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	150	563	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Chromium	7440-47-3	µg/kg	7,870	18,500	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	6,390	15,700	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Copper	7440-50-8	µg/kg	9,450	22,000	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.23E+07	3.26E+07	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	236,000	10,200	Yes
600-3_Staging Pile Area Footprint_Focused	non-Rad	Manganese	7439-96-5	µg/kg	320,000	512,000	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	412	470	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Nickel	7440-02-0	µg/kg	7,420	19,100	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	63,100	85,100	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Zinc	7440-66-6	µg/kg	45,800	67,800	No
600-315_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	3.06E+06	1.18E+07	No
600-315_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	2,000	6,470	No
600-315_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	90,100	132,000	No
600-315_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	460	1,510	No
600-315_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,300	3,890	Yes
600-315_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	640	563	Yes
600-315_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	5,300	18,500	No
600-315_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	3,500	15,700	No
600-315_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	7,900	22,000	No
600-315_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	8.98E+06	3.26E+07	No
600-315_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	7,400	10,200	No
600-315_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	169,000	512,000	No
600-315_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	17	13	Yes
600-315_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	410	470	No
600-315_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	4,900	19,100	No
600-315_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,400	780	Yes
600-315_Shallow_Focused	non-Rad	tal petroleum hydrocarbons - diesel ran	TPHDIESEL	µg/kg	66,000	--	--
600-315_Shallow_Focused	non-Rad	leum hydrocarbons - diesel range exten	TPHDIESELEXT	µg/kg	110,000	--	--

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-315_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	17,600	85,100	No
600-315_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	24,200	67,800	No
600-322_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethyler	72-55-9	µg/kg	2.6	--	--
600-322_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	6.90E+06	1.18E+07	No
600-322_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,100	130	Yes
600-322_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,900	6,470	No
600-322_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	77,500	132,000	No
600-322_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	120	1,510	No
600-322_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,500	3,890	No
600-322_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	250	563	No
600-322_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,800	18,500	Yes
600-322_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,700	15,700	No
600-322_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	57,400	22,000	Yes
600-322_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	9.46E+07	3.26E+07	Yes
600-322_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	72,200	10,200	Yes
600-322_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	556,000	512,000	Yes
600-322_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	37	13	Yes
600-322_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	4,300	470	Yes
600-322_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	35,400	19,100	Yes
600-322_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	167	Yes
600-322_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	50,200	85,100	No
600-322_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	62,900	67,800	No
600-323_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	31	--	--
600-323_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.34E+07	1.18E+07	Yes
600-323_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,300	6,470	No
600-323_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	549,000	132,000	Yes
600-323_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--	--
600-323_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--	--
600-323_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	50	--	--
600-323_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	9.9	--	--
600-323_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	680	1,510	No
600-323_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	34,000	3,890	Yes
600-323_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	140	563	No
600-323_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	12,600	18,500	No
600-323_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	170	--	--
600-323_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	7,300	15,700	No
600-323_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	20,400	22,000	No
600-323_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	87	--	--
600-323_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.97E+07	3.26E+07	No
600-323_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	5,200	10,200	No
600-323_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	357,000	512,000	No
600-323_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	18	13	Yes
600-323_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	470	Yes
600-323_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	120	--	--
600-323_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	14,100	19,100	No
600-323_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	2,200	780	Yes
600-323_Shallow_Focused	non-Rad	tal petroleum hydrocarbons - diesel ran	TPHDIESEL	µg/kg	50,000	--	--
600-323_Shallow_Focused	non-Rad	leum hydrocarbons - diesel range exten	TPHDIESELEXT	µg/kg	68,000	--	--
600-323_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,000	85,100	No
600-323_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	41,400	67,800	No
600-327_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.18E+07	1.18E+07	No
600-327_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,800	6,470	No
600-327_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	116,000	132,000	No
600-327_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	160	1,510	No
600-327_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	1,100	3,890	No
600-327_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	120	563	No
600-327_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	16,400	18,500	No
600-327_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	8,100	15,700	No
600-327_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	15,500	22,000	No
600-327_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	41	--	--
600-327_Shallow_Focused	non-Rad	Fluoride	16984-48-8	µg/kg	2,100	2,810	No
600-327_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	2.16E+07	3.26E+07	No
600-327_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	6,700	10,200	No
600-327_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	342,000	512,000	No
600-327_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	6.0	13	No
600-327_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	15,900	19,100	No
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	2,700	--	--
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	2,700	--	--
600-327_Shallow_Focused	non-Rad	tal petroleum hydrocarbons - diesel ran	TPHDIESEL	µg/kg	2,200	--	--
600-327_Shallow_Focused	non-Rad	leum hydrocarbons - diesel range exten	TPHDIESELEXT	µg/kg	3,000	--	--
600-327_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	44,000	85,100	No
600-327_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	46,500	67,800	No
600-334:1_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	7.07E+06	1.18E+07	No
600-334:1_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	4,200	6,470	No
600-334:1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	85,400	132,000	No
600-334:1_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.8	--	--
600-334:1_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	25	--	--
600-334:1_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--	--
600-334:1_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--	--
600-334:1_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	150	1,510	No
600-334:1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--	--
600-334:1_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	3,300	3,890	No
600-334:1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	400	563	No
600-334:1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	11,800	18,500	No
600-334:1_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	39	--	--
600-334:1_Shallow_Focused	non-Rad	Cobalt	7440-48-4	µg/kg	5,800	15,700	No
600-334:1_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	17,500	22,000	No
600-334:1_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	34	--	--
600-334:1_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.85E+07	3.26E+07	No
600-334:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,200	10,200	Yes
600-334:1_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	329,000	512,000	No
600-334:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,900	13	Yes
600-334:1_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	290	470	No
600-334:1_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	10,700	19,100	No
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	259,000	--	--
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	287,000	--	--
600-334:1_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	78	--	--
600-334:1_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	220	167	Yes
600-334:1_Shallow_Focused	non-Rad	tal petroleum hydrocarbons - diesel ran	TPHDIESEL	µg/kg	7,900	--	--

Table 7-8. Comparison of EPCs for Waste Site Decision Units in 100-IU-6 Source OU to Hanford Site Soil Background Values

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	Lognormal 90th Percentile Background Value	Is EPC > Background?
600-334:1_Shallow_Focused	non-Rad	leum hydrocarbons - diesel range exten	TPHDIESELEXT	µg/kg	74,000	--	--
600-334:1_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	43,200	85,100	No
600-334:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	73,000	67,800	Yes
600-350_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	3.1	--	--
600-350_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--	--
600-350_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	21	--	--
600-350_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--	--
600-350_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.6	--	--
600-350_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	20	--	--
600-350_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	52	--	--
600-350_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--	--
600-350_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--	--
JA JONES 1_Overburden	non-Rad	Barium	7440-39-3	µg/kg	80,600	132,000	No
JA JONES 1_Overburden	non-Rad	Cadmium	7440-43-9	µg/kg	470	563	No
JA JONES 1_Overburden	non-Rad	Chromium	7440-47-3	µg/kg	10,000	18,500	No
JA JONES 1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	17,100	10,200	Yes
JA JONES 1_Shallow	non-Rad	Barium	7440-39-3	µg/kg	84,191	132,000	No
JA JONES 1_Shallow	non-Rad	Cadmium	7440-43-9	µg/kg	485	563	No
JA JONES 1_Shallow	non-Rad	Chromium	7440-47-3	µg/kg	16,349	18,500	No
JA JONES 1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	54,479	10,200	Yes
JA JONES 1_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	82,600	132,000	No
JA JONES 1_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	80	563	No
JA JONES 1_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	10,500	18,500	No
JA JONES 1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	8,100	10,200	No

Notes:

-- = Not applicable or no value.

Table 7-9. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-108 and 600-257_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	45	3.73E+07	No
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.5	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.9	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	10	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	20	--[b]	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	0.89	3.73E+07	No
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	0.91	--[b]	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	3.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	6.0	3.73E+07	No
600-109_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	15,300	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.8	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.0	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.5	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-109_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	71,900	--[b]	--
600-109_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	3.6	--[b]	--
600-109_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	26,600	2.00E+06[c]	No
600-109_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.4	--[b]	--
600-109_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	375	134,420	No
600-109_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,746	--[b]	--
600-109_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.2	--[b]	--
600-109_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.6	--[b]	--
600-109_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--[b]	--
600-109_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.8	--[b]	--
600-109_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	6.4	--[b]	--
600-109_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	7.0	--[b]	--
600-109_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	1.6	3.11E+07	No
600-109_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-109_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,219	--[b]	--
600-109_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--[b]	--
600-109_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	8,926	2.00E+06[c]	No
600-109_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.88	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.1	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.4	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.1	--[b]	--
600-109_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	3.0	--[b]	--
600-109_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	7.5	--[b]	--
600-109_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,700	--[b]	--
600-109_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.4	--[b]	--
600-109_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	6,950	2.00E+06[c]	No
600-109_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	30	3.73E+07	No
600-109_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	2.1	--[b]	--
600-109_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	781	134,420	No
600-109_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	24,017	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.3	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--[b]	--
600-109_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.4	--[b]	--
600-109_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-109_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-109_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	125,620	--[b]	--
600-109_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--[b]	--
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,487	2.00E+06[c]	No
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	30,132	2.00E+06[c]	No
600-109_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	67,999	--[b]	--
600-111_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,200	134,420	No
600-111_Shallow	non-Rad	Barium	7440-39-3	µg/kg	150,934	--[b]	--
600-111_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	37	--[b]	--
600-111_Shallow	non-Rad	Copper	7440-50-8	µg/kg	22,631	1.11E+08	No
600-111_Shallow	non-Rad	Iron	7439-89-6	µg/kg	3.38E+07	--[b]	--
600-111_Shallow	non-Rad	Isophorone	78-59-1	µg/kg	20	22,968	No
600-111_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,659	--[b]	--
600-111_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	513,612	--[b]	--
600-111_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
600-111_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	1,074	1.18E+07	No
600-111_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	18	--[b]	--
600-111_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	200	134,420	No
600-111_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,700	--[b]	--
600-111_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	138,000	--[b]	--
600-111_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	29,100	1.11E+08	No
600-111_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,400	--[b]	--
600-111_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
600-111_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	540	1.18E+07	No
600-111_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,600	--[b]	--
600-111_Shallow_Focused	Rad	Americium-241	14596-10-2	pCi/g	0.23	--[b]	--
600-111_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.82	--[b]	--
600-146_Shallow_Focused	non-Rad	2,4-Dinitrotoluene	121-14-2	µg/kg	121	330	No
600-146_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,090	134,420	No
600-146_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	32	--[b]	--
600-146_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--[b]	--
600-146_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	475,000	1.11E+08	No
600-146_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,200	--[b]	--
600-146_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	--[b]	--
600-146_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	1,526	No
600-146_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	39,400	--[b]	--
600-146_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	305	--[b]	--
600-146_Shallow_Focused	non-Rad	Styrene	100-42-5	µg/kg	1.7	502,420	No

Table 7-9. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-146_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	154,000	--[b]	--
600-149:2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	380	134,420	No
600-149:2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,309	--[b]	--
600-149:2_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	541	1.18E+07	No
600-149:2_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	873	1.54E+06	No
600-149:2_Shallow	non-Rad	Tin	7440-31-5	µg/kg	980	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	540	134,420	No
600-149:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,700	1.11E+08	No
600-149:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	153,000	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	610	1.18E+07	No
600-149:2_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	1.54E+06	No
600-149:2_Shallow_Focused	non-Rad	Tin	7440-31-5	µg/kg	850	--[b]	--
600-178_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	7.8	--[b]	--
600-178_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
600-178_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	13	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.7	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.21E+07	--[b]	--
600-186_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	650	134,420	No
600-186_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	50	--[b]	--
600-186_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	139,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.3	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	871	--[b]	--
600-186_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	98,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.6	--[b]	--
600-186_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	42,300	1.11E+08	No
600-186_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.98	--[b]	--
600-186_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.6	--[b]	--
600-186_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[d]	No
600-186_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	5.8	--[b]	--
600-186_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.01E+08	--[b]	--
600-186_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	93,500	--[b]	--
600-186_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	854	--[b]	--
600-186_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,230	1.18E+07	No
600-186_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.1	--[b]	--
600-186_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	21,900	--[b]	--
600-186_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	18,500	2.00E+06[c]	No
600-186_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	141,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	137,000	--[b]	--
600-202_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	9.2	3.73E+07	No
600-202_Shallow_1	non-Rad	Aldrin	309-00-2	µg/kg	2.9	--[b]	--
600-202_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	403	134,420	No
600-202_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.2	--[b]	--
600-202_Shallow_1	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.3	556	No
600-202_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	2.4	--[b]	--
600-202_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	4.3	--[b]	--
600-202_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.3	--[b]	--
600-202_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	7.9	3.73E+07	No
600-202_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	2.0	--[b]	--
600-202_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	6,830	--[b]	--
600-202_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	22,382	--[b]	--
600-202_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	5.1	--[b]	--
600-202_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	35	3.11E+07	No
600-202_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	21	969,259	No
600-202_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	2.6	--[b]	--
600-202_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	8,170	2.00E+06[c]	No
600-202_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	14	3.73E+07	No
600-202_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	2.0	121	No
600-202_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	11	--[b]	--
600-202_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	735	134,420	No
600-202_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	--[b]	--
600-202_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	201,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	17	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.2	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-202_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	15	556	No
600-202_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	69	--[b]	--
600-202_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,000	5.38E+07	No
600-202_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,290	--[b]	--
600-202_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	21,900	--[b]	--
600-202_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--[b]	--
600-202_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	87,900	1.11E+08	No
600-202_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	36	1.22E+07	No
600-202_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	3.0	1.05E+06	No
600-202_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	61	--[b]	--
600-202_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	15	3.11E+07	No
600-202_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--[b]	--
600-202_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	278,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,170	1.18E+07	No
600-202_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	27	969,259	No
600-202_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,700	--[b]	--
600-202_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--[b]	--
600-202_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,540	--[b]	--
600-202_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	104,000	2.00E+06[c]	No
600-202_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	403,000	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.5	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.0	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	43	3.73E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Aldrin	309-00-2	µg/kg	6.0	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.8	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	713	134,420	No
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	24	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--[b]	--

Table 7-9. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-202_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	12	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	9,973	5.38E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	53	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	40,782	1.11E+08	No
600-202_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	14	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Endrin	72-20-8	µg/kg	2.2	136,151	No
600-202_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	116	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	7.8	3.11E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	6,000[d]	No
600-202_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	63,502	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Methoxychlor	72-43-5	µg/kg	1.6	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	953	1.18E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Naphthalene	91-20-3	µg/kg	11	969,259	No
600-202_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	206	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	275	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	11,500	2.00E+06[c]	No
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	114,498	2.00E+06[c]	No
600-202_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	174,723	--[b]	--
600-204_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	166,000	--[b]	--
600-204_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--[b]	--
600-204_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	27,700	--[b]	--
600-204_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	41,200	1.00E+06[c]	No
600-205_Shallow_Focused	non-Rad	2,4-Dimethylphenol	105-67-9	µg/kg	21	209,969	No
600-205_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	68	--[b]	--
600-205_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	59	3.73E+07	No
600-205_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	9.3	--[b]	--
600-205_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	670	134,420	No
600-205_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.5	--[b]	--
600-205_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	14	--[b]	--
600-205_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	1,800	--[b]	--
600-205_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--[b]	--
600-205_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	25	4.13E+06	No
600-205_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	670	--[b]	--
600-205_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	6.5	--[b]	--
600-205_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	420	--[b]	--
600-205_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	79	1.22E+07	No
600-205_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	12	1.05E+06	No
600-205_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--[b]	--
600-205_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.2	3.11E+07	No
600-205_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	40,300	--[b]	--
600-205_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	890	1.18E+07	No
600-205_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	62	--[b]	--
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.90E+06	1.00E+06[c]	Yes
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,200	2.00E+06[c]	No
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	7,860	2.00E+06[c]	No
600-205_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	86,200	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	3.4	3.73E+07	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.5	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.6	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	146	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.6	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,000	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	4.9	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	103,000	2.00E+06[c]	No
600-23_Overburden	non-Rad	Lead	7439-92-1	µg/kg	12,902	--[b]	--
600-23_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	6,000[d]	No
600-23_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,300	--[b]	--
600-23_Shallow_Focused	non-Rad	Benzene	71-43-2	µg/kg	2.0	459	No
600-23_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	9.0	1,526	No
600-23_Shallow_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	585,162	No
600-280_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,660	134,420	No
600-280_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,700	--[b]	--
600-280_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	76,100	2.00E+06[c]	No
600-3_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	21	3.73E+07	No
600-3_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--[b]	--
600-3_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	335	134,420	No
600-3_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	12	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	17	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.2	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.2	--[b]	--
600-3_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	11	--[b]	--
600-3_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.7	--[b]	--
600-3_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--[b]	--
600-3_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	0.95	3.11E+07	No
600-3_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.3	--[b]	--
600-3_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	62	--[b]	--
600-3_Shallow_1	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	4,960	2.00E+06[c]	No
600-3_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	28	3.73E+07	No
600-3_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	3.9	--[b]	--
600-3_Shallow_2	non-Rad	Antimony	7440-36-0	µg/kg	388	134,420	No
600-3_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	5.8	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	136	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	68	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--[b]	--
600-3_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	13	--[b]	--
600-3_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.3	--[b]	--
600-3_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	49	--[b]	--
600-3_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	3.0	3.11E+07	No
600-3_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	38	--[b]	--

Table 7-9. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-3_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	65,041	--[b]	--
600-3_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	10.0	969,259	No
600-3_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	15	--[b]	--
600-3_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	24,700	2.00E+06[c]	No
600-3_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6	--[b]	--
600-3_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	3.73E+07	No
600-3_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	13	--[b]	--
600-3_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	11,700	134,420	No
600-3_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	31	--[b]	--
600-3_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--[b]	--
600-3_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	841,000	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	89	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	119	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	92	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--[b]	--
600-3_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	19,400	--[b]	--
600-3_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	32	--[b]	--
600-3_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	152,000	1.11E+08	No
600-3_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	12	--[b]	--
600-3_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--[b]	--
600-3_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.8	3.11E+07	No
600-3_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	91	--[b]	--
600-3_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	1.64E+06	--[b]	--
600-3_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	916	1.18E+07	No
600-3_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	1.6	969,259	No
600-3_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	88	--[b]	--
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	133,000	2.00E+06[c]	No
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	48,900	2.00E+06[c]	No
600-3_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	384,000	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	27	3.73E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.6	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	8,861	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	32	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	31	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.9	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	3.0	3.11E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	18	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	22,247	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	49	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	7,320	2.00E+06[c]	No
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	17,326	2.00E+06[c]	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	617	134,420	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	236,000	--[b]	--
600-315_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,300	5.38E+07	No
600-315_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	640	--[b]	--
600-315_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	17	--[b]	--
600-315_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,400	1.54E+06	No
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	66,000	2.00E+06[c]	No
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	110,000	2.00E+06[c]	No
600-322_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.6	--[b]	--
600-322_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,100	134,420	No
600-322_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,800	--[b]	--
600-322_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	57,400	1.11E+08	No
600-322_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	9.46E+07	--[b]	--
600-322_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	72,200	--[b]	--
600-322_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	556,000	--[b]	--
600-322_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	37	--[b]	--
600-322_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	4,300	1.18E+07	No
600-322_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	35,400	--[b]	--
600-322_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--
600-323_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	31	3.73E+07	No
600-323_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.34E+07	--[b]	--
600-323_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	549,000	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	50	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	9.9	--[b]	--
600-323_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	34,000	5.38E+07	No
600-323_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	170	--[b]	--
600-323_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	87	--[b]	--
600-323_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	18	--[b]	--
600-323_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	1.18E+07	No
600-323_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	120	969,259	No
600-323_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	2,200	1.54E+06	No
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	50,000	2.00E+06[c]	No
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	68,000	2.00E+06[c]	No
600-327_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	41	3.11E+07	No
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	2,700	2.52E+06	No
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	2,700	2.52E+06	No
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,200	2.00E+06[c]	No
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	3,000	2.00E+06[c]	No
600-334:1_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.8	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	25	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	39	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	34	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,200	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,900	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	259,000	2.52E+06	No
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	287,000	2.52E+06	No

Table 7-9. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Groundwater (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Groundwater Protection[a]	Is EPC > Soil Screening Level Protective of Groundwater?
600-334:1_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	78	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	220	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	7,900	2.00E+06[c]	No
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	74,000	2.00E+06[c]	No
600-334:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	73,000	--[b]	--
600-350_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	3.1	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	21	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.6	--[b]	--
600-350_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	20	--[b]	--
600-350_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	52	--[b]	--
600-350_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--[b]	--
600-350_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--[b]	--
JA JONES 1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	17,100	--[b]	--
JA JONES 1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	54,479	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. The soil screening level for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

d. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

-- = Not applicable or no value.

Table 7-10. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-108 and 600-257_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	45	2.50E+07	No
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.5	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.9	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	10	--[b]	--
600-108 and 600-257_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	20	--[b]	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	0.89	2.50E+07	No
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	0.91	--[b]	--
600-108 and 600-257_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	3.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	6.0	2.50E+07	No
600-109_Overburden_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	15,300	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.8	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	2.0	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.5	--[b]	--
600-109_Overburden_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Chrysene	218-01-9	µg/kg	2.3	--[b]	--
600-109_Overburden_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-109_Overburden_Focused	non-Rad	Lead	7439-92-1	µg/kg	71,900	--[b]	--
600-109_Overburden_Focused	non-Rad	Pyrene	129-00-0	µg/kg	3.6	--[b]	--
600-109_Overburden_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	26,600	--[c]	--
600-109_Shallow	non-Rad	Anthracene	120-12-7	µg/kg	1.4	--[b]	--
600-109_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	375	125,458	No
600-109_Shallow	non-Rad	Arsenic	7440-38-2	µg/kg	7,746	--[b]	--
600-109_Shallow	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	6.2	--[b]	--
600-109_Shallow	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.6	--[b]	--
600-109_Shallow	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	10	--[b]	--
600-109_Shallow	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	3.8	--[b]	--
600-109_Shallow	non-Rad	Chrysene	218-01-9	µg/kg	6.4	--[b]	--
600-109_Shallow	non-Rad	Fluoranthene	206-44-0	µg/kg	7.0	--[b]	--
600-109_Shallow	non-Rad	Fluorene	86-73-7	µg/kg	1.6	5.35E+07	No
600-109_Shallow	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-109_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,219	--[b]	--
600-109_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--[b]	--
600-109_Shallow	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	8,926	--[c]	--
600-109_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	0.88	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.8	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	3.1	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	2.4	--[b]	--
600-109_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.1	--[b]	--
600-109_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	3.0	--[b]	--
600-109_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	7.5	--[b]	--
600-109_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	24,700	--[b]	--
600-109_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.4	--[b]	--
600-109_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	6,950	--[c]	--
600-109_Staging Pile Area	non-Rad	Acenaphthene	83-32-9	µg/kg	30	2.50E+07	No
600-109_Staging Pile Area	non-Rad	Anthracene	120-12-7	µg/kg	2.1	--[b]	--
600-109_Staging Pile Area	non-Rad	Antimony	7440-36-0	µg/kg	781	125,458	No
600-109_Staging Pile Area	non-Rad	Arsenic	7440-38-2	µg/kg	24,017	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	2.9	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.7	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.3	--[b]	--
600-109_Staging Pile Area	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	1.9	--[b]	--
600-109_Staging Pile Area	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.4	--[b]	--
600-109_Staging Pile Area	non-Rad	Fluoranthene	206-44-0	µg/kg	14	--[b]	--
600-109_Staging Pile Area	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	15	--[b]	--
600-109_Staging Pile Area	non-Rad	Lead	7439-92-1	µg/kg	125,620	--[b]	--
600-109_Staging Pile Area	non-Rad	Pyrene	129-00-0	µg/kg	3.0	--[b]	--
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	16,487	--[c]	--
600-109_Staging Pile Area	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	30,132	--[c]	--
600-109_Staging Pile Area	non-Rad	Zinc	7440-66-6	µg/kg	67,999	--[b]	--
600-111_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	1,200	125,458	No
600-111_Shallow	non-Rad	Barium	7440-39-3	µg/kg	150,934	--[b]	--
600-111_Shallow	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	37	--[b]	--
600-111_Shallow	non-Rad	Copper	7440-50-8	µg/kg	22,631	1.56E+06	No
600-111_Shallow	non-Rad	Iron	7439-89-6	µg/kg	3.38E+07	--[b]	--
600-111_Shallow	non-Rad	Isophorone	78-59-1	µg/kg	20	4,189	No
600-111_Shallow	non-Rad	Lead	7439-92-1	µg/kg	11,659	--[b]	--
600-111_Shallow	non-Rad	Manganese	7439-96-5	µg/kg	513,612	--[b]	--
600-111_Shallow	non-Rad	Mercury	7439-97-6	µg/kg	30	--[b]	--
600-111_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	1,074	1.92E+08	No
600-111_Shallow	non-Rad	Pyrene	129-00-0	µg/kg	18	--[b]	--
600-111_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	200	125,458	No
600-111_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	8,700	--[b]	--
600-111_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	138,000	--[b]	--
600-111_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	29,100	1.56E+06	No
600-111_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,400	--[b]	--
600-111_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	20	--[b]	--
600-111_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	540	1.92E+08	No
600-111_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,600	--[b]	--
600-111_Shallow_Focused	Rad	Americium-241	14596-10-2	pCi/g	0.23	--[b]	--
600-111_Shallow_Focused	Rad	Plutonium-239/240	PU-239/240	pCi/g	0.82	--[b]	--
600-146_Shallow_Focused	non-Rad	2,4-Dinitrotoluene	121-14-2	µg/kg	121	330	No
600-146_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,090	125,458	No
600-146_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	32	--[b]	--
600-146_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	8.5	--[b]	--
600-146_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	475,000	1.56E+06	No
600-146_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	19,200	--[b]	--
600-146_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	14	--[b]	--
600-146_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	2.6	1,404	No
600-146_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	39,400	--[b]	--
600-146_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	305	--[b]	--
600-146_Shallow_Focused	non-Rad	Styrene	100-42-5	µg/kg	1.7	1.93E+08	No

Table 7-10. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-146_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	154,000	--[b]	--
600-149:2_Shallow	non-Rad	Antimony	7440-36-0	µg/kg	380	125,458	No
600-149:2_Shallow	non-Rad	Lead	7439-92-1	µg/kg	16,309	--[b]	--
600-149:2_Shallow	non-Rad	Molybdenum	7439-98-7	µg/kg	541	1.92E+08	No
600-149:2_Shallow	non-Rad	Selenium	7782-49-2	µg/kg	873	153,723	No
600-149:2_Shallow	non-Rad	Tin	7440-31-5	µg/kg	980	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	540	125,458	No
600-149:2_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	31,700	1.56E+06	No
600-149:2_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	153,000	--[b]	--
600-149:2_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	610	1.92E+08	No
600-149:2_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,100	153,723	No
600-149:2_Shallow_Focused	non-Rad	Tin	7440-31-5	µg/kg	850	--[b]	--
600-178_Overburden_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	7.8	--[b]	--
600-178_Overburden_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.5	--[b]	--
600-178_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	13	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	4.7	--[b]	--
600-178_Staging Pile Area Footprint_Focused	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	1.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.21E+07	--[b]	--
600-186_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	650	125,458	No
600-186_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	50	--[b]	--
600-186_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	139,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	1.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	5.3	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	9.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	2.7	--[b]	--
600-186_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	871	--[b]	--
600-186_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	98,000	--[b]	--
600-186_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	1.6	--[b]	--
600-186_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	42,300	1.56E+06	No
600-186_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	0.98	--[b]	--
600-186_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	2.6	--[b]	--
600-186_Shallow_Focused	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	320	6,000[d]	No
600-186_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	5.8	--[b]	--
600-186_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	1.01E+08	--[b]	--
600-186_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	93,500	--[b]	--
600-186_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	854	--[b]	--
600-186_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,230	1.92E+08	No
600-186_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	8.1	--[b]	--
600-186_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	21,900	--[b]	--
600-186_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	18,500	--[c]	--
600-186_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	141,000	--[c]	--
600-186_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	137,000	--[b]	--
600-202_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	9.2	2.50E+07	No
600-202_Shallow_1	non-Rad	Aldrin	309-00-2	µg/kg	2.9	--[b]	--
600-202_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	403	125,458	No
600-202_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	1.2	--[b]	--
600-202_Shallow_1	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	3.3	104	No
600-202_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	2.4	--[b]	--
600-202_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	4.3	--[b]	--
600-202_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	3.3	--[b]	--
600-202_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	7.9	2.50E+07	No
600-202_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	2.0	--[b]	--
600-202_Shallow_2	non-Rad	Arsenic	7440-38-2	µg/kg	6,830	--[b]	--
600-202_Shallow_2	non-Rad	Chromium	7440-47-3	µg/kg	22,382	--[b]	--
600-202_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	5.1	--[b]	--
600-202_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	35	5.35E+07	No
600-202_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	21	2.99E+07	No
600-202_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	2.6	--[b]	--
600-202_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	8,170	--[c]	--
600-202_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	14	2.50E+07	No
600-202_Shallow_Focused	non-Rad	Alpha-BHC	319-84-6	µg/kg	2.0	23	No
600-202_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	11	--[b]	--
600-202_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	735	125,458	No
600-202_Shallow_Focused	non-Rad	Arsenic	7440-38-2	µg/kg	10,200	--[b]	--
600-202_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	201,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	17	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.2	--[b]	--
600-202_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-202_Shallow_Focused	non-Rad	beta-1,2,3,4,5,6-Hexachlorocyclohexane (beta-BHC)	319-85-7	µg/kg	15	104	No
600-202_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	69	--[b]	--
600-202_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,000	--[c]	--
600-202_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	1,290	--[b]	--
600-202_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	21,900	--[b]	--
600-202_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--[b]	--
600-202_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	87,900	1.56E+06	No
600-202_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	36	1.52E+07	No
600-202_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	3.0	611	No
600-202_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	61	--[b]	--
600-202_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	15	5.35E+07	No
600-202_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	83	--[b]	--
600-202_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	278,000	--[b]	--
600-202_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,170	1.92E+08	No
600-202_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	27	2.99E+07	No
600-202_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	23,700	--[b]	--
600-202_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	6.8	--[b]	--
600-202_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	1,540	--[b]	--
600-202_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	104,000	--[c]	--
600-202_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	403,000	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	2.5	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.0	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	4,4'-DDT (Dichlorodiphenyltrichloroethane)	50-29-3	µg/kg	2.1	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	43	2.50E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Aldrin	309-00-2	µg/kg	6.0	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.8	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Antimony	7440-36-0	µg/kg	713	125,458	No
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	24	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	19	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	37	--[b]	--

Table 7-10. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-202_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	12	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Boron	7440-42-8	µg/kg	9,973	--[c]	--
600-202_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	53	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Copper	7440-50-8	µg/kg	40,782	1.56E+06	No
600-202_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	14	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Endrin	72-20-8	µg/kg	2.2	157	No
600-202_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	116	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	7.8	5.35E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	260	6,000[d]	No
600-202_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	63,502	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Methoxychlor	72-43-5	µg/kg	1.6	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Molybdenum	7439-98-7	µg/kg	953	1.92E+08	No
600-202_Staging Pile Area Footprint	non-Rad	Naphthalene	91-20-3	µg/kg	11	2.99E+07	No
600-202_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	206	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Silver	7440-22-4	µg/kg	275	--[b]	--
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	11,500	--[c]	--
600-202_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	114,498	--[c]	--
600-202_Staging Pile Area Footprint	non-Rad	Zinc	7440-66-6	µg/kg	174,723	--[b]	--
600-204_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	166,000	--[b]	--
600-204_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--[b]	--
600-204_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	27,700	--[b]	--
600-204_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	41,200	--[c]	--
600-205_Shallow_Focused	non-Rad	2,4-Dimethylphenol	105-67-9	µg/kg	21	498,677	No
600-205_Shallow_Focused	non-Rad	4,4'-DDD (Dichlorodiphenyldichloroethane)	72-54-8	µg/kg	68	--[b]	--
600-205_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	59	2.50E+07	No
600-205_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	9.3	--[b]	--
600-205_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	670	125,458	No
600-205_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	4.5	--[b]	--
600-205_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	14	--[b]	--
600-205_Shallow_Focused	non-Rad	Beryllium	7440-41-7	µg/kg	1,800	--[b]	--
600-205_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	150	--[b]	--
600-205_Shallow_Focused	non-Rad	Butylbenzylphthalate	85-68-7	µg/kg	25	739,096	No
600-205_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	670	--[b]	--
600-205_Shallow_Focused	non-Rad	Chlordane	57-74-9	µg/kg	6.5	--[b]	--
600-205_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	420	--[b]	--
600-205_Shallow_Focused	non-Rad	Di-n-butylphthalate	84-74-2	µg/kg	79	1.52E+07	No
600-205_Shallow_Focused	non-Rad	Endosulfan I	959-98-8	µg/kg	12	611	No
600-205_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	33	--[b]	--
600-205_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.2	5.35E+07	No
600-205_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	40,300	--[b]	--
600-205_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	890	1.92E+08	No
600-205_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	62	--[b]	--
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.90E+06	--[c]	--
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	3,200	--[c]	--
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	7,860	--[c]	--
600-205_Shallow_Focused	non-Rad	Vanadium	7440-62-2	µg/kg	86,200	--[c]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	3.4	2.50E+07	No
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	1.5	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	3.6	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Chrysene	218-01-9	µg/kg	6.1	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	146	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	4.6	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	12,000	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Pyrene	129-00-0	µg/kg	4.9	--[b]	--
600-205_Staging Pile Area Footprint_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	103,000	--[c]	--
600-23_Overburden	non-Rad	Lead	7439-92-1	µg/kg	12,902	--[b]	--
600-23_Shallow	non-Rad	Hexavalent Chromium	18540-29-9	µg/kg	631	6,000[d]	No
600-23_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	1,300	--[b]	--
600-23_Shallow_Focused	non-Rad	Benzene	71-43-2	µg/kg	2.0	692	No
600-23_Shallow_Focused	non-Rad	Methylene chloride	75-09-2	µg/kg	9.0	1,404	No
600-23_Shallow_Focused	non-Rad	Toluene	108-88-3	µg/kg	1.0	1.19E+06	No
600-280_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,660	125,458	No
600-280_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	22,700	--[b]	--
600-280_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	76,100	--[c]	--
600-3_Shallow_1	non-Rad	Acenaphthene	83-32-9	µg/kg	21	2.50E+07	No
600-3_Shallow_1	non-Rad	Anthracene	120-12-7	µg/kg	2.3	--[b]	--
600-3_Shallow_1	non-Rad	Antimony	7440-36-0	µg/kg	335	125,458	No
600-3_Shallow_1	non-Rad	Aroclor-1260	11096-82-5	µg/kg	12	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	17	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	5.2	--[b]	--
600-3_Shallow_1	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.2	--[b]	--
600-3_Shallow_1	non-Rad	Chrysene	218-01-9	µg/kg	11	--[b]	--
600-3_Shallow_1	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	1.7	--[b]	--
600-3_Shallow_1	non-Rad	Fluoranthene	206-44-0	µg/kg	13	--[b]	--
600-3_Shallow_1	non-Rad	Fluorene	86-73-7	µg/kg	0.95	5.35E+07	No
600-3_Shallow_1	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	9.3	--[b]	--
600-3_Shallow_1	non-Rad	Pyrene	129-00-0	µg/kg	62	--[b]	--
600-3_Shallow_1	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	4,960	--[c]	--
600-3_Shallow_2	non-Rad	Acenaphthene	83-32-9	µg/kg	28	2.50E+07	No
600-3_Shallow_2	non-Rad	Anthracene	120-12-7	µg/kg	3.9	--[b]	--
600-3_Shallow_2	non-Rad	Antimony	7440-36-0	µg/kg	388	125,458	No
600-3_Shallow_2	non-Rad	Aroclor-1260	11096-82-5	µg/kg	5.8	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	136	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	68	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
600-3_Shallow_2	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	32	--[b]	--
600-3_Shallow_2	non-Rad	Chrysene	218-01-9	µg/kg	13	--[b]	--
600-3_Shallow_2	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	7.3	--[b]	--
600-3_Shallow_2	non-Rad	Fluoranthene	206-44-0	µg/kg	49	--[b]	--
600-3_Shallow_2	non-Rad	Fluorene	86-73-7	µg/kg	3.0	5.35E+07	No
600-3_Shallow_2	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	38	--[b]	--

Table 7-10. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-3_Shallow_2	non-Rad	Lead	7439-92-1	µg/kg	65,041	--[b]	--
600-3_Shallow_2	non-Rad	Naphthalene	91-20-3	µg/kg	10.0	2.99E+07	No
600-3_Shallow_2	non-Rad	Pyrene	129-00-0	µg/kg	15	--[b]	--
600-3_Shallow_2	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	24,700	--[c]	--
600-3_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	1.6	--[b]	--
600-3_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	102	2.50E+07	No
600-3_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	13	--[b]	--
600-3_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	11,700	125,458	No
600-3_Shallow_Focused	non-Rad	Aroclor-1254	11097-69-1	µg/kg	31	--[b]	--
600-3_Shallow_Focused	non-Rad	Aroclor-1260	11096-82-5	µg/kg	19	--[b]	--
600-3_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	841,000	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	89	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	119	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	92	--[b]	--
600-3_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	43	--[b]	--
600-3_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	19,400	--[b]	--
600-3_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	32	--[b]	--
600-3_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	152,000	1.56E+06	No
600-3_Shallow_Focused	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	12	--[b]	--
600-3_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	224	--[b]	--
600-3_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	5.8	5.35E+07	No
600-3_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	91	--[b]	--
600-3_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	1.64E+06	--[b]	--
600-3_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	916	1.92E+08	No
600-3_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	1.6	2.99E+07	No
600-3_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	88	--[b]	--
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	133,000	--[c]	--
600-3_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	48,900	--[c]	--
600-3_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	384,000	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Acenaphthene	83-32-9	µg/kg	27	2.50E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Anthracene	120-12-7	µg/kg	4.6	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1254	11097-69-1	µg/kg	11	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Aroclor-1260	11096-82-5	µg/kg	17	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Arsenic	7440-38-2	µg/kg	8,861	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	39	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	29	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	32	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	20	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Chrysene	218-01-9	µg/kg	31	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Dibenz[a,h]anthracene	53-70-3	µg/kg	3.9	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Fluoranthene	206-44-0	µg/kg	100	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Fluorene	86-73-7	µg/kg	3.0	5.35E+07	No
600-3_Staging Pile Area Footprint	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	18	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Lead	7439-92-1	µg/kg	22,247	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Pyrene	129-00-0	µg/kg	49	--[b]	--
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	7,320	--[c]	--
600-3_Staging Pile Area Footprint	non-Rad	Total petroleum hydrocarbons - motor oil (high boiling)	TPH/OILH	µg/kg	17,326	--[c]	--
600-3_Staging Pile Area Footprint_Focused	non-Rad	Antimony	7440-36-0	µg/kg	617	125,458	No
600-3_Staging Pile Area Footprint_Focused	non-Rad	Lead	7439-92-1	µg/kg	236,000	--[b]	--
600-315_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	13,300	--[c]	--
600-315_Shallow_Focused	non-Rad	Cadmium	7440-43-9	µg/kg	640	--[b]	--
600-315_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	17	--[b]	--
600-315_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	1,400	153,723	No
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	66,000	--[c]	--
600-315_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	110,000	--[c]	--
600-322_Shallow_Focused	non-Rad	4,4'-DDE (Dichlorodiphenyldichloroethylene)	72-55-9	µg/kg	2.6	--[b]	--
600-322_Shallow_Focused	non-Rad	Antimony	7440-36-0	µg/kg	1,100	125,458	No
600-322_Shallow_Focused	non-Rad	Chromium	7440-47-3	µg/kg	32,800	--[b]	--
600-322_Shallow_Focused	non-Rad	Copper	7440-50-8	µg/kg	57,400	1.56E+06	No
600-322_Shallow_Focused	non-Rad	Iron	7439-89-6	µg/kg	9.46E+07	--[b]	--
600-322_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	72,200	--[b]	--
600-322_Shallow_Focused	non-Rad	Manganese	7439-96-5	µg/kg	556,000	--[b]	--
600-322_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	37	--[b]	--
600-322_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	4,300	1.92E+08	No
600-322_Shallow_Focused	non-Rad	Nickel	7440-02-0	µg/kg	35,400	--[b]	--
600-322_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	210	--[b]	--
600-323_Shallow_Focused	non-Rad	Acenaphthene	83-32-9	µg/kg	31	2.50E+07	No
600-323_Shallow_Focused	non-Rad	Aluminum	7429-90-5	µg/kg	1.34E+07	--[b]	--
600-323_Shallow_Focused	non-Rad	Barium	7440-39-3	µg/kg	549,000	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	4.6	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	18	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	50	--[b]	--
600-323_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	9.9	--[b]	--
600-323_Shallow_Focused	non-Rad	Boron	7440-42-8	µg/kg	34,000	--[c]	--
600-323_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	170	--[b]	--
600-323_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	87	--[b]	--
600-323_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	18	--[b]	--
600-323_Shallow_Focused	non-Rad	Molybdenum	7439-98-7	µg/kg	1,100	1.92E+08	No
600-323_Shallow_Focused	non-Rad	Naphthalene	91-20-3	µg/kg	120	2.99E+07	No
600-323_Shallow_Focused	non-Rad	Selenium	7782-49-2	µg/kg	2,200	153,723	No
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	50,000	--[c]	--
600-323_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	68,000	--[c]	--
600-327_Shallow_Focused	non-Rad	Fluorene	86-73-7	µg/kg	41	5.35E+07	No
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	2,700	2.52E+06	No
600-327_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	2,700	2.52E+06	No
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	2,200	--[c]	--
600-327_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	3,000	--[c]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	3.8	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	25	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	25	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	17	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Bis(2-ethylhexyl) phthalate	117-81-7	µg/kg	100	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	39	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	34	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Lead	7439-92-1	µg/kg	14,200	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Mercury	7439-97-6	µg/kg	1,900	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrate	NO3-N	µg/kg	259,000	2.52E+06	No

Table 7-10. Comparison of EPCs from 100-IU-6 Source OU Waste Site Decision Units to STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Levels Protective of Surface Water (With Background Consideration)

Waste Site/Decision Unit	Analyte Group	Analyte Name	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Soil Screening Level for Surface Water Protection[a]	Is EPC > Soil Screening Level Protective of Surface Water?
600-334:1_Shallow_Focused	non-Rad	Nitrogen in Nitrite and Nitrate	NO2+NO3-N	µg/kg	287,000	2.52E+06	No
600-334:1_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	78	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Silver	7440-22-4	µg/kg	220	--[b]	--
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range	TPHDIESEL	µg/kg	7,900	--[c]	--
600-334:1_Shallow_Focused	non-Rad	Total petroleum hydrocarbons - diesel range extended to C36	TPHDIESELEXT	µg/kg	74,000	--[c]	--
600-334:1_Shallow_Focused	non-Rad	Zinc	7440-66-6	µg/kg	73,000	--[b]	--
600-350_Shallow_Focused	non-Rad	Anthracene	120-12-7	µg/kg	3.1	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(a)anthracene	56-55-3	µg/kg	23	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(a)pyrene	50-32-8	µg/kg	21	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(b)fluoranthene	205-99-2	µg/kg	16	--[b]	--
600-350_Shallow_Focused	non-Rad	Benzo(k)fluoranthene	207-08-9	µg/kg	6.6	--[b]	--
600-350_Shallow_Focused	non-Rad	Chrysene	218-01-9	µg/kg	20	--[b]	--
600-350_Shallow_Focused	non-Rad	Fluoranthene	206-44-0	µg/kg	52	--[b]	--
600-350_Shallow_Focused	non-Rad	Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	17	--[b]	--
600-350_Shallow_Focused	non-Rad	Pyrene	129-00-0	µg/kg	63	--[b]	--
JA JONES 1_Overburden	non-Rad	Lead	7439-92-1	µg/kg	17,100	--[b]	--
JA JONES 1_Shallow	non-Rad	Lead	7439-92-1	µg/kg	54,479	--[b]	--

Notes:

a. ECF-HANFORD-12-0004. A 70:30 source distribtuion is used for analytes with Kd ≥ 2 mL/g; a 100:0 source distribution is used for analytes with Kd < 2 mL/g.

b. The calculated soil screening level for the analyte is considered non-representative because: (1) breakthrough is simulated within 1,000 years for some soil columns while other soil columns (a majority) show no breakthrough (breakthrough defined as concentrations below 1E-04 µg/L or activity below 1E-04 pCi/L), and/or (2) the calculated residual mass of contaminant in the pore volume is high enough to represent a substantial (and physically improbable) reduction in porosity.

c. A soil screening level is not calculated because a surface water cleanup level or surface water standard is not available for the analyte.

d. The soil screening level for hexavalent chromium is set to a maximum value of 6,000 µg/kg because the kd value used in the model was derived from experiments with soil concentration less than 6,000 µg/kg.

-- = Not applicable or no value.

CH2MHILL Plateau Remediation Company

Environmental Calculation Cover Page

Part 1: Completed by the Responsible Manager

Project: 100 Areas and 300 Area Remedial Investigation/Feasibility Study Reports

Date: September 26, 2012

Calculation Title & Description: **Comparison of 100-IU-2 and 100-IU-6 Source Operable Unit Exposure Point Concentrations to Preliminary Remediation Goals Protective of Groundwater and Preliminary Remediation Goals Protective of Surface Water**

Preparer: Jason Hulstrom	Basis of Qualification: Education and Experience
Checker: Doug Evans	Basis of Qualification: Education and Experience
Senior Reviewer: Donna Morgans	Basis of Qualification: Education and Experience

Part 2: Completed by Preparer

Calculation No.: ECF-100FR1-12-0047

Revision No.: Draft A

Revision History:

Revision No.	Description	Date	Affected Pages
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Part 3: Document Review & Approval:

Preparer:
Jason Hulstrom/Environmental Scientists
NAME/POSITION
Jason Hulstrom
SIGNATURE
9/27/2012
DATE

Checker:
Doug Evans/Senior Risk Assessor
NAME/POSITION
Doug Evans
SIGNATURE
9/27/2012
DATE

Senior Reviewer:
Donna Morgans/Senior Risk Assessor
NAME/POSITION
Donna L Morgans
SIGNATURE
9/27/12
DATE

Responsible Manager:
Alaa Aly/Risk and Modeling Integration Manager
NAME/POSITION
SIGNATURE
9/27/12
DATE

Contents

1 Purpose **1**

2 Background **1**

3 Methodology **1**

4 Assumptions and Inputs **2**

4.1 Identification of COPCs 2

4.2 Preliminary Remediation Goals for the Protection of Groundwater 2

4.3 Preliminary Remediation Goals for the Protection of Surface Water 3

4.4 Exposure Point Concentrations 3

5 Software Applications **3**

6 Calculation **3**

7 Results/Conclusions **3**

7.1 100-IU-2 Source Operable Unit 3

7.2 100-IU-6 Source Operable Unit 4

8 References **4**

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Terms

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
COPC	Contaminant of potential concern
DOE	U.S. Department of Energy
ECF	Environmental Calculation File
EPA	Environmental Protection Agency
EPC	Exposure point concentration
FS	Feasibility study
OU	Operable unit
PRG	Preliminary Remediation Goal
RI	Remedial investigation
STOMP	Subsurface Transport Over Multiple Phases

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1 Purpose

This environmental calculation documents the methodology used to identify waste sites in the 100-IU-2/IU-6 portion of the 100-F/IU-2/IU-6 Area where post-remediation soil sample results exceed soil preliminary remediation goals (PRGs) for the protection of groundwater and the protection of surface water. The 100-IU-2/IU-6 Area is associated with two source operable units (OUs): the 100-IU-2 Source OU and 100-IU-6 Source OU. The exposure point concentrations (EPCs) for identified constituents of potential concern (COPCs) for each waste site decision unit in the 100-IU-2 Source OU and 100-IU-6 Source OU are compared to both groundwater protective and surface water protective PRGs for a base case recharge scenario. The waste sites where EPCs exceed a PRG will be evaluated through the remedial investigation/feasibility study (RI/FS) process being conducted for the 100 Areas and 300 Area under the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA).

This environmental calculation supports DOE/RL-2010-98, *Remedial Investigation/Feasibility Study for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units*. A summary based upon the comparison of EPCs to PRGs described in this environmental calculation will be presented in the RI/FS report.

2 Background

Based on agreements with the Senior Executive Council, modeling with the STOMP simulator (PNNL-15782, *STOMP Subsurface Transport Over Multiple Phases, Version 4.0: User's Guide*) was performed to provide a site-specific basis for estimating PRGs for groundwater protection and surface water protection. PRGs for the protection of groundwater and the protection of surface water were estimated with the STOMP 1D 70:30/100:0 Contaminant Source Model, which is a one-dimensional model that assumes either 70 percent contamination of the vadose zone (upper 70 percent contaminated, lower 30 percent uncontaminated [70:30]) or 100 percent contamination of the vadose zone (zero percent uncontaminated [100:0]) beneath a backfilled waste site. Source distributions are assigned based on analyte distribution coefficients (K_d). A 70:30 source distribution is assumed for analytes with a $K_d \geq 2$ mL/g and a 100:0 source distribution is assumed for analytes with a $K_d < 2$ mL/g. The STOMP 1D 70:30/100:0 Contaminant Source Model is an OU-specific model that assumes all contamination moves downward with no dispersion, volatilization, or credit for mixing with river water. For determination of PRGs, the model was implemented for a base case recharge scenario, which represents a site re-vegetated with natural (shrub steppe) land cover with no irrigation of the site.

Comparisons are conducted herein between EPCs and the PRGs for both groundwater protection and surface water protection for the identified COPCs at each waste site decision unit in the 100-IU-2 Source OU and 100-IU-6 Source OU.

3 Methodology

This section describes the methodology used to compare EPCs for identified COPCs at each waste site decision unit to PRGs for groundwater protection and surface water protection for the base case and irrigation recharge scenarios.

For all of the COPCs identified at the 100-IU-2/IU-6 waste site decision units, the following steps are performed:

1. Obtain COPCs for each waste site decision unit in the 100-IU-2 Source OU and 100-IU-6 Source OU.

2. Obtain PRGs for the protection of groundwater and the protection of surface water for the STOMP 1D 70:30/100:0 base case scenario.

3. Obtain EPC values for each waste site decision unit in the 100-IU-2 Source OU and 100-IU-6 Source OU.

4. Individually compare EPCs for each waste site decision unit in the 100-IU-2 Source OU and 100-IU-6 Source OU to soil PRGs for the protection of groundwater and the protection of surface water.

4 Assumptions and Inputs

Assumptions and inputs associated with COPCs, PRGs, and EPCs are described below.

Table 4-1 documents the sources of information for the PRGs.

Table 4-1. Reference Sources

Preliminary Remediation Goal	Pathway	Reference
STOMP 1D 70:30/100:0 Contaminant Source Model – Base Case Recharge Scenario	Groundwater	ECF-HANFORD-12-0004
	Surface Water	ECF-HANFORD-12-0004

Notes:

ECF-HANFORD-12-0004, *STOMP1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

4.1 Identification of COPCs

For the purposes of this environmental calculation, a COPC is defined as an analyte suspected of being associated with site-related activities, which represents a potential threat to human health or the environment, and whose data are of sufficient quality for use in a quantitative baseline risk assessment.

All analytes identified as exceeding background soil concentrations and soil screening levels in a waste site decision unit are identified as COPCs because the soil sample results represent post-remediation conditions. COPCs for the 100-IU-2 Source OU and 100-IU-6 Source OU are identified in ECF-100FR1-11-0093, *Comparison of 100-IU-2/IU-6 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water*. For the 100-IU-2 Source OU, no COPCs have been identified for either groundwater protection or surface water protection (ECF-100FR1-11-0093). For the 100-IU-6 Source OU, one COPC has been identified for groundwater protection and no COPCs have been identified for surface water protection (ECF-100FR1-11-0093). The 100-IU-6 Source OU COPC for groundwater protection is presented in Table 4-2.

4.2 Preliminary Remediation Goals for the Protection of Groundwater

PRGs for the protection of groundwater at and near the 100-IU-2/IU-6 Source OU have been derived using the following models:

- STOMP 1D 70:30/100:0 Contaminant Source Model, base case scenario

The STOMP 1D 70:30/100:0 Contaminant Source Model assumes that either the upper 70 percent of the vadose zone (for $K_d \geq 2$ mL/g analytes) or the entire vadose zone (for $K_d < 2$ mL/g analytes) is

contaminated below clean fill. The recharge rate for the base case scenario represents a site re-vegetated with natural (shrub steppe) land cover assuming no irrigation of the site. OU-specific PRGs protective of groundwater for the 100-IU-2 Source OU and 100-IU-6 Source OU calculated using the STOMP 1D 70:30/100:0 Contaminant Source Model are documented in ECF-HANFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas*. The groundwater protective PRG for the COPC identified for the 100-IU-6 Source OU is presented in Table 4-3.

4.3 Preliminary Remediation Goals for the Protection of Surface Water

PRGs for the protection of surface water at and near the 100-IU-2/IU-6 Source OU are presented in ECF-HANFORD-12-0004 but are not used for this evaluation because no COPCs for surface water protection have been identified for either the 100-IU-2 Source OU or 100-IU-6 Source OU (ECF-100FR1-11-0093).

4.4 Exposure Point Concentrations

OSWER 9285.6-10, *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*, states that, "an exposure point concentration (EPC) is a conservative estimate of the average chemical concentration in an exposure medium." OSWER Publication 9285.7-081, *Supplemental Guidance to RAGS: Calculating the Concentration Term,* states that, "because of the uncertainty associated with estimating the true average concentration at a site, the 95 percent upper confidence limit (UCL) of the arithmetic mean should be used for this variable."

The EPCs used for comparison to PRGs are the analyte-specific values computed from the post-remediation soil sample results for each waste site decision unit in the 100-IU-2 Source OU and 100-IU-6 Source OU, as described in ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Source Operable Units*. The EPC corresponding to the COPC for groundwater protection identified for the 100-IU-6 Source OU is presented in Table 4-2.

5 Software Applications

Microsoft Excel® was used to tabulate the data in electronic spreadsheets. These spreadsheets are provided as tables in this environmental calculation.

6 Calculation

Comparison of EPCs to PRGs is conducted as described in Sections 3 to determine which COPCs exceed a PRG. Results of the comparisons are presented in the accompanying tables, as discussed in Section 7. The tables share a similar format, providing both the values being compared as well as a "Yes/No" column indicating the outcome of the comparison.

7 Results/Conclusions

Results of the comparisons conducted for the 100-IU-2 Source OU and 100-IU-6 Source OU are summarized in the following subsections.

7.1 100-IU-2 Source Operable Unit

No EPC to PRG comparisons are conducted for the 100-IU-2 Source OU because no COPCs for either groundwater or surface water protection have been identified for this OU (ECF-100FR1-11-0093).

® Microsoft Excel is a registered product of the Microsoft Corporation.

7.2 100-IU-6 Source Operable Unit

An EPC to PRG comparison for the groundwater protection COPC identified for the 100-IU-6 Source OU is presented in Table 7-1. The EPC exceeds the PRG. No EPC comparisons to surface water protective PRGs are conducted because no COPCs for surface water protection have been identified for the 100-IU-6 Source OU (ECF-100FR1-11-0093).

8 References

DOE/RL-2010-98, 2012, *Remedial Investigation/Feasibility Study for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units*, Draft A, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

ECF-100FR1-11-0020, 2012, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Operable Unit*, Decisional Draft, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-100FR1-11-0093, 2012, *Comparison of 100-IU-2/IU-6 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water,* Decisional Draft, CH2M HILL Plateau Remediation Company, Richland, Washington.

ECF-HANFORD-12-0004, 2012, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas*, Draft A, CH2M HILL Plateau Remediation Company, Richland, Washington.

OSWER 9285.6-10, 2002, *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://epa.gov/oswer/riskassessment/pdf/ucl.pdf.

OSWER Publication 9285.7-081, 1992, *Supplemental Guidance to RAGS: Calculating the Concentration Term*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.deq.state.or.us/lq/pubs/forms/tanks/UCLsEPASupGuidance.pdf.

PNNL-15782, 2006, *STOMP Subsurface Transport Over Multiple Phases, Version 4.0: User's Guide*, Pacific Northwest National Laboratory, Richland, Washington. Available at: http://stomp.pnnl.gov/.

Table 4-2 Summary of COPCs and EPCs for Groundwater Protection for the 100-IU-6 Source OU

Waste Site/Decision Unit	Analyte Group	COPC[a]	CAS No.	Units	Exposure Point Concentration[b]
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.90E+06

Notes:

a. ECF-100FR1-11-0093, *Comparison of 100-IU-2/IU-6 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water.*

b. ECF-100FR1-11-0020, *Computation of Exposure Point Concentrations for the 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Operable Units.*

Table 4-3. STOMP 1D 70:30/100:0 Contaminant Source Model Base Case Preliminary Remediation Goals for Groundwater Protection for Identified COPCs at the 100-IU-6 Source OU

COPC[a]	CAS No.	STOMP 1D 70:30/100:0 Contaminant Source Model Base Case GWP Preliminary Remediation Goal[b]
Nonradionuclides (µg/kg)		
Total petroleum hydrocarbons	TPH	1.00E+06[c]

Notes:

a. ECF-100FR1-11-0093, *Comparison of 100-IU-2/IU-6 Source Operable Unit Exposure Point Concentrations to Soil Screening Levels Protective of Groundwater and Soil Screening Levels Protective of Surface Water.*

b. ECF-HANFORD-12-0004, *STOMP 1-D Modeling for Determination of Soil Screening Levels and Preliminary Remediation Goals for 100 Area F and IU Source Areas.*

c. The PRG for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."

Table 7-1. Comparison of EPCs for 100-IU-6 Source OU COPCs to STOMP 1D 70:30/100:0 Contaminant Source Model Base Case Preliminary Remediation Goals Protective of Groundwater

Waste Site/Decision Unit	Analyte Group	COPC	CAS No.	Units	Exposure Point Concentration	STOMP 1D 70:30/100:0 Contaminant Source Model Base Case GWP Preliminary Remediation Goal	Is EPC > PRG Protective of Groundwater?
600-205_Shallow_Focused	non-Rad	Total petroleum hydrocarbons	TPH	µg/kg	1.90E+06	1.00E+06[a]	Yes

Notes:

a. The PRG for Total Petroleum Hydrocarbons is a default screening level obtained from WAC 173-340-900, Table 747-5, "Residual Saturation Screening Levels for TPH."