APPENDICES

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APPENDIX A
Historical Photographs

Circa 1917 aerial photograph of the Anacortes Lumber and Box Company along the Guemes Channel shoreline (courtesy of Port of Anacortes). The Dakota Creek Industries Site is located to the right of the main pier structure.

Notes:

1. This photo is for information purposes. It is intended to assist in showing Site and surrounding features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Port of Anacortes

Historical Photograph – Circa 1917

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-1

Circa 1930s aerial photograph of Pier 1 and east adjacent Dakota Creek Industries Site along the Guemes Channel shoreline (courtesy of Port of Anacortes).

Notes:

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Data Source: Port of Anacortes

Historical Photograph – Circa 1930s

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-2

Circa 1940s aerial photograph of Pier 1 and east adjacent Dakota Creek Industries Site along the Guemes Channel shoreline (courtesy of Port of Anacortes).

Notes:

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Data Source: Port of Anacortes

Historical Photograph – Circa 1940s

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-3

Circa 1946 aerial photograph of Pier 1 and east adjacent Dakota Creek Industries Site along the Guemes Channel shoreline (courtesy of Port of Anacortes).

Notes:

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Data Source: Port of Anacortes

Historical Photograph – Circa 1946

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-4

Circa 1960s aerial photograph of Pier 2 and west adjacent Dakota Creek Industries Site along the Guemes Channel shoreline (courtesy of Port of Anacortes).

Notes:

1. This photo is for information purposes. It is intended to assist in showing Site and surrounding features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Port of Anacortes

Historical Photograph – Circa 1960s

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-5

Circa 1975 aerial photograph of the Anacortes waterfront along the Guemes Channel shoreline (courtesy of Port of Anacortes). The Dakota Creek Industries Site is positioned between Pier 1 and Pier 2 north of 3rd Street.

Notes:

1. This photo is for information purposes. It is intended to assist in showing Site and surrounding features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

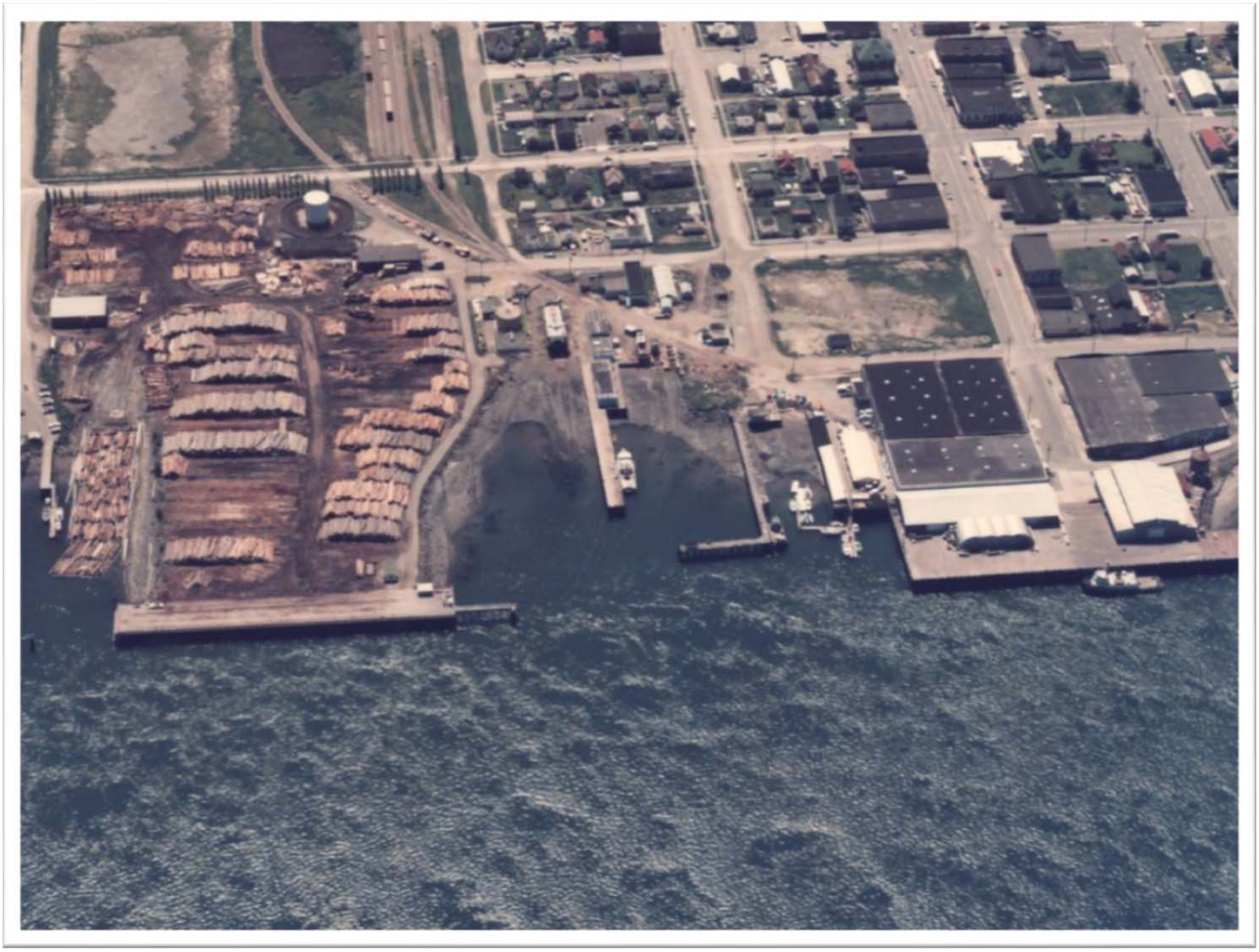
Data Source: Port of Anacortes

Historical Photograph – Circa 1975

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-6



Circa 1977 aerial photograph of the Dakota Creek Industries Site along the Guemes Channel shoreline (Washington State Department of Ecology – Costal Atlas).

Notes:

1. This photo is for information purposes. It is intended to assist in showing Site and surrounding features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Washington State Department of Ecology – Costal Atlas

Historical Photograph – Circa 1977

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-7

Circa 1994 aerial photograph of the Dakota Creek Industries Site along the Guemes Channel shoreline (Washington State Department of Ecology – Costal Atlas).

Notes:

1. This photo is for information purposes. It is intended to assist in showing Site and surrounding features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

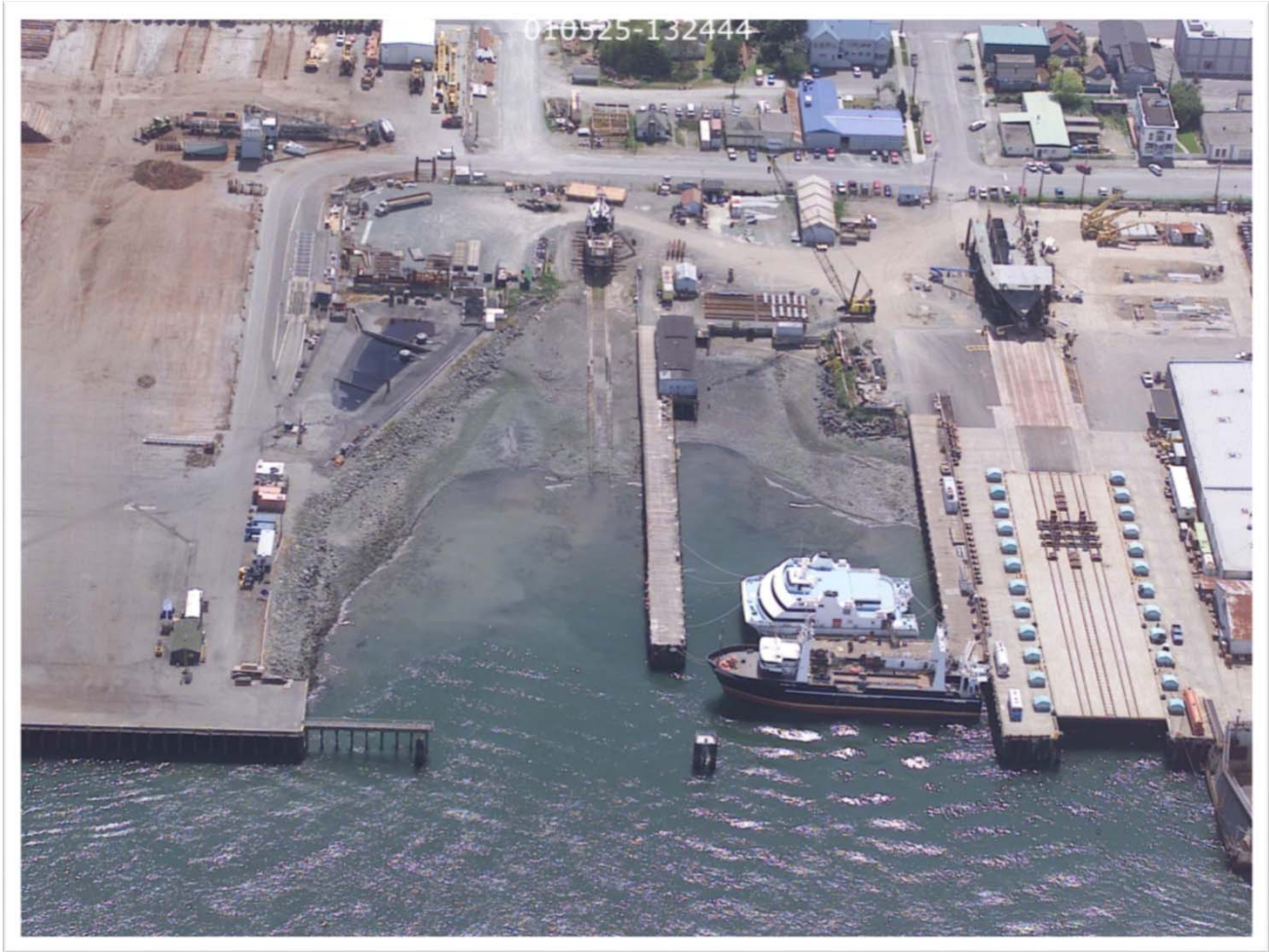
Data Source: Washington State Department of Ecology – Costal Atlas

Historical Photograph – Circa 1994

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-8



Circa 2002 aerial photograph of the Dakota Creek Industries Site along the Guemes Channel shoreline (Washington State Department of Ecology – Costal Atlas).

Notes:

1. This photo is for information purposes. It is intended to assist in showing Site and surrounding features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

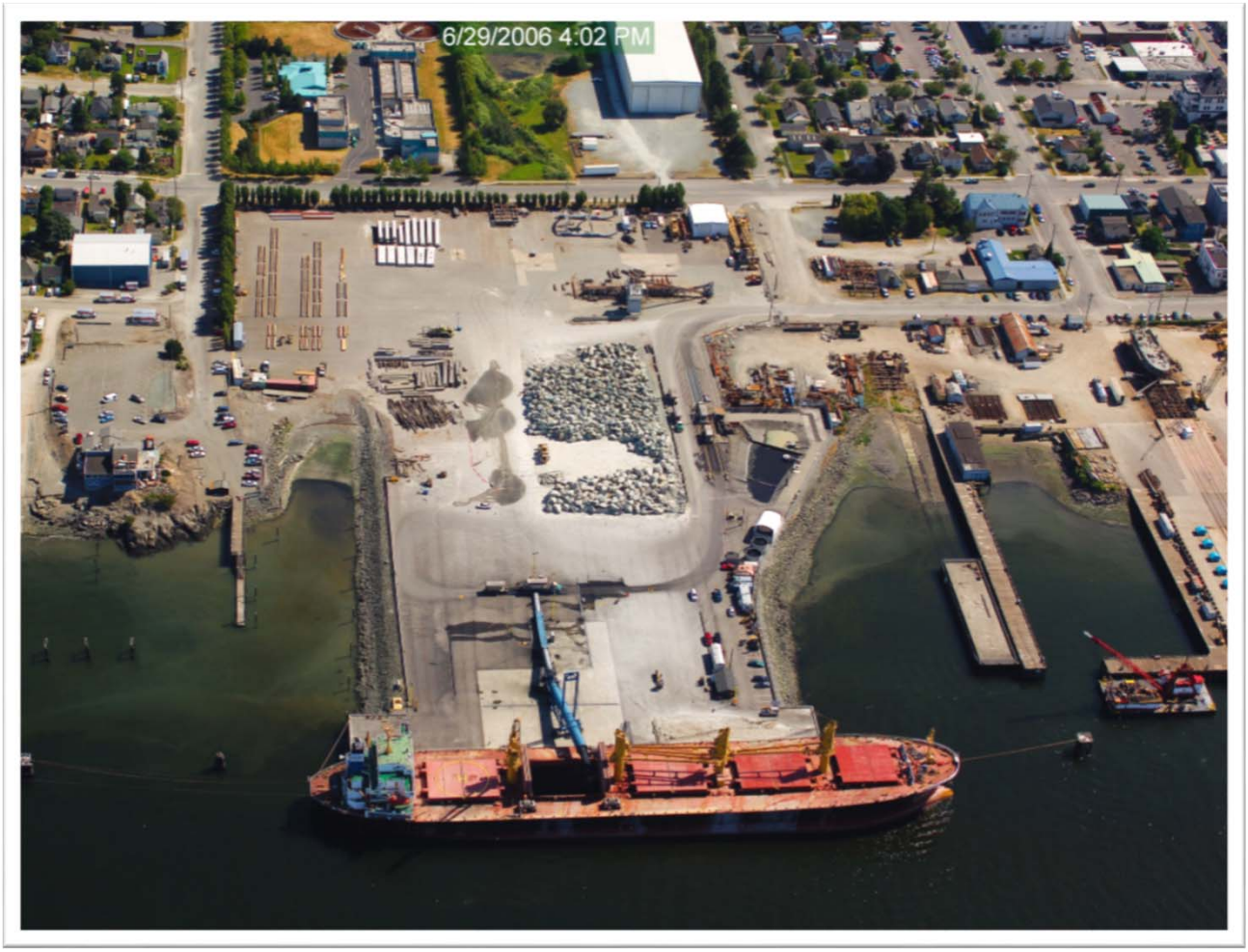
Data Source: Washington State Department of Ecology – Costal Atlas

Historical Photograph – Circa 2002

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-9



Circa 2006 aerial photograph of the Pier 2 and west adjacent Dakota Creek Industries Site along the Guemes Channel shoreline (Washington State Department of Ecology – Costal Atlas).

Notes:

1. This photo is for information purposes. It is intended to assist in showing Site and surrounding features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

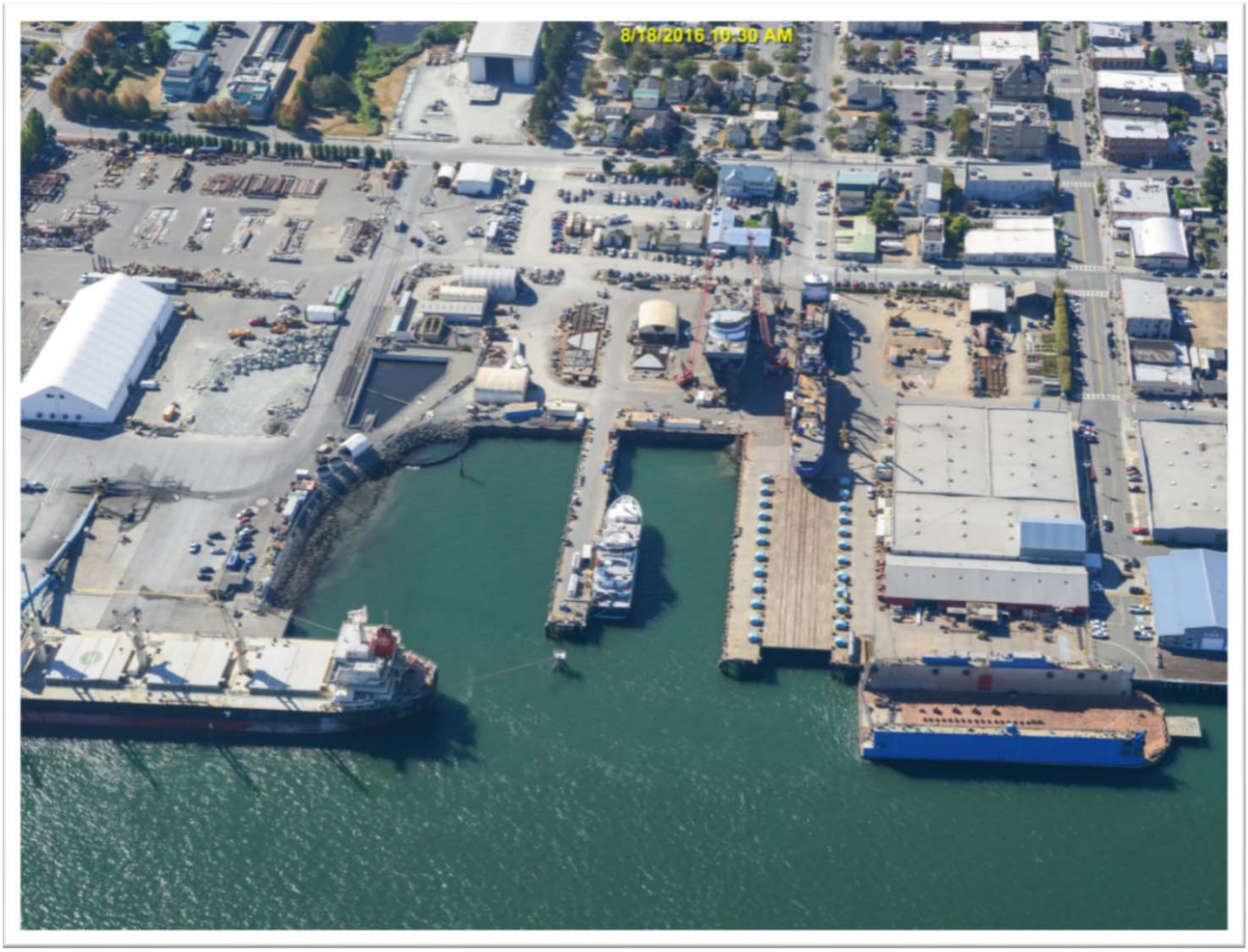
Data Source: Washington State Department of Ecology – Costal Atlas

Historical Photograph – Circa 2006

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-10



Circa 2016 aerial photograph of the Dakota Creek Industries Site along the Guemes Channel shoreline (Washington State Department of Ecology – Costal Atlas).

Notes:

1. This photo is for information purposes. It is intended to assist in showing Site and surrounding features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Washington State Department of Ecology – Costal Atlas

Historical Photograph – Circa 2016

Dakota Creek Industries Site
Anacortes, Washington

GeoEngineers

Figure A-11

APPENDIX B
Terrestrial Ecological Evaluation

Terrestrial Ecological Evaluation Process- Simplified or Site-Specific Evaluation?

Documentation Form

	Terrestrial Concern	Response (Circle One)
*1	Is the site is located on or directly adjacent to an area where management or land use plans will maintain or restore native or semi-native vegetation?	Yes / (No)
*2a	Is the site used by a threatened or endangered species?	Yes / (No)
*2b	Is the site used by a wildlife species classified by the state department of fish and wildlife as a "priority species" or "species of concern" under Title 77 RCW?	Yes / (No)
*2c	Is the site used by a plant species classified by the Washington state department of Natural Resources natural heritage program as "endangered," "threatened," or "sensitive" under Title 79 RCW.	Yes / (No)
*3	Is the site (area where the contamination is located) located on a property that contains at least ten acres of native vegetation within 500 feet of the area where the contamination is located?	Yes / (No)
4	Has the department determined that the site may present a risk to significant wildlife populations?	Yes / (No)

*1 This includes for example, green-belts, protected wetlands, forestlands, locally designated environmentally sensitive areas, open space areas managed for wildlife, and some parks or outdoor recreation areas. This does not include park areas used for intensive sport activities such as baseball or football.

*2a What are the threatened or endangered species in Washington state?

*2b Which plant species are classified as threatened, endangered, or sensitive? Where can I find out more information about this topic?

*2c For plants, "used" means that a plant species grows at the site or has been found growing at the site. For animals, "used" means that individuals of a species have been observed to live, feed or breed at the site.

*3 For this analysis, do not include native vegetation beyond the property boundary.

The following sources shall be used in making this determination: Natural Vegetation of Oregon and Washington, J.F. Franklin and C.T. Dyrness, Oregon State University Press, 1988, and L.C. Hitchcock, C.L. Hitchcock, J.W. Thompson and A. Cronquist, 1955-1969, Vascular Plants of the Pacific Northwest(5 volumes). Areas planted with native species for ornamental or landscaping purposes shall not be considered to be native vegetation. [WAC 173-340-7491(2)(c)(i)]

(Here's a link to the Seattle Public Library and the Washington State Library to borrow a copy of Natural Vegetation of Oregon and Washington, J.F. Franklin and C.T. Dyrness, Oregon State University Press, 1988, or you may purchase it through your favorite bookseller. Here's an additional link to a useful online Field Guide to Selected Rare Plants of Washington developed by the Washington State Department of Natural Resources' Natural Heritage Program (WNHP) and the Spokane District of the U.S.D.I. Bureau of Land Management (BLM) which contains fact sheets for 139 vascular plant species and one lichen species.

Here is an aid to calculating area and an aerial photo depicting a site, its 500 foot boundary and several labeled circles identifying various areas for reference in judging the area of native vegetation within the 500 foot radius.

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493] [Index of Tables]

[TEE Home]

Washington State Department of Ecology
Toxics Cleanup Program

Terrestrial Ecological Evaluation Process- Simplified Evaluation

Documentation Form

Criteria # (Concern)	Criteria	Response (Circle One)
1 (exposure)	Is the total area of soil contamination at the site less than or equal to 350 square feet	**Yes (End TEE) / No**
2 (exposure)	Does land use at the site and surrounding area make substantial wildlife exposure unlikely based on completion of Table 749-1?	**Yes (End TEE) / No**
3 (pathway)	Is there a potential exposure pathway from soil contamination to soil biota, plants, or wildlife?	**Yes / No (End TEE)**
4 (contaminant)	Are the hazardous substances at your site listed in Table 749-2 and is (or will) their location in the soil at your site be at a depth not exceeding the point of compliance, and at concentrations that do not exceed the values provided in Table 749-2.	**Yes (End TEE) / No** **Note: You must perform bioassays for contaminants at your site if no table value is provided.**
5 (contaminant)	Will hazardous substances listed in Table 749-2 be present in the soil at your site within 6 feet of the ground surface at concentrations likely to be toxic, or with the potential to bioaccumulate, based on bioassays using methods approved by the department.	**Yes / No (End TEE)**

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493] [Index of Tables]

[TEE Home]

Table 749-1

Simplified Terrestrial Ecological Evaluation-Exposure Analysis Procedure

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre).	
1) From the table below, find the number of points corresponding to the area and enter this number in the field to the right.	
Area (acres) / Points 0.25 or less / 4 0.5 / 5 1.0 / 6 1.5 / 7 2.0 / 8 2.5 / 9 3.0 / 10 3.5 / 11 4.0 or more / 12	4
2) Is this an industrial or commercial property? If yes, enter a score of 3. If no, enter a score of 1	3
3)[a] Enter a score in the box to the right for the habitat quality of the site, using the following rating system[b]. High=1, Intermediate=2, Low=3	3
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2.[c]	2
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.	4
6) Add the numbers in the boxes on lines 2-5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified evaluation may be ended.	12

Notes for Table 749-1

[a] It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score of (1) for questions 3 and 4.

[b] **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:

> **Low:** Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.

High: Area is ecologically significant for one or more of the following reasons: Late-successional native plant communities present; relatively high species diversity; used by an uncommon or rare species; priority habitat (as defined by the Washington Department of fish and Wildlife); part of a larger area of habitat where size or fragmentation may be important for the retention of some species.

Intermediate: Area does not rate as either high or low.

[c] Indicate "yes" if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use b mammals (tracks, scat, etc.); habitat "island" in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.

[Area Calculation Aid] [Aerial Photo with Area Designations] [TEE Table 749-1] [Index of Tables]

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493]

[TEE Home]

APPENDIX C
Environmental Sediment Data

Table C-1

Sediment Chemical Analytical Data – Protection of Benthic Organisms

Dakota Creek Industries
Anacortes, Washington

Sample Location ID[1]		DC-SED-01	DC-SED-02	DC-SED-03	DC-SED-05	DC-SED-06	DC-SED-08	DC-SED-09	DMMU-D1	DMMU-D2	P1-2	DCI-1	DCI-2	DC-106-1	DC-106-2	Proposed Sediment Screening Level[3]	
Sample Identification		DC-SED-01[2]	DC-SED-02[2]	DC-SED-03[2]	DC-SED-05[2]	DC-SED-06[2]	DC-SED-08[2]	DC-SED-09	DMMU-D1-Comp-A[2]	DMMU-D2-Comp-A[2]	AN-P1-2	AN-DCI-1A/B[2]	AN-DCI-2[2]	DCI06-1A[2]	DCI06-2A		
Sample Date		07/03/97	07/03/97	07/03/97	08/06/97	08/06/97	08/06/97	08/06/97	04/25/00	04/25/00	07/15/04	07/15/04	07/15/04	N/A	N/A		
Sample Interval (dbm)		0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	1-3 ft	1-3 ft	1-3 ft	0-10 cm	0-10 cm		
Sample Study[4]		1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	2000 DMMP Characterization	2000 DMMP Characterization	2004 Sediment Study	2004 Sediment Study	2004 Sediment Study	2007 Sediment Study	2007 Sediment Study		
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface Composite	Surface Composite	Sediment Study	Subsurface	Subsurface	Surface	Surface	SCO/ LAET	CSL/ 2LAET
Sampled By		Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Hart Crowser	Hart Crowser	Sediment Study	Anchor Env.	Anchor Env.	Floyd|Snider	Floyd|Snider		
Conventionals																	
Total Organic Carbon (TOC)	%	0.658	26.2	0.375	1.52	1.87	0.893	0.167	2.74	1.8	0.64	2.24	4.25	1.32	0.641	NE	NE
Total Volatile Solids (TVS)	%	--	--	--	--	--	--	--	6.0	5.0	--	--	--	--	--	NE	NE
Total Solids (TS)	%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	58.3	56.7	78.2	60	60.4	69.5	78.3	NE	NE
Total Ammonia	mg-N/kg	--	--	--	--	--	--	--	31.0	34.0	--	--	--	--	--	NE	NE
Total Sulfide	mg/kg	--	--	--	--	--	--	--	1,140 J	554	--	--	--	--	--	NE	NE
Grain Size																	
Gravel *(>2,000 µm)*	%	--	--	--	--	--	--	--	11	--	--	--	--	--	--	NE	NE
µm)	%	--	--	--	--	--	--	--	56	--	--	--	--	--	--	NE	NE
Coarse Sand *(1,000 to 500 µm)*	%									--	--	--	--	--	--	NE	NE
Medium Sand *(500 to 250 µm)*	%									--	--	--	--	--	--	NE	NE
Fine Sand *(250 to 125 µm)*	%									--	--	--	--	--	--	NE	NE
Very Fine Sand *(125 to 62.5 µm)*	%									--	--	--	--	--	--	NE	NE
Coarse Silt *(62.5 to 31 µm)*	%	--	--	--	--	--	--	--	25	--	--	--	--	--	--	NE	NE
Medium Silt *(31 to 15.6 µm)*	%									--	--	--	--	--	--	NE	NE
Fine Silt *(15.6 to 7.8 µm)*	%									--	--	--	--	--	--	NE	NE
Very Fine Silt *(7.8 to 3.9 µm)*	%									--	--	--	--	--	--	NE	NE
Clay *(3.9 to <1 µm)*	%	--	--	--	--	--	--	--	8	--	--	--	--	--	--	NE	NE
Total Fines *(<62.5 µm)*	%	--	--	--	--	--	--	--	33	--	--	--	--	--	--	NE	NE
Metals																	
Arsenic	mg/kg	ND	6.94	37.6	5.88 J	5.86 J	22.1	2.1 J	5.5	28.8	--	--	--	--	--	57	73
Cadmium	mg/kg	ND	ND	ND	0.315	0.3	0.195	ND	0.45	1.0	--	--	--	--	--	5.1	6.7
Chromium	mg/kg	21.4 J	6.98 J	32.8 J	23.7	26.2	21.9	13.4	31.7 J	36.1 J	--	--	--	--	--	260	270
Copper	mg/kg	55.4	42.8	1,240	42.7	50.1	374	15.3	37.4 J	174 J	--	--	--	--	--	390	390
Lead	mg/kg	9.87	94.6	63.8	12.6 J	15.5 J	75 J	6.23 J	14.5 J	48.8 J	--	--	--	--	--	450	530
Mercury	mg/kg	ND	ND	ND	ND	ND	ND	ND	0.2	0.22	--	--	--	--	--	0.41	0.59
Nickel	mg/kg	25.2 J	17 J	15.3 J	27.5	27.3	21.6	13.6	35.5	34.6	--	--	--	--	--	NE	NE
Silver	mg/kg	0.072	0.0699 J	0.471 J	0.0772	0.0962	0.0984	0.0582	0.12	0.26	--	--	--	--	--	6.1	6.1
Zinc	mg/kg	52.3	48.9	528	78.1	80	171	21.3	82.7	257	--	--	--	--	--	410	960
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs) (Dry Weight)																	
Sum of LPAHs[5]	µg/kg	--	10,290	1,940	--	--	2,350	--	454	2,757	--	--	--	--	--	5,200	5,200
2-Methylnaphthalene	µg/kg	--	4,100	ND	--	--	56.6	--	20 U	36	--	--	--	--	--	670	670
Acenaphthene	µg/kg	--	ND	ND	--	--	104	--	20 U	110	--	--	--	--	--	500	500
Acenaphthylene	µg/kg	--	ND	ND	--	--	63.1	--	23	210	--	--	--	--	--	1,300	1,300
Anthracene	µg/kg	--	1,420	386	--	--	268	--	99	790	--	--	--	--	--	960	960
Fluorene	µg/kg	--	742	208	--	--	104	--	38	120	--	--	--	--	--	540	540
Naphthalene	µg/kg	--	3,060	ND	--	--	97.8	--	64	91	--	--	--	--	--	2,100	2,100
Phenanthrene	µg/kg	--	5,070	1,350	--	--	1,090	--	230	1,400	--	--	--	--	--	1,500	1,500
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs) (OC Normalized)																	
Sum of LPAHs[5]	mg/kg OC	--	39.3	522	--	--	263	--	16.57	153.18	--	--	--	--	--	370	780
2-Methylnaphthalene	mg/kg OC	--	15.6	ND	--	--	6.4	--	0.36 U	2.0	--	--	--	--	--	38	64
Acenaphthene	mg/kg OC	--	ND	ND	--	--	11.6	--	0.36 U	6.11	--	--	--	--	--	16	57
Acenaphthylene	mg/kg OC	--	ND	ND	--	--	7.1	--	0.84	11.67	--	--	--	--	--	66	66
Anthracene	mg/kg OC	--	5.4	104	--	--	30	--	3.61	43.89	--	--	--	--	--	220	1,200
Fluorene	mg/kg OC	--	2.8	55.9	--	--	11.6	--	1.39	6.67	--	--	--	--	--	23	79
Naphthalene	mg/kg OC	--	11.7	ND	--	--	11	--	2.34	5.06	--	--	--	--	--	99	170
Phenanthrene	mg/kg OC	--	19.4	363	--	--	122	--	8.39	78	--	--	--	--	--	100	480
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs) (Dry Weight)																	
Sum of HPAHs[6]	µg/kg	--	28,020	6,920	--	--	8,510	--	360	25,270	--	--	--	--	--	12,000	17,000
Benzo(a)anthracene	µg/kg	--	1,420	695	--	--	855	--	380	3,000	--	--	--	--	--	1,300	1,600
Benzo(a)pyrene	µg/kg	--	4,100	512	--	--	687	--	260	2,400	--	--	--	--	--	1,600	1,600
Total Benzofluoranthenes[7]	µg/kg	--	2,990	913	--	--	1,410	--	520	3,300	--	--	--	--	--	3,200	3,600
Benzo(g,h,i)perylene	µg/kg	--	4,850	362	--	--	457	--	35 U	20 U	--	--	--	--	--	670	720
Chrysene	µg/kg	--	4,150	821	--	--	1,080	--	400	3,100	--	--	--	--	--	1,400	2,800
Dibenzo(a,h)anthracene	µg/kg	--	3,060	ND	--	--	123	--	20 U	20 U	--	--	--	--	--	230	230
Fluoranthene	µg/kg	--	2,100	1,710	--	--	2,010	--	600	5,200	--	--	--	--	--	1,700	2,500

Sample Location ID[1]		DC-SED-01	DC-SED-02	DC-SED-03	DC-SED-05	DC-SED-06	DC-SED-08	DC-SED-09	DMMU-D1	DMMU-D2	P1-2	DCI-1	DCI-2	DC-106-1	DC-106-2	Proposed Sediment Screening Level[3]	
Sample Identification		DC-SED-01[2]	DC-SED-02[2]	DC-SED-03[2]	DC-SED-05[2]	DC-SED-06[2]	DC-SED-08[2]	DC-SED-09	DMMU-D1-Comp-A[2]	DMMU-D2-Comp-A[2]	AN-P1-2	AN-DCI-1A/B[2]	AN-DCI-2[2]	DCI06-1A[2]	DCI06-2A		
Sample Date		07/03/97	07/03/97	07/03/97	08/06/97	08/06/97	08/06/97	08/06/97	04/25/00	04/25/00	07/15/04	07/15/04	07/15/04	N/A	N/A		
Sample Interval (dbm)		0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	1-3 ft	1-3 ft	1-3 ft	0-10 cm	0-10 cm		
Sample Study[4]		1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	2000 DMMP Characterization	2000 DMMP Characterization	2004 Sediment Study	2004 Sediment Study	2004 Sediment Study	2007 Sediment Study	2007 Sediment Study		
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface Composite	Surface Composite	Sediment Study	Subsurface	Subsurface	Surface	Surface	SCO/ LAET	CSL/ 2LAET
Sampled By		Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Hart Crowser	Hart Crowser	Sediment Study	Anchor Env.	Anchor Env.	Floyd|Snider	Floyd|Snider		
Indeno(1,2,3-c,d)pyrene	µg/kg	--	2,050	362	--	--	394	--	28	1,200	--	--	--	--	--	600	690
Pyrene	µg/kg	--	3,300	1,540	--	--	2,330	--	900	6,400	--	--	--	--	--	2,600	3,300
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs) (OC Normalized)																	
Sum of HPAHs[6]	mg/kg OC	--	115	1,860	--	--	953	--	112.6	1,367	--	--	--	--	--	960	5,300
Benzo(a)anthracene	mg/kg OC	--	13.5	187	--	--	96	--	13.78	166.67	--	--	--	--	--	110	270
Benzo(a)pyrene	mg/kg OC	--	15.6	138	--	--	77	--	9.49	133.33	--	--	--	--	--	99	210
Total Benzofluoranthenes[7]	mg/kg OC	--	11.4	245	--	--	158	--	18.98	183.33	--	--	--	--	--	230	450
Benzo(g,h,i)perylene	mg/kg OC	--	18.5	97	--	--	51	--	0.64 U	0.56 U	--	--	--	--	--	31	78
Chrysene	mg/kg OC	--	15.8	221	--	--	121	--	14.6	172.22	--	--	--	--	--	110	460
Dibenzo(a,h)anthracene	mg/kg OC	--	11.7	ND	--	--	14	--	0.36 U	0.56 U	--	--	--	--	--	12	33
Fluoranthene	mg/kg OC	--	8	460	--	--	225	--	21.9	288.89	--	--	--	--	--	160	1,200
Indeno(1,2,3-c,d)pyrene	mg/kg OC	--	7.8	97	--	--	44.1	--	1.02	66.67	--	--	--	--	--	34	88
Pyrene	mg/kg OC	--	12.6	414	--	--	261	--	32.9	355.56	--	--	--	--	--	1,000	1,400
Chlorinated Hydrocarbons (Dry Weight)																	
1,2,4-Trichlorobenzene	µg/kg	--	--	--	--	--	--	--	6 U	6 U	--	--	--	--	--	31	51
1,2-Dichlorobenzene	µg/kg	--	--	--	--	--	--	--	3 U	3 U	--	--	--	--	--	35	50
1,4-Dichlorobenzene	µg/kg	--	--	--	--	--	--	--	3 U	3 U	--	--	--	--	--	110	110
Hexachlorobenzene	µg/kg	--	--	--	--	--	--	--	12 U	12 U	--	--	--	--	--	22	70
Chlorinated Hydrocarbons (OC Normalized)																	
1,2,4-Trichlorobenzene	mg/kg OC	--	--	--	--	--	--	--	0.11 U	0.17 U	--	--	--	--	--	0.81	1.8
1,2-Dichlorobenzene	mg/kg OC	--	--	--	--	--	--	--	0.05 U	0.08 U	--	--	--	--	--	2.3	2.3
1,4-Dichlorobenzene	mg/kg OC	--	--	--	--	--	--	--	0.05 U	0.08 U	--	--	--	--	--	3.1	9
Hexachlorobenzene	mg/kg OC	--	--	--	--	--	--	--	0.22 U	0.33 U	--	--	--	--	--	0.38	2.3
Phthalates (Dry Weight)																	
Bis(2-Ethylhexyl) Phthalate	µg/kg	--	--	--	--	--	--	--	200 U	200 U	--	--	--	--	--	1,300	1,900
Butyl benzyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	63	900
Dibutyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	1,400	1,400
Diethyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	200	> 1,200
Dimethyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	71	160
Di-N-Octyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	6,200	6,200
Phthalates (OC Normalized)																	
Bis(2-Ethylhexyl) Phthalate	mg/kg OC	--	--	--	--	--	--	--	3.65 U	5.56 U	--	--	--	--	--	47	78
Butyl benzyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	0.36 U	0.56 U	--	--	--	--	--	5	64
Dibutyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	0.36 U	0.56 U	--	--	--	--	--	220	1,700
Diethyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	0.36 U	0.56 U	--	--	--	--	--	61	110
Dimethyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	0.36 U	0.56 U	--	--	--	--	--	53	53
Di-N-Octyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	0.36 U	0.56 U	--	--	--	--	--	58	4,500
Phenols (Dry Weight)																	
2,4-Dimethylphenol	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	29	29
2-methylphenol (o-Cresol)	µg/kg	--	--	--	--	--	--	--	60 U	60 U	--	--	--	--	--	63	63
4-methylphenol (p-Cresol)	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	670	670
Pentachlorophenol	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	360	690
Phenol	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	420	1,200
Miscellaneous Extractables (Dry Weight)																	
Dibenzofuran	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	540	540
Hexachlorobutadiene	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	11	120
N-Nitrosodiphenylamine	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	28	40
Benzoic Acid	µg/kg	--	--	--	--	--	--	--	600 U	600 U	--	--	--	--	--	650	650
Benzyl Alcohol	µg/kg	--	--	--	--	--	--	--	50 U	50 U	--	--	--	--	--	57	73
Miscellaneous Extractables (OC Normalized)																	
Dibenzofuran	mg/kg OC	--	--	--	--	--	--	--	0.36 U	0.56 U	--	--	--	--	--	15	58
Hexachlorobutadiene	mg/kg OC	--	--	--	--	--	--	--	0.36 U	0.56 U	--	--	--	--	--	3.9	6.2
N-Nitrosodiphenylamine	mg/kg OC	--	--	--	--	--	--	--	0.36 U	0.56 U	--	--	--	--	--	11	11
Pesticides																	
4,4'-DDD	µg/kg	--	--	--	--	--	--	--	1 U	1 U	--	--	--	--	--	NE	NE
4,4'-DDE	µg/kg	--	--	--	--	--	--	--	1 U	1 U	--	--	--	--	--	NE	NE
4,4'-DDT	µg/kg	--	--	--	--	--	--	--	1 U	1 U	--	--	--	--	--	NE	NE
Total DDT (4,4 isomers)	µg/kg	--	--	--	--	--	--	--	1 U	1 U	--	--	--	--	--	NE	NE
Aldrin	µg/kg	--	--	--	--	--	--	--	1 U	1 U	--	--	--	--	--	NE	NE
Total Chlordane	µg/kg	--	--	--	--	--	--	--	1 U	1 U	--	--	--	--	--	NE	NE
Dieldrin	µg/kg	--	--	--	--	--	--	--	1 U	1 U	--	--	--	--	--	NE	NE

Sample Location ID[1]		DC-SED-01	DC-SED-02	DC-SED-03	DC-SED-05	DC-SED-06	DC-SED-08	DC-SED-09	DMMU-D1	DMMU-D2	P1-2	DCI-1	DCI-2	DC-106-1	DC-106-2	Proposed Sediment Screening Level[3]	
Sample Identification		DC-SED-01[2]	DC-SED-02[2]	DC-SED-03[2]	DC-SED-05[2]	DC-SED-06[2]	DC-SED-08[2]	DC-SED-09	DMMU-D1-Comp-A[2]	DMMU-D2-Comp-A[2]	AN-P1-2	AN-DCI-1A/B[2]	AN-DCI-2[2]	DCI06-1A[2]	DCI06-2A		
Sample Date		07/03/97	07/03/97	07/03/97	08/06/97	08/06/97	08/06/97	08/06/97	04/25/00	04/25/00	07/15/04	07/15/04	07/15/04	N/A	N/A		
Sample Interval (dbm)		0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	1-3 ft	1-3 ft	1-3 ft	0-10 cm	0-10 cm		
Sample Study[4]		1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	2000 DMMP Characterization	2000 DMMP Characterization	2004 Sediment Study	2004 Sediment Study	2004 Sediment Study	2007 Sediment Study	2007 Sediment Study		
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface Composite	Surface Composite	Sediment Study	Subsurface	Subsurface	Surface	Surface	SCO/ LAET	CSL/ 2LAET
Sampled By		Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Hart Crowser	Hart Crowser	Sediment Study	Anchor Env.	Anchor Env.	Floyd|Snider	Floyd|Snider		
Heptachlor	µg/kg	--	--	--	--	--	--	--	1 U	1 U	--	--	--	--	--	NE	NE
Polychlorinated Biphenyls (PCBs) (Dry Weight)																	
Total PCBs (Sum of Aroclors)	mg/kg	--	ND	**0.075**	--	--	0.285	--	0.02 U	0.02 U	--	--	--	--	--	0.13	1
Polychlorinated Biphenyls (PCBs) (OC Normalized)																	
Total PCBs (Sum of Aroclors)	mg/kg OC	--	ND	20.2	--	--	**31.9**	--	0.36 U	0.56 U	--	--	--	--	--	12	65

Notes:

[1] Sediment sample locations are shown on Figure 12.

[2] Sediment represented by this sample was subsequently dredged from the Marine Area during redevelopment of the Property in 2008.

[3] Proposed sediment cleanup levels for the protection of benthic organisms are referenced from Table 1.

[4] Data used to identify contaminants of potential concern (COPCs) consists of samples collected obtained by GeoEngineers in 2008 in general accordance with the RI/FS Work Plan to evaluate near shore sediment conditions as well as data collected by others to support dredge material suitability determination.

[5] Total LPAH represents the sum of the detected concentrations of the following LPAH compounds: acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene. When all compounds are undetected, only the single highest individual chemical quantitation limit is reported. The result for 2-Methylnaphthalene is not included in the LPAH sum.

[6] Total HPAH represents the sum of the detected concentrations of the following HPAH compounds: benz[a]anthracene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenzo[a,h]anthracene, fluoranthene, indeno[1,2,3-c,d]pyrene, pyrene, and total benzofluoranthenes. When all compounds are undetected, only the single highest individual chemical quantitation limit is reported.

[7] Total benzofluoranthenes represents the sum of concentrations of the b, j, and k isomers.

SCO = Sediment Cleanup Objective

CSL = Cleanup Screening Level

LAET = Lowest Apparent Effects Threshold

2LAET = Second Lowest Apparent Effects Threshold

mg-N/kg = milligrams of nitrogen per kilogram

mg-N/L = milligrams of nitrogen per liter

mg/kg = milligram per kilogram

mg/kg OC = milligram per kilogram normalized to organic carbon

µg/kg = microgram per kilogram

-- = not analyzed

NE = not established

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

cm = centimeters

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates exceedance of the SCO/LAET screening level.

Orange shading indicates exceedance of the CSL/2LAET screening level.

Grey text indicates that the reported value is not compared to the screening levels because the TOC concentration of the sample is outside the specified range for application of the screening level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table C-1

Sediment Chemical Analytical Data – Protection of Benthic Organisms

Dakota Creek Industries
Anacortes, Washington

Sample Location ID[1]		DC-106-2	DC-106-3	DC-106-4	DC-106-4	DC-106-5	DC-106-5	DC-106-6	DC-106-7	DC-106-7	DC-106-8	DC-106-9	FB-A4-17	G-1	G-2	Proposed Sediment Screening Level[3]	
Sample Identification		DCI06-2-D	DCI06-3A[2]	DCI06-4A[2]	DCI06-4B[2]	DCI06-5A[2]	DCI06-5B[2]	DCI06-6A[2]	DCI06-7A[2]	DCI06-7B[2]	DCI06-8A[2]	DCI06-9A[2]	FB-A4-17[2]	G-1(s)[2]	G-2 (s)[2]		
Sample Date		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	09/06/07	03/14/08	03/14/08		
Sample Interval (dbm)		0-10 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	0-10 cm	0 - 10 cm	0-20 CM	0-20 CM		
Sample Study[4]		2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2008 Remedial Investigation	2008 Remedial Investigation		
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	SCO/ LAET	CSL/ 2LAET
Sampled By		Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Ecology	GeoEngineers	GeoEngineers		
Conventionals																	
Total Organic Carbon (TOC)	%	1.15	0.448	0.883	3.43	4.96	2.88	0.56	1.48	1.06	1.27	0.239	2.65	1.96	2.17	NE	NE
Total Volatile Solids (TVS)	%	--	--	--	--	--	--	--	--	--	--	--	6.49	14.54	9.94	NE	NE
Total Solids (TS)	%	78.2	75.5	67	59.6	34.8	42.9	81.9	55.1	57.2	71.1	95.8	49.1	46.5	52.9	NE	NE
Total Ammonia	mg-N/kg	--	--	--	--	--	--	--	--	--	--	--	9.8	6.17	14.10	NE	NE
Total Sulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	478	303	231	NE	NE
Grain Size																	
Gravel *(>2,000 µm)*	%	--	--	--	--	--	--	--	--	--	--	--	3.79	10.7	3.6	NE	NE
µm)	%	--	--	--	--	--	--	--	--	--	--	--		5.0	2.4	NE	NE
Coarse Sand *(1,000 to 500 µm)*	%	--	--	--	--	--	--	--	--	--	--	--		7.7	2.7	NE	NE
Medium Sand *(500 to 250 µm)*	%	--	--	--	--	--	--	--	--	--	--	--	1.85	8.7	9.4	NE	NE
Fine Sand *(250 to 125 µm)*	%	--	--	--	--	--	--	--	--	--	--	--		16.0	28.2	NE	NE
Very Fine Sand *(125 to 62.5 µm)*	%	--	--	--	--	--	--	--	--	--	--	--		20.9	23.1	NE	NE
Coarse Silt *(62.5 to 31 µm)*	%	--	--	--	--	--	--	--	--	--	--	--		8.1	13.1	NE	NE
Medium Silt *(31 to 15.6 µm)*	%	--	--	--	--	--	--	--	--	--	--	--	61.3	7.2	5.8	NE	NE
Fine Silt *(15.6 to 7.8 µm)*	%	--	--	--	--	--	--	--	--	--	--	--		3.7	3.2	NE	NE
Very Fine Silt *(7.8 to 3.9 µm)*	%	--	--	--	--	--	--	--	--	--	--	--		2.5	1.9	NE	NE
Clay *(3.9 to <1 µm)*	%	--	--	--	--	--	--	--	--	--	--	--	8.91	7.1	4.7	NE	NE
Total Fines *(<62.5 µm)*	%	--	--	--	--	--	--	--	--	--	--	--	70.21	28.6	28.7	NE	NE
Metals																	
Arsenic	mg/kg	--	--	--	--	--	--	--	--	--	--	--	6.2	10 U	9	57	73
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.66	0.8	0.8	5.1	6.7
Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	31.7	30	31.4	260	270
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	51	49.3	36.4	390	390
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	15.9	15	17	450	530
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.12	0.1	0.51	0.41	0.59
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.15	0.7 U	0.5 U	6.1	6.1
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	84.5	84	59	410	960
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs) (Dry Weight)																	
Sum of LPAHs[4]	µg/kg	--	--	--	--	--	--	--	--	--	--	--	423	1,001	686 J	5,200	5,200
2-Methylnaphthalene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	68	38	17 J	670	670
Acenaphthene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	15	28	20 J	500	500
Acenaphthylene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	24	92	38	1,300	1,300
Anthracene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	61	96	92	960	960
Fluorene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	28	95	59	540	540
Naphthalene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	65	130	37	2,100	2,100
Phenanthrene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	230	560	440	1,500	1,500
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs) (OC Normalized)																	
Sum of LPAHs[4]	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	16.0	51.1	31.6 J	370	780
2-Methylnaphthalene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	2.57	1.9	0.8 J	38	64
Acenaphthene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.57	1.4	0.9 J	16	57
Acenaphthylene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.91	4.7	1.8	66	66
Anthracene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	2.30	4.9	4.2	220	1,200
Fluorene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	1.06	4.8	2.7	23	79
Naphthalene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	2.45	6.6	1.7	99	170
Phenanthrene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	8.68	28.6	20.3	100	480
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs) (Dry Weight)																	
Sum of HPAHs[5]	µg/kg	--	--	--	--	--	--	--	--	--	--	--	2,440	4,920	2,360	12,000	17,000
Benzo(a)anthracene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	220	360	200	1,300	1,600
Benzo(a)pyrene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	200	570	220	1,600	1,600
Total Benzofluoranthenes[6]	µg/kg	--	--	--	--	--	--	--	--	--	--	--	450	910	370	3,200	3,600
Benzo(g,h,i)perylene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	190	290	110	670	720
Chrysene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	340	560	230	1,400	2,800
Dibenzo(a,h)anthracene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	70	290	30	230	230
Fluoranthene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	390	860	570	1,700	2,500

Sample Location ID[1]		DC-106-2	DC-106-3	DC-106-4	DC-106-4	DC-106-5	DC-106-5	DC-106-6	DC-106-7	DC-106-7	DC-106-8	DC-106-9	FB-A4-17	G-1	G-2	Proposed Sediment Screening Level[3]	
Sample Identification		DCI06-2-D	DCI06-3A[2]	DCI06-4A[2]	DCI06-4B[2]	DCI06-5A[2]	DCI06-5B[2]	DCI06-6A[2]	DCI06-7A[2]	DCI06-7B[2]	DCI06-8A[2]	DCI06-9A[2]	FB-A4-17[2]	G-1(s)[2]	G-2 (s)[2]		
Sample Date		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	09/06/07	03/14/08	03/14/08		
Sample Interval (dbm)		0-10 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	0-10 cm	0 - 10 cm	0-20 CM	0-20 CM		
Sample Study[4]		2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2008 Remedial Investigation	2008 Remedial Investigation		
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	SCO/ LAET	CSL/ 2LAET
Sampled By		Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Ecology	GeoEngineers	GeoEngineers		
Indeno(1,2,3-c,d)pyrene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	160	360	130	600	690
Pyrene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	420	720	500	2,600	3,300
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs) (OC Normalized)																	
Sum of HPAHs[5]	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**92.1**	**251.0**	**108.8**	960	5,300
Benzo(a)anthracene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**8.30**	**18.4**	**9.2**	110	270
Benzo(a)pyrene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**7.55**	**29.1**	**10.1**	99	210
Total Benzofluoranthenes[6]	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**17**	**46.4**	**17.1**	230	450
Benzo(g,h,i)perylene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**7.17**	**14.8**	**5.1**	31	78
Chrysene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**12.8**	**28.6**	**10.6**	110	460
Dibenzo(a,h)anthracene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**2.64**	**14.8**	**1.4**	12	33
Fluoranthene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**14.7**	**43.9**	**26.3**	160	1,200
Indeno(1,2,3-c,d)pyrene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**6.04**	**18.4**	**6.0**	34	88
Pyrene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**15.8**	**36.7**	**23.0**	1,000	1,400
Chlorinated Hydrocarbons (Dry Weight)																	
1,2,4-Trichlorobenzene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 U	6.2 U	6.2 U	31	51
1,2-Dichlorobenzene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 U	**6.2**	6.2 U	35	50
1,4-Dichlorobenzene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 U	**13**	6.2 U	110	110
Hexachlorobenzene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 U	6.2 U	6.2 U	22	70
Chlorinated Hydrocarbons (OC Normalized)																	
1,2,4-Trichlorobenzene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.37 U	0.32 U	0.29 U	0.81	1.8
1,2-Dichlorobenzene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.37 U	**0.32**	0.29 U	2.3	2.3
1,4-Dichlorobenzene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.37 U	**0.66**	0.29 U	3.1	9
Hexachlorobenzene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.37 U	0.32 U	0.29 U	0.38	2.3
Phthalates (Dry Weight)																	
Bis(2-Ethylhexyl) Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	--	**82 J**	**63**	**47**	1,300	1,900
Butyl benzyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	--	**12**	16 U	16 U	63	900
Dibutyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	--	20 U	20 U	20 U	1,400	1,400
Diethyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 U	20 U	20 U	200	> 1,200
Dimethyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 U	16 U	16 U	71	160
Di-N-Octyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 U	20 U	20 U	6,200	6,200
Phthalates (OC Normalized)																	
Bis(2-Ethylhexyl) Phthalate	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**3.09 J**	**3.2**	**2.2**	47	78
Butyl benzyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**0.45**	0.8 U	0.7 U	5	64
Dibutyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.75 U	1 U	0.9 U	220	1,700
Diethyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.37 U	1 U	0.9 U	61	110
Dimethyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.37 U	0.8 U	0.7 U	53	53
Di-N-Octyl Phthalate	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.37 U	1 U	0.9 U	58	4,500
Phenols (Dry Weight)																	
2,4-Dimethylphenol	µg/kg	--	--	--	--	--	--	--	--	--	--	--	**50 R**	6.2 U	6.2 U	29	29
2-methylphenol (o-Cresol)	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 UR	6.2 U	6.2 U	63	63
4-methylphenol (p-Cresol)	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 UR	**59**	**19**	670	670
Pentachlorophenol	µg/kg	--	--	--	--	--	--	--	--	--	--	--	**99 R**	31 U	31 U	360	690
Phenol	µg/kg	--	--	--	--	--	--	--	--	--	--	--	30 UJ	**34**	**20**	420	1,200
Miscellaneous Extractables (Dry Weight)																	
Dibenzofuran	µg/kg	--	--	--	--	--	--	--	--	--	--	--	**17**	56	22	540	540
Hexachlorobutadiene	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 U	6.2 U	6.2 U	11	120
N-Nitrosodiphenylamine	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.9 U	6.2 U	20 U	28	40
Benzoic Acid	µg/kg	--	--	--	--	--	--	--	--	--	--	--	**200 R**	200 U	200 U	650	650
Benzyl Alcohol	µg/kg	--	--	--	--	--	--	--	--	--	--	--	**6.9 J**	31 U	31 U	57	73
Miscellaneous Extractables (OC Normalized)																	
Dibenzofuran	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	**0.64**	**2.9**	**1.0**	15	58
Hexachlorobutadiene	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.37 U	0.3 U	0.3 U	3.9	6.2
N-Nitrosodiphenylamine	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.37 U	0.3 U	0.9 U	11	11
Pesticides																	
4,4'-DDD	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4,4'-DDE	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4,4'-DDT	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Total DDT (4,4 isomers)	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Aldrin	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Total Chlordane	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Dieldrin	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE

Sample Location ID[1]		DC-106-2	DC-106-3	DC-106-4	DC-106-4	DC-106-5	DC-106-5	DC-106-6	DC-106-7	DC-106-7	DC-106-8	DC-106-9	FB-A4-17	G-1	G-2	Proposed Sediment Screening Level[3]	
Sample Identification		DCI06-2-D	DCI06-3A[2]	DCI06-4A[2]	DCI06-4B[2]	DCI06-5A[2]	DCI06-5B[2]	DCI06-6A[2]	DCI06-7A[2]	DCI06-7B[2]	DCI06-8A[2]	DCI06-9A[2]	FB-A4-17[2]	G-1(s)[2]	G-2 (s)[2]		
Sample Date		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	09/06/07	03/14/08	03/14/08		
Sample Interval (dbm)		0-10 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	0-10 cm	0 - 10 cm	0-20 CM	0-20 CM		
Sample Study[4]		2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2008 Remedial Investigation	2008 Remedial Investigation		
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	SCO/ LAET	CSL/ 2LAET
Sampled By		Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Ecology	GeoEngineers	GeoEngineers		
Heptachlor	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Polychlorinated Biphenyls (PCBs) (Dry Weight)																	
Total PCBs (Sum of Aroclors)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.021 U	0.019 U	**0.118**	0.13	1
Polychlorinated Biphenyls (PCBs) (OC Normalized)																	
Total PCBs (Sum of Aroclors)	mg/kg OC	--	--	--	--	--	--	--	--	--	--	--	0.79 U	0.97 U	**5**	12	65

Notes:

[1] Sediment sample locations are shown on Figure 12.

[2] Sediment represented by this sample was subsequently dredged from the Marine Area during redevelopment of the Property in 2008.

[3] Proposed sediment cleanup levels for the protection of benthic organisms are referenced from Table 1.

[4] Data used to identify contaminants of potential concern (COPCs) consists of samples collected obtained by GeoEngineers in 2008 in general accordance with the RI/FS Work Plan to evaluate near shore sediment conditions as well as data collected by others to support dredge material suitability determination.

[5] Total LPAH represents the sum of the detected concentrations of the following LPAH compounds: acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene. When all compounds are undetected, only the single highest individual chemical quantitation limit is reported. The result for 2-Methylnaphthalene is not included in the LPAH sum.

[6] Total HPAH represents the sum of the detected concentrations of the following HPAH compounds: benz[a]anthracene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenzo[a,h]anthracene, fluoranthene, indeno[1,2,3-c,d]pyrene, pyrene, and total benzofluoranthenes. When all compounds are undetected, only the single highest individual chemical quantitation limit is reported.

[7] Total benzofluoranthenes represents the sum of concentrations of the b, j, and k isomers.

SCO = Sediment Cleanup Objective

CSL = Cleanup Screening Level

LAET = Lowest Apparent Effects Threshold

2LAET = Second Lowest Apparent Effects Threshold

mg-N/kg = milligrams of nitrogen per kilogram

mg-N/L = milligrams of nitrogen per liter

mg/kg = milligram per kilogram

mg/kg OC = milligram per kilogram normalized to organic carbon

µg/kg = microgram per kilogram

-- = not analyzed

NE = not established

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

cm = centimeters

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates exceedance of the SCO/LAET screening level.

Orange shading indicates exceedance of the CSL/2LAET screening level.

Grey text indicates that the reported value is not compared to the screening levels because the TOC concentration of the sample is outside the specified range for application of the screening level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table C-1

Sediment Chemical Analytical Data – Protection of Benthic Organisms

Dakota Creek Industries
Anacortes, Washington

Sample Location ID[1]		G-3	G-4	G-5	G-6	G-7	SMA-1	SMA-2	SMA-3	SMA-4	SMA-4	SMA-5	SMA-5	Proposed Sediment Screening Level[3]	
Sample Identification		G-3-0-1[2]	G-4-2-3[2]	G-5-0-1[2]	G-6-2-3[2]	G-7(s)[2]	SMA 1-1	SMA 2-1	SMA 3-2	DCI 4-1	DCI 4-1A	SMA 5-2	SMA 5-3		
Sample Date		03/14/08	03/14/08	03/14/08	03/14/08	03/14/08	09/30/08	09/30/08	08/28/08	10/10/08	10/10/08	08/26/08	08/26/08		
Sample Interval (dbm)		0-1 ft	2-3 ft	0-1 ft	2-3 ft	0-20 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm		
Sample Study[4]		2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action		
Sample Type		Subsurface	Subsurface	Subsurface	Subsurface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	SCO/ LAET	CSL/ 2LAET
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Conventionals															
Total Organic Carbon (TOC)	%	**1.03**	**1.39**	**0.451**	**1.6**	**0.602**	0.12	0.09	0.09	0.1	0.09	0.32	0.44	NE	NE
Total Volatile Solids (TVS)	%	**2.32**	**2.55**	**0.88**	**4.19**	**1.78**	–	–	–	–	–	–	–	NE	NE
Total Solids (TS)	%	**83.1**	**81.9**	**81.8**	**73**	**79.3**	78.1	73.2	73.2	86.7	85.7	83.6	85	NE	NE
Total Ammonia	mg-N/kg	**0.62**	**3.61**	**0.22**	**3.75**	**1.62**	–	–	–	–	–	–	–	NE	NE
Total Sulfide	mg/kg	**333**	**435**	**69.7**	**1,320**	**245**	–	–	–	–	–	–	–	NE	NE
Grain Size															
Gravel *(>2,000 µm)*	%	**44.2**	**65.9**	**22.6**	**38.9**	**62.3**	–	–	–	–	–	–	–	NE	NE
µm)	%	**7.3**	**4.9**	**21.9**	**6.7**	**5.0**	–	–	–	–	–	–	–	NE	NE
Coarse Sand *(1,000 to 500 µm)*	%	**12.1**	**6.7**	**26.8**	**8.0**	**3.8**	–	–	–	–	–	–	–	NE	NE
Medium Sand *(500 to 250 µm)*	%	**13.0**	**8.5**	**10.2**	**14.1**	**6.6**	–	–	–	–	–	–	–	NE	NE
Fine Sand *(250 to 125 µm)*	%	**5.2**	**4.2**	**15.0**	**16.9**	**4.4**	–	–	–	–	–	–	–	NE	NE
Very Fine Sand *(125 to 62.5 µm)*	%	**2.8**	**1.9**	**3.3**	**7.2**	**4.7**	–	–	–	–	–	–	–	NE	NE
Coarse Silt *(62.5 to 31 µm)*	%	**1.9**	**0.8**	N/A	**1.7**	**6.1**	–	–	–	–	–	–	–	NE	NE
Medium Silt *(31 to 15.6 µm)*	%	**2.6**	**1.5**	N/A	**1.8**	**3.0**	–	–	–	–	–	–	–	NE	NE
Fine Silt *(15.6 to 7.8 µm)*	%	**2.6**	**1.4**	N/A	**1.3**	**1.3**	–	–	–	–	–	–	–	NE	NE
Very Fine Silt *(7.8 to 3.9 µm)*	%	**2.1**	**1.2**	N/A	**0.8**	**0.7**	–	–	–	–	–	–	–	NE	NE
Clay *(3.9 to <1 µm)*	%	**4.8**	**2.2**	N/A	**1.9**	**1.6**	–	–	–	–	–	–	–	NE	NE
Total Fines *(<62.5 µm)*	%	**14.0**	**7.1**	N/A	**7.5**	**12.7**	–	–	–	–	–	–	–	NE	NE
Metals															
Arsenic	mg/kg	**30**	**70**	**300**	**33**	**37**	–	–	–	–	–	–	–	57	73
Cadmium	mg/kg	0.6 U	**0.8**	**1.2**	**0.8**	**0.3**	**0.054**	**0.091**	**0.078**	**0.077**	**0.071**	0.3 U	0.3 U	5.1	6.7
Chromium	mg/kg	**47**	**50**	**55**	**20.6**	**30.2**	**26.2**	**12.7**	**51.1**	**244**	**96.9**	**35.3**	**33.3**	260	270
Copper	mg/kg	**648**	**1,040**	**1,720**	**3,870**	**77.2**	**27.4**	**16.1**	**23.6**	**27.8**	**25.7**	**29.1**	**25.9**	390	390
Lead	mg/kg	**609**	**939**	**338**	**188**	**25**	**4.08**	**3.73**	**4.21**	**2.45**	**3**	3 U	2.9 U	450	530
Mercury	mg/kg	**4.39**	**17.8**	**1.43**	**4.43**	**0.07**	**0.033**	**0.0453**	**0.0221**	**0.032**	**0.036**	**0.041**	**0.036**	0.41	0.59
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Silver	mg/kg	0.9 U	0.9 U	0.9 U	**0.5**	0.4 U	**0.07**	**0.05**	**0.07**	**0.07**	**0.06**	0.8 U	**0.8**	6.1	6.1
Zinc	mg/kg	**320**	**456**	**974**	**307**	**90**	**43.9**	**25.4**	**42**	**43.7**	**44.2**	**53**	**41.7**	410	960
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs) (Dry Weight)															
Sum of LPAHs[4]	µg/kg	973 J	2,400	**1,134 J**	3,721	71 J	**4.40**	**1.71**	**2.11**	**3.89**	**2.98**	**4.2**	**1.9**	5,200	5,200
2-Methylnaphthalene	µg/kg	58 U	110	59 U	62	20 U	**0.85 J**	**6.8**	**0.61 J**	**0.5 J**	**0.42 J**	**0.79 J**	**0.53 J**	670	670
Acenaphthene	µg/kg	55 J	230	**54 J**	150	20 U	**0.91 J**	**6.8**	**0.78 J**	0.23 U	0.23 U	**5.1 J**	**0.91 J**	500	500
Acenaphthylene	µg/kg	54 J	100	59 U	250	20 U	0.24 U	**0.45 J**	**0.44 J**	0.24 U	0.24 U	**0.39 J**	0.24 U	1,300	1,300
Anthracene	µg/kg	200	450	**160**	1,900	14 J	**0.5 J**	**8.3**	**2.5**	0.47 U	0.47 U	**2.8 J**	**0.82 J**	960	960
Fluorene	µg/kg	46 J	270	**52 J**	230	20 U	**1.1 J**	**8.6**	**1.3 J**	0.5 U	0.5 U	**4.5 J**	**1.2 J**	540	540
Naphthalene	µg/kg	58 U	150	59 U	91	20 U	**2.5**	**10**	**1.3 J**	**0.91 J**	**0.82 J**	**5 J**	**0.81 J**	2,100	2,100
Phenanthrene	µg/kg	560	1,200	**750**	1,100	17 J	**2.9**	**33**	**6.3**	**0.81 J**	**0.9 J**	**15 J**	**3.8**	1,500	1,500
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs) (OC Normalized)															
Sum of LPAHs[4]	mg/kg OC	**94.5**	**172.7**	251.4 J	**232.6**	**18.4 J**	6.03 J	67.1 J	13.2 J	1.72 J	1.91 J	10.49 J	1.86 J	370	780
2-Methylnaphthalene	mg/kg OC	5.6 U	**7.9**	13.1 U	**3.9**	3.3 U	0.71 J	7.6	0.68 J	0.5 J	0.47 J	0.25 J	0.12 J	38	64
Acenaphthene	mg/kg OC	**5.3 J**	**16.5**	12 J	**9.4**	3.3 U	0.76 J	7.6	0.87 J	0.23 U	0.26 U	1.59 J	0.21 J	16	57
Acenaphthylene	mg/kg OC	**5.2 J**	**7.2**	13.1 U	**15.6**	3.3 U	0.2 U	0.5 J	0.49 J	0.24 U	0.27 U	0.12 J	0.05 U	66	66
Anthracene	mg/kg OC	**19.4**	**32.4**	35.5	**118.8**	**2.3 J**	0.42 J	9.2	2.8	0.47 U	0.52 U	0.88 J	0.19 J	220	1,200
Fluorene	mg/kg OC	**4.5 J**	**19.4**	11.5 J	**14.4**	3.3 U	0.92 J	9.6	1.4 J	0.5 U	0.56 U	1.41 J	0.27 J	23	79
Naphthalene	mg/kg OC	5.6 U	**10.8**	13.1 U	**5.7**	3.3 U	2.1 J	11	1.4 J	0.91 J	0.91 J	1.56 J	0.18 J	99	170
Phenanthrene	mg/kg OC	**54.4**	**86.3**	166.3	**68.8**	**2.8 J**	2.4 J	37	7	0.81 J	1 J	4.69 J	0.86 J	100	480
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs) (Dry Weight)															
Sum of HPAHs[5]	µg/kg	12,560	20,580	**6,111**	30,210	310.1 J	**9.35 J**	**114**	**40.98 J**	**1.82 J**	**1.26 J**	**58 J**	**16.97 J**	12,000	17,000
Benzo(a)anthracene	µg/kg	970	1,500	**550**	2,600	24	**1.3 J**	**15**	**5**	0.48 U	0.48 U	**3.2**	**0.98 J**	1,300	1,600
Benzo(a)pyrene	µg/kg	1,400	1,600	**520**	1,500	22	**0.86 J**	**13**	**5.3**	0.14 U	0.14 U	**2.9**	**0.61 J**	1,600	1,600
Total Benzofluoranthenes[6]	µg/kg	2,900	3,600	**1,100**	3,300	57	**1.87 J**	**20.6**	**9.1**	0.25 U	0.25 U	**6.7**	**1.72**	3,200	3,600
Benzo(g,h,i)perylene	µg/kg	730	880	**260**	540	15 J	**0.94 J**	**9.9**	**3.5**	0.64 U	0.64 U	**2.3**	0.64 U	670	720
Chrysene	µg/kg	1,200	2,100	**720**	3,100	33	**1.1 J**	**16.0**	**7.1**	**0.47 J**	0.25 U	**5.4**	**1.8**	1,400	2,800
Dibenzo(a,h)anthracene	µg/kg	130	240	**91**	120	6.1 U	0.28 U	**3.5**	**0.98 J**	0.28 U	0.28 U	**0.5 J**	0.28 U	230	230
Fluoranthene	µg/kg	2,200	5,800	**1,500**	11,000	48	**3**	**36**	**10**	**0.63 J**	**0.61 J**	**14**	**4.4**	1,700	2,500

Sample Location ID[1]		G-3	G-4	G-5	G-6	G-7	SMA-1	SMA-2	SMA-3	SMA-4	SMA-4	SMA-5	SMA-5	Proposed Sediment Screening Level[3]	
Sample Identification		G-3-0-1[2]	G-4-2-3[2]	G-5-0-1[2]	G-6-2-3[2]	G-7(s)[2]	SMA 1-1	SMA 2-1	SMA 3-2	DCI 4-1	DCI 4-1A	SMA 5-2	SMA 5-3		
Sample Date		03/14/08	03/14/08	03/14/08	03/14/08	03/14/08	09/30/08	09/30/08	08/28/08	10/10/08	10/10/08	08/26/08	08/26/08		
Sample Interval (dbm)		0-1 ft	2-3 ft	0-1 ft	2-3 ft	0-20 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm		
Sample Study[4]		2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action		
Sample Type		Subsurface	Subsurface	Subsurface	Subsurface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	SCO/ LAET	CSL/ 2LAET
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Indeno(1,2,3-c,d)pyrene	µg/kg	730	860	**270**	550	17 J	**0.83 J**	**8.9**	**4**	0.16 U	0.16 U	**2.3**	**0.54 J**	600	690
Pyrene	µg/kg	2,300	4,000	**1,100**	7,500	88	**4.0**	**40**	**11**	**0.72 J**	**0.65 J**	**14**	**3.7**	2,600	3,300
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs) (OC Normalized)															
Sum of HPAHs[5]	mg/kg OC	**1,219.4**	**1480.6**	1,355.0	**1,888.1**	**51.5 J**	7.79 J	126.7	45.5 J	1.83 J	1.4 J	18.1 J	3.86 J	960	5,300
Benzo(a)anthracene	mg/kg OC	**94.2**	**107.9**	122.0	**162.5**	**4.0**	1.08 J	16.7	5.56	0.48 U	0.53 U	**1.0**	**0.22 J**	110	270
Benzo(a)pyrene	mg/kg OC	**135.9**	**115.1**	115.3	**93.8**	**3.7**	0.72 J	14.4	5.89	0.14 U	0.16 U	**0.91**	**0.14 J**	99	210
Total Benzofluoranthenes[6]	mg/kg OC	**281.6**	**259.0**	243.9	**206.3**	**9.5**	1.56 J	22.9	10.1	0.25 U	0.28 U	**2.09**	**0.39**	230	450
Benzo(g,h,i)perylene	mg/kg OC	**70.9**	**63.3**	57.6	**33.8**	**2.5 J**	0.78 J	11	3.89	0.64 U	0.71 U	**0.72**	0.15 U	31	78
Chrysene	mg/kg OC	**116.5**	**151.1**	159.6	**193.8**	**5.5**	0.92 J	17.8	7.89	**0.47 J**	0.28 U	**1.69**	**0.41**	110	460
Dibenzo(a,h)anthracene	mg/kg OC	**12.6**	**17.3**	20.2	**7.5**	1 U	0.23 U	3.89	1.09 J	0.28 U	0.31 U	**0.16 J**	0.06 U	12	33
Fluoranthene	mg/kg OC	**213.6**	**417.3**	332.6	**687.5**	**8.0**	2.5	40	11.1	**0.63 J**	**0.68 J**	**4.38**	**1.0**	160	1,200
Indeno(1,2,3-c,d)pyrene	mg/kg OC	**70.9**	**61.9**	59.9	**34.4**	**2.8 J**	0.69 J	9.89	4.44	0.16 U	0.18 U	**0.72**	**0.12 J**	34	88
Pyrene	mg/kg OC	**223.3**	**287.8**	243.9	**468.8**	**14.6**	3.3	44.4	12.2	**0.72 J**	**0.72 J**	**4.38**	**0.84**	1,000	1,400
Chlorinated Hydrocarbons (Dry Weight)															
1,2,4-Trichlorobenzene	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	31	51
1,2-Dichlorobenzene	µg/kg	6.2 U	**18**	6.2 U	**16**	6.1 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	5.9 U	35	50
1,4-Dichlorobenzene	µg/kg	6.2 U	**14**	6.2 U	6.1 U	6.1 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	110	110
Hexachlorobenzene	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	22	70
Chlorinated Hydrocarbons (OC Normalized)															
1,2,4-Trichlorobenzene	mg/kg OC	0.6 U	0.45 U	1.4 U	0.38 U	1 U	2.2 U	2.9 U	2.9 U	2.6 U	2.9 U	0.8 U	0.6 U	0.81	1.8
1,2-Dichlorobenzene	mg/kg OC	0.6 U	**1.3**	1.4 U	**1**	1 U	2.4 U	3.2 U	3.2 U	2.9 U	3.2 U	0.9 U	1.3 U	2.3	2.3
1,4-Dichlorobenzene	mg/kg OC	0.6 U	**1**	1.4 U	0.38 U	1 U	2.4 U	3.2 U	3.2 U	2.9 U	3.2 U	0.9 U	0.7 U	3.1	9
Hexachlorobenzene	mg/kg OC	0.6 U	0.45 U	1.4 U	0.38 U	1 U	1 U	1.3 U	1.3 U	1.2 U	1.3 U	0.4 U	0.3 U	0.38	2.3
Phthalates (Dry Weight)															
Bis(2-Ethylhexyl) Phthalate	µg/kg	**160**	**510**	**400**	**180**	**41**	7 U	**9.4 J**	7 U	7 U	**18**	7 U	7 U	1,300	1,900
Butyl benzyl Phthalate	µg/kg	15 U	19 U	15 U	15 U	15 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	63	900
Dibutyl Phthalate	µg/kg	58 U	58 U	59 U	58 U	20 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	**8.4 J**	**8.9 J**	1,400	1,400
Diethyl Phthalate	µg/kg	58 U	58 U	59 U	58 U	20 U	1.3 U	1.3 U	1.3 U	1.5 U	**1.4**	**1.4 J**	**1.4 J**	200	> 1,200
Dimethyl Phthalate	µg/kg	58 U	58 U	59 U	58 U	15 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	71	160
Di-N-Octyl Phthalate	µg/kg	58 U	58 U	59 U	58 U	20 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	6,200	6,200
Phthalates (OC Normalized)															
Bis(2-Ethylhexyl) Phthalate	mg/kg OC	**15.5**	**36.7**	**88.7**	11.3	6.8	5.83 U	**10.4 J**	7.78 U	7 U	**20.00**	2.19 U	1.59 U	47	78
Butyl benzyl Phthalate	mg/kg OC	1.5 U	1.4 U	3.3 U	0.9 U	2.5 U	2.67 U	3.56 U	3.56 U	3.2 U	3.56 U	1 U	0.73 U	5	64
Dibutyl Phthalate	mg/kg OC	5.6 U	4.2 U	13.1 U	3.6 U	3.3 U	6.58 U	8.78 U	8.78 U	7.9 I	8.78 U	**2.63**	**2.02**	220	1,700
Diethyl Phthalate	mg/kg OC	5.6 U	4.2 U	13.1 U	3.6 U	3.3 U	1.08 U	1.44 U	1.44 U	1.5 U	**1.56**	**0.44**	**0.32**	61	110
Dimethyl Phthalate	mg/kg OC	5.6 U	4.2 U	13.1 U	3.6 U	2.5 U	0.83 U	1.11 U	1.11 U	1 U	1.11 U	0.31 U	0.23 U	53	53
Di-N-Octyl Phthalate	mg/kg OC	5.6 U	4.2 U	13.1 U	3.6 U	3.3 U	1.42 U	1.89 U	1.89 U	1.7 U	1.89 U	0.53 U	0.39 U	58	4,500
Phenols (Dry Weight)															
2,4-Dimethylphenol	µg/kg	6.2 U	**40**	6.2 U	6.1 U	6.2 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	29	29
2-methylphenol (o-Cresol)	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	63	63
4-methylphenol (p-Cresol)	µg/kg	58 U	**45 J**	**59**	58 U	20 U	**3.4 J**	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	670	670
Pentachlorophenol	µg/kg	31 U	**70**	**40**	31 U	31 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	360	690
Phenol	µg/kg	**43 J**	**76**	59 U	58 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	420	1,200
Miscellaneous Extractables (Dry Weight)															
Dibenzofuran	µg/kg	58 U	**130**	59 U	**95**	20 U	**0.87 J**	**6.3**	**0.85 J**	0.59 U	0.59 U	**2.8 J**	1.2 U	540	540
Hexachlorobutadiene	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	11	120
N-Nitrosodiphenylamine	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	**6.1 J**	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	28	40
Benzoic Acid	µg/kg	580 U	580 U	590 U	580 U	200 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	650	650
Benzyl Alcohol	µg/kg	31 U	31 U	31 U	31 U	31 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	57	73
Miscellaneous Extractables (OC Normalized)															
Dibenzofuran	mg/kg OC	5.6 U	**9.4**	13.1 U	**5.9**	3.3 U	**0.73 J**	**7.00**	**0.94 J**	0.59 U	0.66 U	**0.88 J**	0.27 U	15	58
Hexachlorobutadiene	mg/kg OC	0.6 U	0.4 U	1.4 U	0.4 U	1 U	2.08 U	2.78 U	2.78 U	2.5 U	2.78 U	0.78 U	0.57 U	3.9	6.2
N-Nitrosodiphenylamine	mg/kg OC	0.6 U	0.4 U	1.4 U	0.4 U	**1 J**	1.33 U	1.78 U	1.78 U	1.6 U	1.78 U	0.5 U	0.36 U	11	11
Pesticides															
4,4'-DDD	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4,4'-DDE	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4,4'-DDT	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Total DDT (4,4 isomers)	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Aldrin	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Total Chlordane	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Dieldrin	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE

Sample Location ID[1]		G-3	G-4	G-5	G-6	G-7	SMA-1	SMA-2	SMA-3	SMA-4	SMA-4	SMA-5	SMA-5	Proposed Sediment Screening Level[3]	
Sample Identification		G-3-0-1[2]	G-4-2-3[2]	G-5-0-1[2]	G-6-2-3[2]	G-7(s)[2]	SMA 1-1	SMA 2-1	SMA 3-2	DCI 4-1	DCI 4-1A	SMA 5-2	SMA 5-3		
Sample Date		03/14/08	03/14/08	03/14/08	03/14/08	03/14/08	09/30/08	09/30/08	08/28/08	10/10/08	10/10/08	08/26/08	08/26/08		
Sample Interval (dbm)		0-1 ft	2-3 ft	0-1 ft	2-3 ft	0-20 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm		
Sample Study[4]		2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action		
Sample Type		Subsurface	Subsurface	Subsurface	Subsurface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	SCO/ LAET	CSL/ 2LAET
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Heptachlor	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Polychlorinated Biphenyls (PCBs) (Dry Weight)															
Total PCBs (Sum of Aroclors)	mg/kg	0.145	0.362	**0.168**	0.134	0.019 U	0.0013 U	**0.0031**	0.0013 U	0.0013 U	0.0013 U	0.0013 U	0.0013 U	0.13	1
Polychlorinated Biphenyls (PCBs) (OC Normalized)															
Total PCBs (Sum of Aroclors)	mg/kg OC	**14**	**26**	37	**8**	3 U	1.08 U	**3.44**	1.44 U	1.3 U	1.44 U	0.41 U	0.3 U	12	65

Notes:

[1] Sediment sample locations are shown on Figure 12.

[2] Sediment represented by this sample was subsequently dredged from the Marine Area during redevelopment of the Property in 2008.

[3] Proposed sediment cleanup levels for the protection of benthic organisms are referenced from Table 1.

[4] Data used to identify contaminants of potential concern (COPCs) consists of samples collected obtained by GeoEngineers in 2008 in general accordance with the RI/FS Work Plan to evaluate near shore sediment conditions as well as data collected by others to support dredge material suitability determination.

[5] Total LPAH represents the sum of the detected concentrations of the following LPAH compounds: acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene. When all compounds are undetected, only the single highest individual chemical quantitation limit is reported. The result for 2-Methylnaphthalene is not included in the LPAH sum.

[6] Total HPAH represents the sum of the detected concentrations of the following HPAH compounds: benz[a]anthracene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenzo[a,h]anthracene, fluoranthene, indeno[1,2,3-c,d]pyrene, pyrene, and total benzofluoranthenes. When all compounds are undetected, only the single highest individual chemical quantitation limit is reported.

[7] Total benzofluoranthenes represents the sum of concentrations of the b, j, and k isomers.

SCO = Sediment Cleanup Objective

CSL = Cleanup Screening Level

LAET = Lowest Apparent Effects Threshold

2LAET = Second Lowest Apparent Effects Threshold

mg-N/kg = milligrams of nitrogen per kilogram

mg-N/L = milligrams of nitrogen per liter

mg/kg = milligram per kilogram

mg/kg OC = milligram per kilogram normalized to organic carbon

µg/kg = microgram per kilogram

-- = not analyzed

NE = not established

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

cm = centimeters

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates exceedance of the SCO/LAET screening level.

Orange shading indicates exceedance of the CSL/2LAET screening level.

Grey text indicates that the reported value is not compared to the screening levels because the TOC concentration of the sample is outside the specified range for application of the screening level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table C-2

Sediment Chemical Analytical Data – Protection of Human Health and Higher Trophic Level Ecological Receptors

Dakota Creek Industries
Anacortes, Washington

Sample Location[1]		DC-SED-01	DC-SED-02	DC-SED-03	DC-SED-05	DC-SED-06	DC-SED-08	DC-SED-09	DMMU-D1	DMMU-D2	P1-2	DCI-1	DCI-2	DC-106-1	DC-106-2	DC-106-2	Proposed Sediment Screening Level[3]
Sample Identification		DC-SED-01[2]	DC-SED-02[2]	DC-SED-03[2]	DC-SED-05[2]	DC-SED-06[2]	DC-SED-08[2]	DC-SED-09	DMMU-D1-Comp-A[2]	DMMU-D2-Comp-A[2]	AN-P1-2	AN-DCI-1A/B[2]	AN-DCI-2[2]	DCI06-1A[2]	DCI06-2A	DCI06-2-D	
Sample Date		07/03/97	07/03/97	07/03/97	08/06/97	08/06/97	08/06/97	08/06/97	04/25/00	04/25/00	07/15/04	07/15/04	07/15/04	N/A	N/A	N/A	
Sample Interval (dbm)		0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	1-3 ft	1-3 ft	1-3 ft	0-10 cm	0-10 cm	0-10 cm	
Sample Study		1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	2000 DMMP Characterization	2000 DMMP Characterization	2004 Sediment Study	2004 Sediment Study	2004 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface Composite	Surface Composite	Subsurface	Subsurface	Subsurface	Surface	Surface	Surface	
Sampled By		Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Hart Crowser	Hart Crowser	Anchor Env.	Anchor Env.	Anchor Env.	Floyd|Snider	Floyd|Snider	Floyd|Snider	
Metals																	
Arsenic	mg/kg	ND	**6.94**	**37.6**	**5.88 J**	**5.86 J**	**22.1**	**2.1 J**	**5.5**	**28.8**	--	--	--	--	--	--	11
Cadmium	mg/kg	ND	ND	ND	**0.315**	**0.3**	**0.195**	ND	**0.45**	**1.0**	--	--	--	--	--	--	0.8
Chromium	mg/kg	**21.4 J**	**6.98 J**	**32.8 J**	**23.7**	**26.2**	**21.9**	**13.4**	**31.7 J**	**36.1 J**	--	--	--	--	--	--	6,900,000
Copper	mg/kg	**55.4**	**42.8**	**1,240**	**42.7**	**50.1**	**374**	**15.3**	**37.4 J**	**174 J**	--	--	--	--	--	--	180,000
Lead	mg/kg	**9.87**	**94.6**	**63.8**	**12.6 J**	**15.5 J**	**75 J**	**6.23 J**	**14.5 J**	**48.8 J**	--	--	--	--	--	--	21
Mercury	mg/kg	ND	ND	ND	ND	ND	ND	ND	**0.2**	**0.22**	--	--	--	--	--	--	0.2
Nickel	mg/kg	**25.2 J**	**17 J**	**15.3 J**	**27.5**	**27.3**	**21.6**	**13.6**	--	--	--	--	--	--	--	--	NE
Silver	mg/kg	**0.072**	**0.0699 J**	**0.471 J**	**0.0772**	**0.0962**	**0.0984**	**0.0582**	**0.12**	**0.26**	--	--	--	--	--	--	23,000
Zinc	mg/kg	**52.3**	**48.9**	**528**	**78.1**	**80**	**171**	**21.3**	**82.7**	**257**	--	--	--	--	--	--	1,400,000
Organometallic Compounds																	
Tributyltin, bulk	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73
Interstitial Tributyltin, porewater	µg/L	--	--	ND	**0.45**	**0.08**	--	--	**0.11**	**0.15**	--	--	--	--	--	--	0.15
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs)																	
2-Methylnaphthalene	µg/kg	--	**4,100**	ND	--	--	**56.6**	--	20 U	**36**	--	--	--	--	--	--	16,000,000
Acenaphthene	µg/kg	--	ND	ND	--	--	**104**	--	20 U	**110**	--	--	--	--	--	--	240,000,000
Acenaphthylene	µg/kg	--	ND	ND	--	--	**63.1**	--	**23**	**210**	--	--	--	--	--	--	240,000,000
Anthracene	µg/kg	--	**1,420**	**386**	--	--	**268**	--	**99**	**790**	--	--	--	--	--	--	1,200,000,000
Fluorene	µg/kg	--	**742**	**208**	--	--	**104**	--	**38**	**120**	--	--	--	--	--	--	160,000,000
Naphthalene	µg/kg	--	**3,060**	ND	--	--	**97.8**	--	**64**	**91**	--	--	--	--	--	--	79,000,000
Phenanthrene	µg/kg	--	**5,070**	**1,350**	--	--	**1,090**	--	**230**	**1,400**	--	--	--	--	--	--	1,200,000,000
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs)																	
Benzo(a)anthracene	µg/kg	--	**1,420**	**695**	--	--	**855**	--	**380**	**3,000**	--	--	--	--	--	--	NE
Benzo(a)pyrene	µg/kg	--	**4,100**	**512**	--	--	**687**	--	**260**	**2,400**	--	--	--	--	--	--	cPAH TEQ
Total Benzofluoranthenes[4]	µg/kg	--	**2,990**	**913**	--	--	**1,410**	--	**520**	**3,300**	--	--	--	--	--	--	NE
Benzo(g,h,i)perylene	µg/kg	--	**4,850**	**362**	--	--	**457**	--	35 U	20 U	--	--	--	--	--	--	120,000,000
Chrysene	µg/kg	--	**4,150**	**821**	--	--	**1,080**	--	**400**	**3,100**	--	--	--	--	--	--	NE
Dibenzo(a,h)anthracene	µg/kg	--	**3,060**	ND	--	--	**123**	--	20 U	20 U	--	--	--	--	--	--	NE
Fluoranthene	µg/kg	--	**2,100**	**1,710**	--	--	**2,010**	--	**600**	**5,200**	--	--	--	--	--	--	160,000,000
Indeno(1,2,3-c,d)pyrene	µg/kg	--	**2,050**	**362**	--	--	**394**	--	**28**	**1,200**	--	--	--	--	--	--	NE
Pyrene	µg/kg	--	**3,300**	**1,540**	--	--	**2,330**	--	**900**	**6,400**	--	--	--	--	--	--	120,000,000
Carcinogenic PAHs (cPAHs)																	
Total cPAH TEQ[5] (ND=0.5 RL)	µg/kg	--	**5,093.5**	**717.2**	--	--	**976.0**	--	**356.8**	**3181**	--	--	--	--	--	--	21
Chlorinated Hydrocarbons																	
1,2,4-Trichlorobenzene	µg/kg	--	--	--	--	--	--	--	6 U	6 U	--	--	--	--	--	--	140,000
1,2-Dichlorobenzene	µg/kg	--	--	--	--	--	--	--	3 U	3 U	--	--	--	--	--	--	370,000,000
1,4-Dichlorobenzene	µg/kg	--	--	--	--	--	--	--	3 U	3 U	--	--	--	--	--	--	780,000
Hexachlorobenzene	µg/kg	--	--	--	--	--	--	--	12 U	12 U	--	--	--	--	--	--	2,500
Phthalates																	
Bis(2-Ethylhexyl) Phthalate	µg/kg	--	--	--	--	--	--	--	200 U	200 U	--	--	--	--	--	--	290,000
Butyl benzyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	2,100,000
Dibutyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	410,000,000
Diethyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	3,100,000,000
Dimethyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	NE
Di-N-Octyl Phthalate	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	41,000,000
Phenols																	
2,4-Dimethylphenol	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	82,000,000
2-methylphenol (o-Cresol)	µg/kg	--	--	--	--	--	--	--	60 U	60 U	--	--	--	--	--	--	200,000,000
4-methylphenol (p-Cresol)	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	390,000,000
Pentachlorophenol	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	10,000,000
Phenol	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	1,200,000,000
Miscellaneous Extractables																	
Dibenzofuran	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	4,100,000
Hexachlorobutadiene	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	52,000
N-Nitrosodiphenylamine	µg/kg	--	--	--	--	--	--	--	20 U	20 U	--	--	--	--	--	--	830,000

Sample Location[1]		DC-SED-01	DC-SED-02	DC-SED-03	DC-SED-05	DC-SED-06	DC-SED-08	DC-SED-09	DMMU-D1	DMMU-D2	P1-2	DCI-1	DCI-2	DC-106-1	DC-106-2	DC-106-2	Proposed Sediment Screening Level[3]
Sample Identification		DC-SED-01[2]	DC-SED-02[2]	DC-SED-03[2]	DC-SED-05[2]	DC-SED-06[2]	DC-SED-08[2]	DC-SED-09	DMMU-D1-Comp-A[2]	DMMU-D2-Comp-A[2]	AN-P1-2	AN-DCI-1A/B[2]	AN-DCI-2[2]	DCI06-1A[2]	DCI06-2A	DCI06-2-D	
Sample Date		07/03/97	07/03/97	07/03/97	08/06/97	08/06/97	08/06/97	08/06/97	04/25/00	04/25/00	07/15/04	07/15/04	07/15/04	N/A	N/A	N/A	
Sample Interval (dbm)		0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	1-3 ft	1-3 ft	1-3 ft	0-10 cm	0-10 cm	0-10 cm	
Sample Study		1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	1997 Phase II ESA	2000 DMMP Characterization	2000 DMMP Characterization	2004 Sediment Study	2004 Sediment Study	2004 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface Composite	Surface Composite	Subsurface	Subsurface	Subsurface	Surface	Surface	Surface	
Sampled By		Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Otten Engineering	Hart Crowser	Hart Crowser	Anchor Env.	Anchor Env.	Anchor Env.	Floyd|Snider	Floyd|Snider	Floyd|Snider	
Benzoic Acid	µg/kg	--	--	--	--	--	--	--	600 U	600 U	--	--	--	--	--	--	16,000,000,000
Benzyl Alcohol	µg/kg	--	--	--	--	--	--	--	50 U	50 U	--	--	--	--	--	--	410,000,000
Polychlorinated Biphenyls (PCBs)																	
Total PCBs (Sum of Aroclors or Congeners)	mg/kg	--	ND	**0.075**	--	--	**0.285**	--	0.02 U	0.02 U	--	--	--	--	--	--	0.0035
Dioxins and Furans																	
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	0.27 U	0.21 U	0.18 U	NE
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	**1.76**	2.5 U	2.5 U	**1.76**	2.5 U	**1.4 J**	1.1 U	0.91 U	NE
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	**55.574**	**25.002**	2.5 U	**55.574**	**25.002**	**20**	**2 J**	**5**	NE
OCDD	ng/kg	--	--	--	--	--	--	--	**589.61**	**206.812**	5 U	**589.61**	**206.812**	**180**	**14**	**35**	NE
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	**0.64 J**	0.21 U	0.18 U	NE
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	**5.652**	**5.104**	2.5 U	**5.652**	**5.104**	**3.1 J**	1.1 U	0.91 U	NE
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.82 U	1.1 U	0.91 U	NE
OCDF	ng/kg	--	--	--	--	--	--	--	**10.785**	**18.241**	**9.1**	**10.785**	**18.241**	**6.5 J**	2.1 U	**2.2 J**	NE
Total Dioxin/Furan TEQ[6] (ND=0.5 RL)	ng/kg	--	--	--	--	--	--	--	**3.94**	**3.47**	**3.13**	**3.94**	**3.47**	**1.42 J**	**1.32 J**	**1.09 J**	5

Notes:

[1] Sediment sample locations are shown on Figure 12.

[2] Sediment represented by this sample was subsequently dredged from the Marine Area during redevelopment of the Property in 2008.

[3] Proposed sediment cleanup levels for the protection of human health and higher trophic level ecological receptors are referenced from Table 2.

[4] Total benzofluoranthenes represents the sum of concentrations of the b, j, and k isomers.

[5] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[6] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

ng/kg = nanogram per kilogram

mg/kg = milligram per kilogram

µg/kg = microgram per kilogram

-- = not analyzed

NE = not established

ND = Not detected

RL = Reporting limit

ft = feet

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the sediment screening level for protection of human health (HH) and higher trophic level ecological receptors (HTLER).

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table C-2

Sediment Chemical Analytical Data – Protection of Human Health and Higher Trophic Level Ecological Receptors

Dakota Creek Industries
Anacortes, Washington

Sample Location[1]		DC-106-3	DC-106-4	DC-106-4	DC-106-5	DC-106-5	DC-106-5	DC-106-6	DC-106-7	DC-106-7	DC-106-9	FB-A4-14	FB-A4-15	FB-A4-17	G-1	G-2	Proposed Sediment Screening Level[3]
Sample Identification		DCI06-3A[2]	DCI06-4A[2]	DCI06-4B[2]	DCI06-5A[2]	DCI06-5B[2]	DCI06-5B[2]	DCI06-6A[2]	DCI06-7A[2]	DCI06-7B[2]	DCI06-9A[2]	FB-A4-14	FB-A4-15	FB-A4-17[2]	G-1(s)[2]	G-2 (s)[2]	
Sample Date		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	09/06/07	09/06/07	09/06/07	03/14/08	03/14/08	
Sample Interval (dbm)		0-10 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	10-20 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0-20 CM	0-20 CM	
Sample Study		2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2008 Remedial Investigation	2008 Remedial Investigation	
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	
Sampled By		Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Ecology	Ecology	Ecology	GeoEngineers	GeoEngineers	
Metals																	
Arsenic	mg/kg	--	--	--	--	--	--	--	--	--	--	**2.37**	**2.1**	**6.2**	10 U	**9**	11
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	**0.09**	0.08 U	**0.66**	**0.8**	**0.8**	0.8
Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	**12.3**	**13.5**	**31.7**	**30**	**31.4**	6,900,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	**10.4**	**9.49**	**51**	**49.3**	**36.4**	180,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	**2.23 J**	**1.63**	**15.9**	**15**	**17**	21
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	**0.01 J**	**0.01**	**0.12**	**0.1**	**0.51**	0.2
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	0.02 U	**0.03**	**0.15**	0.7 U	0.5 U	23,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	**20.9**	**19.1**	**84.5**	**84**	**59**	1,400,000
Organometallic Compounds																	
Tributyltin, bulk	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73
Interstitial Tributyltin, porewater	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.15
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs)																	
2-Methylnaphthalene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	**68**	**38**	**17 J**	16,000,000
Acenaphthene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	**15**	**28**	**20 J**	240,000,000
Acenaphthylene	µg/kg	--	--	--	--	--	--	--	--	--	--	**1.4 J**	9.1 U	**24**	**92**	**38**	240,000,000
Anthracene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	**61**	**96**	**92**	1,200,000,000
Fluorene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	**28**	**95**	**59**	160,000,000
Naphthalene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	**65**	**130**	**37**	79,000,000
Phenanthrene	µg/kg	--	--	--	--	--	--	--	--	--	--	**8.2 J**	9.1 U	**230**	**560**	**440**	1,200,000,000
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs)																	
Benzo(a)anthracene	µg/kg	--	--	--	--	--	--	--	--	--	--	**4.1 J**	9.1 U	**220**	**360**	**200**	NE
Benzo(a)pyrene	µg/kg	--	--	--	--	--	--	--	--	--	--	**2.6 J**	9.1 U	**200**	**570**	**220**	cPAH TEQ
Total Benzofluoranthenes[4]	µg/kg	--	--	--	--	--	--	--	--	--	--	**9.9 J**	9.1 U	**450**	**910**	**370**	NE
Benzo(g,h,i)perylene	µg/kg	--	--	--	--	--	--	--	--	--	--	**2 J**	9.1 U	**190**	**290**	**110**	120,000,000
Chrysene	µg/kg	--	--	--	--	--	--	--	--	--	--	**18**	9.1 U	**340**	**560**	**230**	NE
Dibenzo(a,h)anthracene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	**70**	**290**	**30**	NE
Fluoranthene	µg/kg	--	--	--	--	--	--	--	--	--	--	**50**	**2.2 J**	**390**	**860**	**570**	160,000,000
Indeno(1,2,3-c,d)pyrene	µg/kg	--	--	--	--	--	--	--	--	--	--	**1.8 J**	9.1 U	**160**	**360**	**130**	NE
Pyrene	µg/kg	--	--	--	--	--	--	--	--	--	--	**33**	9.1 U	**420**	**720**	**500**	120,000,000
Carcinogenic PAHs (cPAHs)																	
Total cPAH TEQ[5] (ND=0.5 RL)	µg/kg	--	--	--	--	--	--	--	--	--	--	**4.85 J**	6.42 U	**293.4**	**767.6**	**295.3**	21
Chlorinated Hydrocarbons																	
1,2,4-Trichlorobenzene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	9.9 U	6.2 U	6.2 U	140,000
1,2-Dichlorobenzene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	9.9 U	**6.2**	6.2 U	370,000,000
1,4-Dichlorobenzene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	9.9 U	**13**	6.2 U	780,000
Hexachlorobenzene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	9.9 U	6.2 U	6.2 U	2,500
Phthalates																	
Bis(2-Ethylhexyl) Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	**97**	**91**	**82 J**	**63**	**47**	290,000
Butyl benzyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	**12**	16 U	16 U	2,100,000
Dibutyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	**9.2 J**	**16**	20 U	20 U	20 U	410,000,000
Diethyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	**1.9 J**	9.1 U	9.9 U	20 U	20 U	3,100,000,000
Dimethyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	**1 J**	9.1 U	9.9 U	16 U	16 U	NE
Di-N-Octyl Phthalate	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	9.9 U	20 U	20 U	41,000,000
Phenols																	
2,4-Dimethylphenol	µg/kg	--	--	--	--	--	--	--	--	--	--	--	**46 R**	**50 R**	6.2 U	6.2 U	82,000,000
2-methylphenol (o-Cresol)	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.1 U	9.9 UR	6.2 U	6.2 U	200,000,000
4-methylphenol (p-Cresol)	µg/kg	--	--	--	--	--	--	--	--	--	--	--	9.1 U	9.9 UR	**59**	**19**	390,000,000
Pentachlorophenol	µg/kg	--	--	--	--	--	--	--	--	--	--	--	91 U	**99 R**	31 U	31 U	10,000,000
Phenol	µg/kg	--	--	--	--	--	--	--	--	--	--	--	28 U	30 UJ	**34**	**20**	1,200,000,000
Miscellaneous Extractables																	
Dibenzofuran	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	**17**	**56**	**22**	4,100,000
Hexachlorobutadiene	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	9.9 U	6.2 U	6.2 U	52,000
N-Nitrosodiphenylamine	µg/kg	--	--	--	--	--	--	--	--	--	--	9.7 U	9.1 U	9.9 U	6.2 U	20 U	830,000

Sample Location[1]		DC-106-3	DC-106-4	DC-106-4	DC-106-5	DC-106-5	DC-106-5	DC-106-6	DC-106-7	DC-106-7	DC-106-9	FB-A4-14	FB-A4-15	FB-A4-17	G-1	G-2	Proposed Sediment Screening Level[3]
Sample Identification		DCI06-3A[2]	DCI06-4A[2]	DCI06-4B[2]	DCI06-5A[2]	DCI06-5B[2]	DCI06-5B[2]	DCI06-6A[2]	DCI06-7A[2]	DCI06-7B[2]	DCI06-9A[2]	FB-A4-14	FB-A4-15	FB-A4-17[2]	G-1(s)[2]	G-2 (s)[2]	
Sample Date		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	09/06/07	09/06/07	09/06/07	03/14/08	03/14/08	
Sample Interval (dbm)		0-10 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	10-20 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0-20 CM	0-20 CM	
Sample Study		2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2007 Sediment Study	2008 Remedial Investigation	2008 Remedial Investigation	
Sample Type		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	
Sampled By		Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Floyd|Snider	Ecology	Ecology	Ecology	GeoEngineers	GeoEngineers	
Benzoic Acid	µg/kg	--	--	--	--	--	--	--	--	--	--	**200**	**190 R**	**200 R**	200 U	200 U	16,000,000,000
Benzyl Alcohol	µg/kg	--	--	--	--	--	--	--	--	--	--	**6.2 J**	19 U	**6.9 J**	31 U	31 U	410,000,000
Polychlorinated Biphenyls (PCBs)																	
Total PCBs (Sum of Aroclors or Congeners)	mg/kg	--	--	--	--	--	--	--	--	--	--	0.02 U	0.013 U	0.021 U	0.019 U	**0.118**	0.0035
Dioxins and Furans																	
2,3,7,8-TCDD	ng/kg	0.19 U	**0.41**	**0.12**	0.25 U	0.19 U	0.19 U	**0.43 J**	**0.11**	0.19 U	0.2 U	--	--	--	--	--	NE
1,2,3,7,8-PeCDD	ng/kg	0.97 U	**7.5**	**1.1 J**	**1 J**	0.37 U	0.37 U	**5.1**	**1.1 J**	0.97 U	1 U	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDD	ng/kg	0.97 U	**28**	**1.8**	**1.8 J**	0.37 U	0.37 U	**8.9**	**2.1**	**1.1 J**	1 U	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDD	ng/kg	**1.2 J**	**330**	**11**	**10**	**0.68 J**	**0.68 J**	**61**	**14**	**8.4**	1 U	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDD	ng/kg	0.97 U	**49**	**3.9**	**2.5 J**	**0.46 J**	**0.46 J**	**21**	**4.8**	**2.2**	1 U	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDD	ng/kg	**18**	**6,100**	**220**	**180**	**9**	**9**	**1,100**	**330**	**220**	**17**	--	--	--	--	--	NE
OCDD	ng/kg	**130**	**53,000**	**1,900**	**1,800**	**78**	**78**	**10,000**	**3,100**	**2,200**	**160**	--	--	--	--	--	NE
2,3,7,8-TCDF	ng/kg	0.97 U	**0.7**	**0.83**	**1.4**	**0.74**	**0.74**	**0.43 J**	**1.3**	**0.55 J**	**0.31 J**	--	--	--	--	--	NE
1,2,3,7,8-PeCDF	ng/kg	0.97 U	**2.5**	**0.27**	**1.2 J**	0.37 U	0.37 U	**0.96 J**	**0.56 J**	0.97 U	1 U	--	--	--	--	--	NE
2,3,4,7,8-PeCDF	ng/kg	0.97 U	**11**	**1.4**	**1.3 J**	**0.49 J**	**0.49 J**	**2.3**	**1.4 J**	0.97 U	1 U	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDF	ng/kg	0.97 U	**28**	**1.6**	**1.4 J**	0.37 U	0.37 U	**0.44**	**2.5**	**0.97**	**1**	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDF	ng/kg	0.97 U	**0.26**	**1.6**	**1.4 J**	0.37 U	0.37 U	**3.2**	**1.5 J**	**1 J**	1 U	--	--	--	--	--	NE
2,3,4,6,7,8-HxCDF	ng/kg	0.97 U	**49**	**2.3**	**2 J**	0.37 U	0.37 U	**10**	**2.4**	**2.5 J**	1 U	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDF	ng/kg	0.97 U	**16**	**0.69 J**	1 U	0.37 U	0.37 U	**2.8**	**0.94 J**	0.97 U	1 U	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDF	ng/kg	**3.6 J**	**1,000**	**54**	**29**	**1.4 J**	**1.4 J**	**180**	**40**	**23**	**6.8**	--	--	--	--	--	NE
1,2,3,4,7,8,9-HpCDF	ng/kg	0.97 U	**36**	**2**	**1.3**	0.37 U	0.37 U	**7.2**	**2.5**	**2 J**	**1.1 J**	--	--	--	--	--	NE
OCDF	ng/kg	**5.6**	**1,000**	**81**	**29**	**2.2**	**2.2**	**150**	**70**	**54**	**19**	--	--	--	--	--	NE
Total Dioxin/Furan TEQ[6] (ND=0.5 RL)	ng/kg	**1.46 J**	**148.94**	**7.37 J**	**6.35 J**	**0.84 J**	**0.84 J**	**32.9 J**	**9.28 J**	**5.59 J**	**1.5 J**	--	--	--	--	--	5

Notes:

[1] Sediment sample locations are shown on Figures 8 and 13.

[2] Sediment represented by this sample was subsequently dredged from the DCI Basin during redevelopment of the Property in 2008; therefore do not represent current sediment conditions and are not included as part of the RI data set.

[3] Proposed sediment cleanup levels for the protection of human health and higher trophic level ecological receptors are referenced from Table 2.

[4] Total benzofluoranthenes represents the sum of concentrations of the b, j, and k isomers.

[5] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[6] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

ng/kg = nanogram per kilogram

mg/kg = milligram per kilogram

µg/kg = microgram per kilogram

-- = not analyzed

NE = not established

ND = Not detected

RL = Reporting limit

ft = feet

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the sediment screening level for protection of human health (HH) and higher trophic level ecological receptors (HTLER).

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table C-2

Sediment Chemical Analytical Data – Protection of Human Health and Higher Trophic Level Ecological Receptors

Dakota Creek Industries
Anacortes, Washington

Sample Location[1]		G-3	G-4	G-5	G-6	G-7	SMA-1	SMA-2	SMA-3	SMA-4	SMA-4	SMA-5	SMA-5	Proposed Sediment Screening Level[3]
Sample Identification		G-3-0-1[2]	G-4-2-3[2]	G-5-0-1[2]	G-6-2-3[2]	G-7(s)[2]	SMA 1-1	SMA 2-1	SMA 3-2	DCI 4-1	DCI 4-1A	SMA 5-2	SMA 5-3	
Sample Date		03/14/08	03/14/08	03/14/08	03/14/08	03/14/08	09/30/08	09/30/08	08/28/08	10/10/08	10/10/08	08/26/08	08/26/08	
Sample Interval (dbm)		0-1 ft	2-3 ft	0-1 ft	2-3 ft	0-20 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	
Sample Study		2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	
Sample Type		Subsurface	Subsurface	Subsurface	Subsurface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	
Metals														
Arsenic	mg/kg	**30**	**70**	**300**	**33**	**37**	**4.40**	**1.71**	**2.11**	**3.89**	**2.98**	**4.2**	**1.9**	11
Cadmium	mg/kg	0.6 U	**0.8**	**1.2**	**0.8**	**0.3**	**0.054**	**0.091**	**0.078**	**0.077**	**0.071**	0.3 U	0.3 U	0.8
Chromium	mg/kg	**47**	**50**	**55**	**20.6**	**30.2**	**26.2**	**12.7**	**51.1**	**244**	**96.9**	**35.3**	**33.3**	6,900,000
Copper	mg/kg	**648**	**1,040**	**1,720**	**3,870**	**77.2**	**27.4**	**16.1**	**23.6**	**27.8**	**25.7**	**29.1**	**25.9**	180,000
Lead	mg/kg	**609**	**939**	**338**	**188**	**25**	**4.08**	**3.73**	**4.21**	**2.45**	**3**	3 U	2.9 U	21
Mercury	mg/kg	**4.39**	**17.8**	**1.43**	**4.43**	**0.07**	**0.033**	**0.0453**	**0.0221**	**0.032**	**0.036**	**0.041**	**0.036**	0.2
Nickel	mg/kg	–	–	–	–	–	–	–	–	–	–	–	–	NE
Silver	mg/kg	0.9 U	0.9 U	0.9 U	**0.5**	0.4 U	**0.07**	**0.05**	**0.07**	**0.07**	**0.06**	0.8 U	**0.8**	23,000
Zinc	mg/kg	**320**	**456**	**974**	**307**	**90**	**43.9**	**25.4**	**42**	**43.7**	**44.2**	**53**	**41.7**	1,400,000
Organometallic Compounds														
Tributyltin, bulk	µg/kg	–	–	–	–	–	**7.24 J**	**60.35 J**	**11.84 J**	**1.72 J**	**1.72 J**	**33.58 J**	**8.19 J**	73
Interstitial Tributyltin, porewater	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	0.15
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs)														
2-Methylnaphthalene	µg/kg	58 U	**110**	59 U	**62**	20 U	**0.85 J**	**6.8**	**0.61 J**	**0.5 J**	**0.42 J**	**0.79 J**	**0.53 J**	16,000,000
Acenaphthene	µg/kg	**55 J**	**230**	**54 J**	**150**	20 U	**0.91 J**	**6.8**	**0.78 J**	0.23 U	0.23 U	**5.1 J**	**0.91 J**	240,000,000
Acenaphthylene	µg/kg	**54 J**	**100**	59 U	**250**	20 U	0.24 U	**0.45 J**	**0.44 J**	0.24 U	0.24 U	**0.39 J**	0.24 U	240,000,000
Anthracene	µg/kg	**200**	**450**	**160**	**1,900**	**14 J**	**0.5 J**	**8.3**	**2.5**	0.47 U	0.47 U	**2.8 J**	**0.82 J**	1,200,000,000
Fluorene	µg/kg	**46 J**	**270**	**52 J**	**230**	20 U	**1.1 J**	**8.6**	**1.3 J**	0.5 U	0.5 U	**4.5 J**	**1.2 J**	160,000,000
Naphthalene	µg/kg	58 U	**150**	59 U	**91**	20 U	**2.5**	**10**	**1.3 J**	**0.91 J**	**0.82 J**	**5 J**	**0.81 J**	79,000,000
Phenanthrene	µg/kg	**560**	**1,200**	**750**	**1,100**	**17 J**	**2.9**	**33**	**6.3**	**0.81 J**	**0.9 J**	**15 J**	**3.8**	1,200,000,000
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs)														
Benzo(a)anthracene	µg/kg	**970**	**1,500**	**550**	**2,600**	**24**	**1.3 J**	**15**	**5**	0.48 U	0.48 U	**3.2**	**0.98 J**	NE
Benzo(a)pyrene	µg/kg	**1,400**	**1,600**	**520**	**1,500**	**22**	**0.86 J**	**13**	**5.3**	0.14 U	0.14 U	**2.9**	**0.61 J**	cPAH TEQ
Total Benzofluoranthenes[4]	µg/kg	**2,900**	**3,600**	**1,100**	**3,300**	**57**	**1.87 J**	**20.6**	**9.1**	0.25 U	0.25 U	**6.7**	**1.72**	NE
Benzo(g,h,i)perylene	µg/kg	**730**	**880**	**260**	**540**	**15 J**	**0.94 J**	**9.9**	**3.5**	0.64 U	0.64 U	**2.3**	0.64 U	120,000,000
Chrysene	µg/kg	**1,200**	**2,100**	**720**	**3,100**	**33**	**1.1 J**	**16.0**	**7.1**	**0.47 J**	0.25 U	**5.4**	**1.8**	NE
Dibenzo(a,h)anthracene	µg/kg	**130**	**240**	**91**	**120**	6.1 U	0.28 U	**3.5**	**0.98 J**	0.28 U	0.28 U	**0.5 J**	0.28 U	NE
Fluoranthene	µg/kg	**2,200**	**5,800**	**1,500**	**11,000**	**48**	**3**	**36**	**10**	**0.63 J**	**0.61 J**	**14**	**4.4**	160,000,000
Indeno(1,2,3-c,d)pyrene	µg/kg	**730**	**860**	**270**	**550**	**17 J**	**0.83 J**	**8.9**	**4**	0.16 U	0.16 U	**2.3**	**0.54 J**	NE
Pyrene	µg/kg	**2,300**	**4,000**	**1,100**	**7,500**	**88**	**4.0**	**40**	**11**	**0.72 J**	**0.65 J**	**14**	**3.7**	120,000,000
Carcinogenic PAHs (cPAHs)														
Total cPAH TEQ[5] (ND=0.5 RL)	µg/kg	**1,885**	**2,241**	**728**	**2,188**	32.44 J	**1.27 J**	**17.96**	**7.28 J**	**0.005 J**	**0.003 J**	**4.22 J**	**0.95 J**	21
Chlorinated Hydrocarbons														
1,2,4-Trichlorobenzene	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	140,000
1,2-Dichlorobenzene	µg/kg	6.2 U	**18**	6.2 U	**16**	6.1 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	5.9 U	370,000,000
1,4-Dichlorobenzene	µg/kg	6.2 U	**14**	6.2 U	6.1 U	6.1 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	780,000
Hexachlorobenzene	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	2,500
Phthalates														
Bis(2-Ethylhexyl) Phthalate	µg/kg	**160**	**510**	**400**	**180**	**41**	7 U	**9.4 J**	7 U	7 U	**18**	7 U	7 U	290,000
Butyl benzyl Phthalate	µg/kg	15 U	19 U	15 U	15 U	15 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	2,100,000
Dibutyl Phthalate	µg/kg	58 U	58 U	59 U	58 U	20 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	**8.4 J**	**8.9 J**	410,000,000
Diethyl Phthalate	µg/kg	58 U	58 U	59 U	58 U	20 U	1.3 U	1.3 U	1.3 U	1.5 U	**1.4**	**1.4 J**	**1.4 J**	3,100,000,000
Dimethyl Phthalate	µg/kg	58 U	58 U	59 U	58 U	15 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NE
Di-N-Octyl Phthalate	µg/kg	58 U	58 U	59 U	58 U	20 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	41,000,000
Phenols														
2,4-Dimethylphenol	µg/kg	6.2 U	**40**	6.2 U	6.1 U	6.2 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	82,000,000
2-methylphenol (o-Cresol)	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	200,000,000
4-methylphenol (p-Cresol)	µg/kg	58 U	**45 J**	**59**	58 U	20 U	**3.4 J**	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	390,000,000
Pentachlorophenol	µg/kg	31 U	**70**	**40**	31 U	31 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	10,000,000
Phenol	µg/kg	**43 J**	**76**	59 U	58 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1,200,000,000
Miscellaneous Extractables														
Dibenzofuran	µg/kg	58 U	**130**	59 U	**95**	20 U	**0.87 J**	**6.3**	**0.85 J**	0.59 U	0.59 U	**2.8 J**	1.2 U	4,100,000
Hexachlorobutadiene	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	52,000
N-Nitrosodiphenylamine	µg/kg	6.2 U	6.2 U	6.2 U	6.1 U	**6.1 J**	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	830,000

Sample Location[1]		G-3	G-4	G-5	G-6	G-7	SMA-1	SMA-2	SMA-3	SMA-4	SMA-4	SMA-5	SMA-5	Proposed Sediment Screening Level[3]
Sample Identification		G-3-0-1[2]	G-4-2-3[2]	G-5-0-1[2]	G-6-2-3[2]	G-7(s)[2]	SMA 1-1	SMA 2-1	SMA 3-2	DCI 4-1	DCI 4-1A	SMA 5-2	SMA 5-3	
Sample Date		03/14/08	03/14/08	03/14/08	03/14/08	03/14/08	09/30/08	09/30/08	08/28/08	10/10/08	10/10/08	08/26/08	08/26/08	
Sample Interval (dbm)		0-1 ft	2-3 ft	0-1 ft	2-3 ft	0-20 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	
Sample Study		2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2008 Remedial Investigation	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	2007 Interim Action	
Sample Type		Subsurface	Subsurface	Subsurface	Subsurface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	
Benzoic Acid	µg/kg	580 U	580 U	590 U	580 U	200 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	16,000,000,000
Benzyl Alcohol	µg/kg	31 U	31 U	31 U	31 U	31 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	410,000,000
Polychlorinated Biphenyls (PCBs)														
Total PCBs (Sum of Aroclors or Congeners)	mg/kg	**0.145**	**0.362**	**0.168**	**0.134**	0.019 U	0.0013 U	**0.0031**	0.0013 U	0.0013 U	0.0013 U	0.0013 U	0.0013 U	0.0035
Dioxins and Furans														
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	NE
Total Dioxin/Furan TEQ[6] (ND=0.5 RL)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	5

Notes:

[1] Sediment sample locations are shown on Figures 8 and 13.

[2] Sediment represented by this sample was subsequently dredged from the DCI Basin during redevelopment of the Property in 2008; therefore do not represent current sediment conditions and are not included as part of the RI data set.

[3] Proposed sediment cleanup levels for the protection of human health and higher trophic level ecological receptors are referenced from Table 2.

[4] Total benzofluoranthenes represents the sum of concentrations of the b, j, and k isomers.

[5] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[6] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

ng/kg = nanogram per kilogram

mg/kg = milligram per kilogram

µg/kg = microgram per kilogram

-- = not analyzed

NE = not established

ND = Not detected

RL = Reporting limit

ft = feet

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the sediment screening level for protection of human health (HH) and higher trophic level ecological receptors (HTLER).

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

APPENDIX D
DMMP Suitability Determination

CENWS-OD-TS-DM

MEMORANDUM FOR RECORD 23 March 2007

SUBJECT: RECENCY EXTENSION SUITABILITY DETERMINATION FOR SEDIMENTS PROPOSED TO BE MAINTENANCE DREDGED FROM PORT OF ANACORTES DAKOTA CREEK INDUSTRIES (DCI) SHIPYARD FACILITY / PIER 1, ANACORTES, WA FOR OPEN-WATER DISPOSAL AT THE ROSARIO STRAIT DISPERSIVE OPEN-WATER DISPOSAL SITE, AS EVALUATED UNDER SECTION 404 OF THE CLEAN WATER ACT

1. The following summary reviews the recent history of sediment testing and consensus suitability determination memorandums (SDM) by the Agencies that comprise the regional Dredged Material Management Program (DMMP) for the State of Washington for the Port of Anacortes Dakota Creek Industries Shipyard Facility and Pier 1. The agencies include the Corps of Engineers, Department of Ecology, Department of Natural Resources, and the Environmental Protection Agency. The purpose of this review is to evaluate a recency extension request for the DCI sediments made by the applicant's agent (**Attachment 1**) due to delays in completing the Corps Section 10/404 permit process.

2. Relevant dates for regulatory tracking purposed are included in Table 1.

Table 1. Regulatory Tracking Information and Dates

CORPS APPLICATION / PUBLIC NOTICE #	**2005-01451**
Project Ranking: **Dakota Creek Industries: Moderate** **Pier 1: Moderate**	**Recency date for Moderate Ranking = 5 years**
Initial **Dakota Creek** (POA[1]) SDM Date:	April 12, 2001 (2 surface DMMUs tested, 2 subsurface DMMUs archived)
Initial **Dakota Creek Industries** (DCI) Sampling Date:	April 25, 2000 (**Recency date = April 2005**)
Volumes: (Suitable/Unsuitable)	Suitable: 16,000 cy (surface) Suitable: 214,000 cy (subsurface/untested Native) Unsuitable: 16,000 cy (surface) + 1-2 ft of buffer material in underlying Native sediments
Initial **Pier 1** (POA) SDM Date:	April 12, 2001 (2 Surface DMMUs)
Initial **Pier 1** Sampling Date:	April 24, 2000 (**Recency date = April 2005**)
Volume: (Suitable/Unsuitable)	Suitable: 32,000 cy; Unsuitable: 0
Recency Extension **Pier 1** (P1) Memorandum	September 3, 2004 (2 surface DMMUs)
Recency **Pier 1** Sampling Date:	July 15, 2004 (**Recency date = July 2009**)
Volume: (Suitable/Unsuitable)	Suitable: 32,000 cy
Supplemental **Dioxin testing DCI/Pier 1** SDM Date:	September 28, 2005 (4 surface DMMUs)
Supplemental DCI/P1 SDM Sampling Dates:	July 13-15, 2004 (**Recency date = July 2009**)
Volume: (Suitable/Unsuitable)	DCI Suitable: 230,000 cy (surface/subsurface) Pier 1 Suitable: 32,000 cy (surface) **Total Suitable: 262,000 cy** DC Unsuitable surface: 16,000 cy (surface) + buffer

[1] POA = Port of Anacortes

3. **Dakota Creek Industries (DCI) Shipyard (Initial).** The Initial 2000 characterization of 246,000 cy of potential dredged material at the Dakota Creek Industries (DCI) Shipyard found 16,000 cy of surface sediment suitable and 214,000 cy of uncharacterized subsurface Native material suitable for unconfined-open water disposal, whereas 16,000 cy of surface sediment was unsuitable for unconfined-open-water disposal (12 April 2001 SDM; **Attachment 2**, **Table 2**).

4. **Pier 1 (Initial)**. The initial 2000 characterization of the 32,000 cy of proposed dredged material at the Pier 1 area found all the material suitable for unconfined –open-water disposal (12 April 2001 SDM; **Attachment 3 Table 2**).

5. **Dioxin Testing (2004)**. Concerns about potential dioxin contamination from an old Scott Paper Mill outfall in the vicinity of the proposed dredging led to supplemental dioxin testing in 2004 within DCI and Pier 1, and the results of that testing (**Table 3**) from both locations were found to be suitable for unconfined-open-water disposal based on the existing dioxin DMMP evaluation framework at the time of the suitability determination dated 28 September 2005 (28 September 2005 SDM; **Attachment 4**).

6. **Pier 1 Recency Evaluation (2004). Attachments 5** provides a letter and letter report describing results of additional testing conducted within each of the two previously tested DMMUs at Pier 1 to evaluate the sediment quality status in support of a recency extension to 2009. These data supported the recency extension to 2009.

7. **Recency**. The recency date for the initial non-dioxin DCI data collected expired in April 2005. The data collected from the 2004 Pier 1 recency evaluation suggest that sediment quality in the Dakota Creek Industries (DCI) area has not changed since the initial characterization, and that the recency date can be extended to July 2009 for the 230,000 cy of suitable material within the proposed DCI dredging footprint. The 16,000 cy of dredged material previously found unsuitable within the DCI footprint remains unsuitable for unconfined-open water disposal. Note that the recency date for the initial Pier 1 data expired in April 2005, but was extended to July 2009 due to recency testing conducted in 2004 (**Attachment 5**). Likewise, the recency date for the dioxin data collected in 2004 is July 2009.

8. This memorandum documents the recency extension of the suitable material within the DCI dredging area to July 2009. However, this recency extension does not constitute final agency approval of the project. A dredging plan for this project must be completed as part of the final project approval process. A final decision will be made after full consideration of agency input, and after an alternatives analysis is done under Section 404(b)(1) of the Clean Water Act.

SUBJECT: RECENCY EXTENSION SUITABILITY DETERMINATION FOR SEDIMENTS PROPOSED TO BE MAINTENANCE DREDGED FROM PORT OF ANACORTES DAKOTA CREEK INDUSTRIES (DCI) SHIPYARD FACILITY /PIER 1, ANACORTES, WA FOR OPEN-WATER DISPOSAL AT THE ROSARIO STRAIT DISPERSIVE OPEN-WATER DISPOSAL SITE, AS EVALUATED UNDER SECTION 404 OF THE CLEAN WATER ACT

Concur:

April 5, 2007 _____
Date David Kendall, Ph.D., Seattle District Corps of Engineers

April 5, 2007 _____
Date Laura Inouye, Washington Department of Ecology

4/5/07 _____
Date Erika Hoffman, Environmental Protection Agency, Region 10

5-April-07 _____
Date Courtney Wasson, Washington Department of Natural Resources

Copies Furnished:
Randel Perry, Corps Regulatory Project Manager
Erika Hoffman, EPA
Laura Inouye, Ecology
Courtney Wasson, DNR
John Herzog, Contractor for Port of Anacortes
DMMO File

Table 2. Initial 2000 DMMP Characterization Summary for Dakota Creek Industries and Pier 1

								Pier 1 (2000 Charactrization)						Dakota Creek (2000 Characterization)					
								DMMU-P1 (Comp-A)			DMMU-P2 (Comp-A)			DMMU-D1 (Comp-A)			DMMU-D2 (Comp-A)		
	DMMP				SMS			dry wgt	mg/kg-OC	VQ	dry wgt	mg/kg-OC	VQ	dry wgt	mg/kg-OC	VQ	dry wgt	mg/kg-OC	VQ
CHEMICAL NAME	Units	SL	BT	ML	Units	SQS	CSL	DMMP/SMS	SMS		DMMP/SMS	SMS		DMMP/SMS	SMS		DMMP/SMS	SMS	
Antimony	mg/kg	150		200	mg/kg			**0.21**		J	**0.12**		J	**0.39**		J	**12.4**		J
Arsenic	mg/kg	57	507.1	700	mg/kg	57	93	**3.0**			**3.1**			**5.5**			**28.8**		
Cadmium	mg/kg	5.1	11.3	14	mg/kg	5.1	6.7	**0.15**			**0.14**			**0.45**			**1.0**		
Chromium	mg/kg	(2)	267	(2)	mg/kg	260	270	**24.9**			**17.7**			**31.7**		J	**36.1**		J
Copper	mg/kg	390	1,027	1,300	mg/kg	390	390	**25.6**			**18.4**			**37.4**		J	**174.0**		J
Lead	mg/kg	450	975	1,200	mg/kg	450	530	**16.1**			**5.7**			**14.5**		J	**48.8**		J
Mercury	mg/kg	0.41	1.5	2.3	mg/kg	0.41	0.59	**0.040**			**0.020**			**0.20**			**0.22**		
Nickel	mg/kg	140	370	370	mg/kg	--	--	**31.5**			**19.6**			**35.5**		J	**34.6**		J
Selenium	mg/kg	(2)	3	(2)	mg/kg	--	--	NA			NA			NA			NA		
Silver	mg/kg	6.1	6.1	8.4	mg/kg	6.1	6.1	**0.09**			**0.06**			**0.12**			**0.26**		
Zinc	mg/kg	410	2,783	3,800	mg/kg	410	960	**37.0**			**36.1**			**82.7**			**257**		
Tributyltin (porewater as Tin)	ug/L	0.15	0.15		ug/L	0.05		**0.021**			**0.028**			**0.11**			**0.15**		
Naphthalene	ug/kg	2,100		2,400	mg/kg-OC	99	170	20.0	1.00	U	20.0	1.92	U	**64.0**	2.34		**91.0**	**5.06**	
Acenaphthylene	ug/kg	560		1,300	mg/kg-OC	66	66	20.0	1.00	U	20.0	1.92	U	**23.0**	0.84		**210.0**	**11.67**	
Acenaphthene	ug/kg	500		2,000	mg/kg-OC	16	57	20.0	1.00	U	20.0	1.92	U	20.0	0.36	U	**110.0**	**6.11**	
Fluorene	ug/kg	540		3,600	mg/kg-OC	23	79	20.0	1.00	U	20.0	1.92	U	**38.0**	1.39		**120.0**	**6.67**	
Phenanthrene	ug/kg	1,500		21,000	mg/kg-OC	100	480	**42**	4.20		20.0	1.92	U	**230**	8.39		**1,400**	**77.78**	
Anthracene	ug/kg	960		13,000	mg/kg-OC	220	1,200	20.0	1.00	U	20.0	1.92	U	**99**	3.61		**790**	**43.89**	
2-Methylnapthalene	ug/kg	670		1,900	mg/kg-OC	38	64	20.0	1.00	U	20.0	1.92	U	20	0.36	U	**36**	**2.00**	
Total LPAH	ug/kg	5,200		29,000	mg/kg-OC	370	780	**42**	4.20		20.0	1.92	U	**454**	16.57		**2,757**	**153.17**	
Fluoranthene	ug/kg	1,700	4,600	30,000	mg/kg-OC	160	1,200	**55**	5.50		**30**	5.77		**600**	21.9		**5,200**	**288.89**	
Pyrene	ug/kg	2,600	11,980	16,000	mg/kg-OC	1,000	1,400	**100**	10.00		**28**	5.38		**900**	32.85		**6,400**	**355.56**	
Benzo(a)anthracene	ug/kg	1,300		5,100	mg/kg-OC	110	270	**32**	3.20		20	1.92	U	**380**	13.87		**3,000**	**166.67**	
Chrysene	ug/kg	1,400		21,000	mg/kg-OC	110	460	**48**	4.80		20	1.92	U	**400**	14.6		**3,100**	**172.22**	
Benzofluoranthenes (b+k)	ug/kg	3,200		9,900	mg/kg-OC	230	450	**90**	9.00		20.0	1.92	U	**520**	18.98		**3,300**	**183.33**	
Benzo(a)pyrene	ug/kg	1,600		3,600	mg/kg-OC	99	210	**50**	5.00		20.0	1.92	U	**260**	9.49		**2,400**	**133.33**	
Indeno(1,2,3-cd)pyrene	ug/kg	600		4,400	mg/kg-OC	34	88	**28**	2.80		20.0	1.92	U	**28**	1.02		**1,200**	66.67	
Dibenzo(a,h)anthracene	ug/kg	230		1,900	mg/kg-OC	12	33	20	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
Benzo(g,h,I)perylene	ug/kg	670		3,200	mg/kg-OC	31	78	35	1.75	U	20.0	1.92	U	35	0.64	U	20	0.56	U
Total HPAH	ug/kg	12,000		69,000	mg/kg-OC	960	5,300	**360**	36.00		58.0	11.15		**360**	13.14		**25,270**	**1,404**	
1,3-Dichlorobenzene	ug/kg	170		288	mg/kg-OC			3.0		U	3.0	0.29	U	3.0	0.05	U	3.0	0.08	U
1,4-Dichlorobenzene	ug/kg	110		120	mg/kg-OC	3.1	9	3.0	0.15	U	3.0	0.29	U	3.0	0.05	U	3.0	0.08	U
1,2-Dichlorobenzene	ug/kg	35		110	mg/kg-OC	2.3	2.3	3.0	0.15	U	3.0	0.29	U	3.0	0.05	U	3.0	0.08	U
1,2,4-Trichlorobenzene	ug/kg	31		64	mg/kg-OC	0.81	1.8	6.0	0.30	U	6.0	0.58	U	6.0	0.11	U	6.0	0.17	U
Hexachlorobenzne (HCB)	ug/kg	22	168	230	mg/kg-OC	0.38	2.3	12	0.60	U	12.0	1.15	U	12	0.22	U	12	0.33	U
Dimethylphthalate	ug/kg	71		1,400	mg/kg-OC	53	53	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
Diethylphthalate	ug/kg	200		1,200	mg/kg-OC	61	110	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
Di-n-butylphthalate	ug/kg	1,400		5,100	mg/kg-OC	220	1,700	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
Butylbenzylphthalate	ug/kg	63		970	mg/kg-OC	4.9	64	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
Bis(2-ethylhexyl)phthalate	ug/kg	1,300		8,300	mg/kg-OC	47	78	200	10.00	U	200.0	19.23	U	200	3.65	U	200	5.56	U
Di-n-octylphthalate	ug/kg	6,200		6,200	mg/kg-OC	58	4,500	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
Phenol	ug/kg	420		1,200	mg/kg	420	1,200	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
2-Methylphenol	ug/kg	63		77	mg/kg	63	63	60	3.00	U	60.0	5.77	U	60	1.09	U	60	1.67	U
4-Methylphenol	ug/kg	670		3,600	mg/kg	670	670	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
2,4-Dimethylphenol	ug/kg	29		210	mg/kg	29	29	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
Pentachlorophenol	ug/kg	400	504	690	mg/kg	360	690	60	3.00	U	60.0	5.77	U	60	1.09	U	60	1.67	U
Benzyl alcohol	ug/kg	57		870	mg/kg	57	73	50	2.50	U	50.0	4.81	U	50	0.91	U	50	1.39	U
Benzoic acid	ug/kg	650		760	mg/kg	650	650	600	30.00	U	600.0	57.69	U	600	10.95	U	600	16.67	U
Dibenzofuran	ug/kg	540		1,700		15	58	21.0	2.10		55.0			20	0.36	U	20	0.56	U
Hexachloroethane	ug/kg	1,400		14,000	mg/kg			20	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
Hexachlorobutadiene	ug/kg	29		270	mg/kg	3.9	6.2	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U
N-Nitrosodiphenylamine	ug/kg	28		130	mg/kg	11	11	20.0	1.00	U	20.0	1.92	U	20	0.36	U	20	0.56	U

Table 2. Initial 2000 DMMP Characterization Summary for Dakota Creek Industries and Pier 1

								Pier 1 (2000 Charactrization)						Dakota Creek (2000 Characterization)					
								DMMU-P1 (Comp-A)			DMMU-P2 (Comp-A)			DMMU-D1 (Comp-A)			DMMU-D2 (Comp-A)		
	DMMP				SMS			dry wgt	mg/kg-OC	VQ	dry wgt	mg/kg-OC	VQ	dry wgt	mg/kg-OC	VQ	dry wgt	mg/kg-OC	VQ
CHEMICAL NAME	Units	SL	BT	ML	Units	SQS	CSL	DMMP/SMS	SMS		DMMP/SMS	SMS		DMMP/SMS	SMS		DMMP/SMS	SMS	
Trichloroethene	ug/kg	160		1,600				8.1		U	6.0		U	4.3	0.08	U	4.8		U
Tetrachloroethene	ug/kg	57		210				8.1		U	6.0		U	4.3	0.08	U	4.8		U
Ethylbenzene	ug/kg	10		50				8.1		U	6.0		U	4.3	0.08	U	4.8		U
Total Zylene (sum of o-,m-,p-)	ug/kg	40		160				8.10		U	6.0		U	4.3	0.08	U	4.8		U
Total DDT (sum of 4,4'-DDD, 4,4'-DDE and 4,4'-DDT)	ug/kg	6.9	50	69				2.10			5.3			1.0	0.02	U	1.0		U
Aldrin	ug/kg	10		-				1.00		U	1.0		U	1.0	0.02	U	1.0		U
Chlordane (alpha)	ug/kg	10	37	-				1.00		u	1.0		u	1.0	0.02	U	1.0		U
Dieldrin	ug/kg	10						1.00		u	1.0		u	1.0	0.02	U	1.0		U
Heptachlor	ug/kg	10		-				1.00		u	1.0		u	1.0	0.02	U	1.0		U
Gamma-BHC (Lindane)	ug/kg	10		-				1		u	1.0		u	1.0	0.02	U	1.0		U
Total PCBs	ug/kg	130	38***	3,100	mg/kg-OC	12	65	**14.0**	1.4		24.0	4.62		20	0.36	U	20	0.56	U
Total Solids	%							**82.0**			**81.7**			**58.3**			**56.7**		
Total Volatile Solids	%							**195.0**			**1.63**			**6.0**			**4.96**		
Total Organic Carbon	%							**1.0**			**0.52**			**2.74**			**1.8**		
Total Ammonia	mg/kg							**3.4**			**3.66**			**31**			**34**		E
Total Sulfides	mg/kg							**121.0**			**25.0**			**1,140**		J	**554**		E
Gravel	%							**11.0**			**1.0**			**11.0**			**1.0**		
Sand	%							**56**			**48.0**			**56.0**			**48.0**		
Silt	%							**25.0**			**36.0**			**25.0**			**36.0**		
Clay	%							**8.0**			**15.0**			**8.0**			**15.0**		
Fines (percent silt + clay)	%							**33.0**			**41.0**			**33.0**			**51.0**		
Eohaustorius estuarius hits:																			
Mytilus galloprovincialis hits:																			
Neanthes arenaceodentata hits:																			
Bioassay Determination: (Pass/Fail)								**NP**			**NP**			**NP**			**NP**		
BTs exceeded:								**No**			**No**			**No**			**No**		
Bioaccumulation conducted:								**No**			**No**			**No**			**No**		
Bioaccumulation Determination:																			
ML Rule exceeded:								**No**			**No**			**No**			**No**		
PSDDA Determination/SMS BU Determination:								**S - UCOWD**	**S - BU**		**S - UCOWD**	**S - BU**		**S - UCOWD**	**S - BU**		**Unsuitable (B)**	**Unsuitable**	
DMMU Volume:	cy							**16,000**			**16,000**			**16,000**			**16,000**		
Rank (L, LM, M, H):								**M**			**M**			**M**			**M**		
Mean core sampling depth	ft							**0-4 ft**			**0-4 ft**			**0-4 ft**			**0-4 ft**		
DMMU ID:								**DMMU-C1 (Fed Chan.)**			**DMMU-C2 (Port)**			**DMMU-C3 (Port)**			**DMMU-C3 (Port)**		

Legend:

SL / SQS = Screening Level or Sediment Quality Standard exceedance

S - UCOWD/BU = Suitalble for UCOWD & Beneficial Use

Unsuitable (B) = Unsuitable without toxicity Testing

VQ = Validation Qualifier

UCOWD = Unconfined open-water disposal

U = Undetected at the method detection limit

J = Estimate

E = Estimate

NP = Not performed

TOC normalized (* 1/2 dL for U)

Table 3. Dakota Creek Industries (DCI) and Pier 1, Port of Anacortes

		Dakota Creek Industries Dredging Area						Pier 1 Dredging Area						Anacortes Reference Area						
	WHO (05)	AN-DC1-1 (1-3 ft)			AN-DC1-2 (1-3 ft)			AN-P1-1 (2-3 ft)			AN-P1-2 (1-3 ft)			AN-REF-1-01-SD (0-15 cm)			AN-REF-2-01-SD (0-15 cm)			Grand Mean
Analyte	TEF	ng/kg-dw	LQ	TEQ	ng/kg-dw	LQ	TEQ	ng/kg-dw	LQ	TEQ	ng/kg-dw	LQ	TEQ	ng/kg-dw	LQ	TEQ	ng/kg-dw	LQ	TEQ	
2,3,7,8-TCDD	1	1	u	0.5	1	u	0.5	1	u	0.5	1	u	0.5	1	u	0.5	1	u	0.5	
1,2,3,7,8-PeCDD	1	2.5	u	1.25	2.5	u	1.25	2.5	u	1.25	2.5	u	1.25	2.5	u	1.25	2.5	u	1.25	
1,2,3,4,7,8-HxCDD	0.1	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	
1,2,3,6,7,8-HxCDD	0.1	**1.78**	j	0.178	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	
1,2,3,7,8,9-HxCDD	0.1	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	
1,2,3,4,6,7,8-HpCDD	0.01	**55.574**		0.55574	**25**		0.25	2.5	u	0.0125	2.5	u	0.0125	**2.742**	j	0.02742	**6.001**		0.06001	
OCDD	0.0003	**589.61**	B	0.176883	**206.812**	B	0.062044	**10.782**	Bj	0.0032346	**9.1**	Bj	0.00273	**16.972**	j	0.005092	**47.747**	B	0.014324	
2.3.7.8-TCDF	0.1	1	u	0.05	1	u	0.1	1	u	0.05	1	u	0.05	1	u	0.05	1	u	0.05	
1,2,3,7,8-PeCDF	0.03	2.5	u	0.0375	2.5	u	0.0375	2.5	u	0.0375	2.5	u	0.0375	2.5	u	0.0375	2.5	u	0.0375	
2,3,4,7,8-PeCDF	0.3	2.5	u	0.375	2.5	u	0.375	2.5	u	0.375	2.5	u	0.375	2.5	u	0.375	2.5	u	0.375	
1,2,3,4,7,8-HxCDF	0.1	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	
1,2,3,6,7,8-HxCDF	0.1	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	
2,3,4,6,7,8-HxCDF	0.1	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	
1,2,3,7,8,9-HxCDF	0.1	2.5	u	0.25	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	2.5	u	0.125	
1,2,3,4,6,7,8-HpCDF	0.01	**5.652**		0.05652	**5.104**		0.05104	2.5	u	0.0125	2.5	u	0.0125	2.5	u	0.0125	2.5	u	0.0125	
1,2,3,4,7,8,9-HpCDF	0.01	2.5	u	0.025	2.5	u	0.0125	2.5	u	0.0125	2.5	u	0.0125	2.5	u	0.0125	2.5	u	0.0125	
OCDF	0.0003	**10.785**	j	0.003236	**18.241**		0.005472	5	u	0.00075	5	u	0.00075	5	u	0.00075	5	u	0.00075	
Total TEQ: (U = 1/2 DL)				**4.083**			**3.519**			**3.129**			**3.128**			**3.146**			**3.188**	**3.365**
Total TEQ: (U = 0)				**0.970**			**0.369**			**0.003**			**0.003**			**0.033**			**0.074**	
Total TOC, %:				**2.24**			**4.25**			**0.27**			**0.64**			**1.17**			**0.74**	

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Attachment 1

From: john herzog [john_herzog@comcast.net]
Sent: Friday, March 16, 2007 3:02 PM
To: Kendall, David R NWS
Cc: 'Connie Thoman'; 'Bob Elsner'; john_herzog@comcast.net
Subject: Recency Update for Dakota Creek Shipyard Open Water Disposal Determination

Attachments: Recency Ext Letter Report 090304.pdf; PSDDA Request Letter to DMMO 071404.pdf
David.

Thank you for prioritizing the update for the Dakota Creek Shipyard Open Water Suitability Determination.

The Port of Anacortes is seeking extension of the Dakota Creek Shipyard recency determination to allow for dredging activities to be conducted in the 2008/2009 dredging window. Originally, the project was targeted at the 2007/2008 dredging window however; the Corps permit was not able to be issued in time to allow for bidding and contractor procurement occur prior to the in-water work window.

Having reviewed the project files, we wanted to call to your attention the recency update request for the Pier 1 project which is located immediately adjacent to Dakota Creek. For this recency extension, the Port collected two supplemental samples of the Pier 1 DMMUs meeting open water criteria. The sampling was completed in 2004 and was intended to confirm that the sediment quality condition had not changed since the original characterization study. The supplemental data confirmed that the sediment condition had not changed since the initial characterization. Also at this time, data was also collected to address concerns about potential for dioxin contamination at Pier 1 and Dakota Creek Shipyard (due to new information on a historical outfall located at the sites). The dioxin sampling and analysis showed that the detected concentrations were below both the DMMP guidance criteria and also background location concentrations for Fidalgo Bay. By the DMMP guidelines, the recency determination for data collected in 2004 would extend five to seven years from the time of collection and is therefore, current.

We believe that the 2004 Pier 1 characterization data provides strong evidence that the conditions of Dakota Creek DMMU DCI-1 have not changed since the initial dredged material characterization. For Dakota Creek DCI-1 and the native material underlying both DMMUs is approved for open water disposal (reference Figure 1 of the attached September 3, 2004 Memorandum). DMMU DCI-2 failed open water criteria and will be disposed at an upland site. In addition to the sampling and analysis data, the Port has not noted any changed conditions at the Dakota Creek site that would cause concern for sediment contamination. Since the original characterization there have been no known environmental releases and the tenant has maintained their required best management practices.

We hope that this information is considered in your evaluation of the Dakota Creek recency determination. Please contact me if you have any questions.

John Herzog
john_herzog@comcast.net | 206.406.6431

CENWS-OD-TS
Dredged Material Management Office

12 April 2001

MEMORANDUM FOR RECORD

SUBJECT: DETERMINATION OF THE SUITABILITY OF DREDGED MATERIAL TESTED UNDER DMMP EVALUATION PROCEDURES FOR THE PORT OF ANACORTES DAKOTA CREEK DREDGING PROJECT WITH PROPOSED DISPOSAL AT THE ROSARIO STRAIT OPEN WATER DISPOSAL SITE.

1. The Port of Anacortes proposes to dredge in the vicinity of Dakota Creek, located on the northern shoreline of the City of Anacortes. The estimated volume of material proposed for dredging is 246,000 cubic yards. The following summary reflects the DMMP agencies (Corps of Engineers, Department of Ecology, Department of Natural Resources and the Environmental Protection Agency) consensus decision on the acceptability of the sampling plan and all relevant test data to make a determination of suitability for the disposal of the material at a PSDDA open-water disposal site.

2. The ranking for this area is "moderate" based on the guidance found in the PSDDA User's Manual (1998).

3. A sampling and analysis plan was completed for this project and approved by the DMMP agencies on 14 December 1998. Sampling for this project was performed on 25 April 2000.

SAP approval date	14 December 1998
Sampling date	25 April 2000
Data Report submittal date	June 2000
Recency determination dates	April 2005 to April 2007

4. Samples were taken from eight surface locations and composited for two analyses (D1-A and D2-A). Samples were also taken for analysis of subsurface sediments to confirm the presence of native sediments. Analysis was completed for all chemicals of concern. In addition, pore-water analysis for tributyltin was completed on both surface composites Two subsurface samples were composited in area D1 (composite D1-B). In area D-2, the sampling device was unable to penetrate the native subsurface and insufficient material was available for analysis. Subsurface samples of native material from D1-B were archived, with testing dependent on the results of the surface samples, and the suitability of the surface material for open-water disposal.

Attachment 2

5. There were no exceedances of 1998 DMMP screening levels for the standard list of chemicals of concern in DMMU D1-A. DMMU D2-A had exceedances of screening levels for seven HPAHs as well as for total HPAH. (Table 2 lists the screening level exceedances). TBT was detected in both samples, but well below the screening level. All detection limits were below screening level. The archived native sediment samples for D1-B were not analyzed, based on these results.

6. The Port of Anacortes chose to not pursue bioassay testing for the sediment represented by D2-A. Based on the chemistry data alone, the 16,000 cubic yards of sediment represented by this sample is not suitable for open water disposal. Native subsurface samples were not analyzed due to sampler refusal in the consolidated native sediment. Since chemistry data is not available for this material, a 1-2 foot buffer of native material must be removed with the overlying unsuitable material to assure that only suitable material is left exposed at the surface and only suitable material is placed at the open-water disposal site.

7. In summary, the DMMP-approved sampling and analysis plan was followed, and quality assurance, quality control guidelines specified by the DMMP were followed. The data gathered were deemed sufficient and acceptable for regulatory decision-making under the DMMP program. Based on the results of the chemical testing, the consensus determination of the DMMP agencies is that approximately 230,000 cubic yards (16,000 surface, 214,000 native subsurface) from the Port of Anacortes Dakota Creek dredging project are suitable for open-water disposal at either a dispersive or nondispersive site. Approximately 16,000 cubic yards of material from Dakota Creek is not suitable for open-water disposal.

8. This memorandum documents the suitability of proposed dredged sediments for disposal at a PSDDA open water disposal site or for beneficial use. It does not constitute final agency approval of the project. A dredging plan for this project must be completed as part of the final project approval process, including both vertical and horizontal buffers for the unsuitable material. A final decision will be made after full consideration of agency and public input, and after an alternatives analysis is done under section 404 (b) 1 of the Clean Water Act.

Port of Anacortes
Dakota Creek

Concur:

5/1/01
Date

Stephanie Stirling
Seattle District Corps of Engineers

5-17-01
Date

Justine Barton
Environmental Protection Agency, Region 10

5/22/01
Date

Rick Vining
Washington Department of Ecology

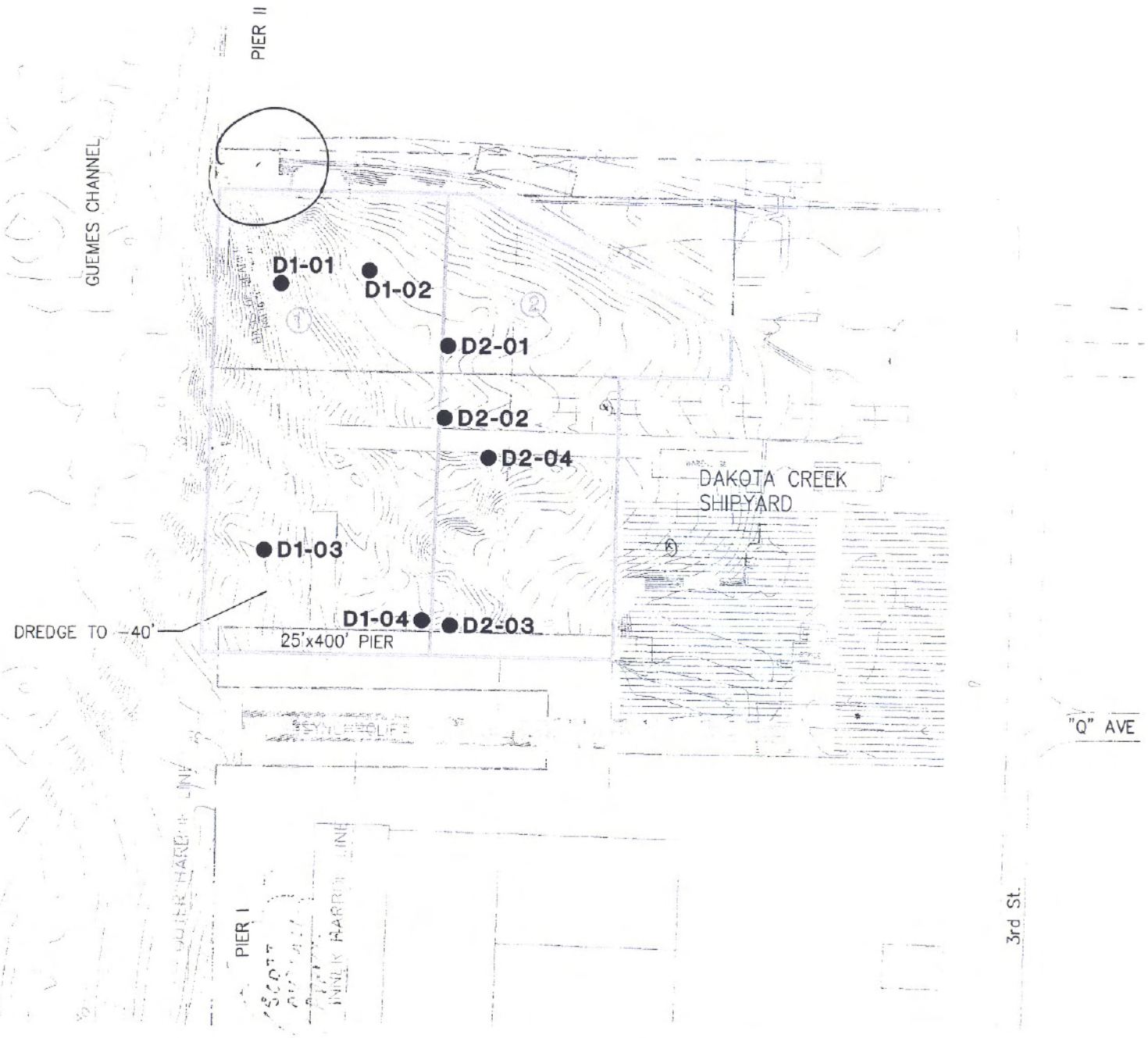
5/18/01
Date

Robert Brenner
WA Department of Natural Resources

Copies Furnished:

EPA/Justine Barton
DOE/Rick Vining
DNR/Robert Brenner
CENWS/OD-RG/Olivia Romano

Confirmed Sampling Location Plan
Dakota Creek



DMMU Boundary

DMMU Designation

● D1-01 Confirmed Sample Location and Number

N

0 150 300

Scale in Feet

Note: Base map prepared from electronic file provided by Peratrovich, Nottingham & Drage, Inc., entitled "Shipyard Reconfiguration Surface DMMU's", dated September 1995.

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Figure 2

bts 8/3/00 1=1 color.pc2
71540001

Table 1. Sediment Conventional Parameters

Parameter	DMMU D1-A	DMMU D2-A
Total Solids (%)	58.3	56.7
Total Organic Carbon (%)	2.74	1.8
Bulk Ammonia (mg/kg)	30.9	34.2
Total Sulfides (mg/kg)	1140	554
Grain-size gravel sand silt clay	 11 56 25 8	 1 48 36 15

Table 2. Screening Level Exceedances

Analyte (in μg/kg)	DMMP Screening Level (in μg/kg)	DMMU D2-A
Benzo(a)anthracene	1300	3000
Benzo(a)pyrene	1600	2400
Total Benzofluoranthenes	3200	3300
Benzo(g,h,I)perylene	1400	3100
Fluoranthene	1700	5200
Indeno(1,2,3-cd)pyrene	600	1200
Pyrene	2600	6400
Total HPAHs	12000	25270

CENWS-OD-TS
Dredged Material Management Office

12 April 2001

MEMORANDUM FOR RECORD

SUBJECT: DETERMINATION OF THE SUITABILITY OF DREDGED MATERIAL TESTED UNDER DMMP EVALUATION PROCEDURES FOR THE PORT OF ANACORTES PIER 1 DREDGING PROJECT WITH PROPOSED DISPOSAL AT THE ROSARIO STRAIT OPEN WATER DISPOSAL SITE.

1. The Port of Anacortes proposes to dredge in the vicinity of Pier I, located on the northern shoreline of the City of Anacortes. The estimated volume of material proposed for dredging is 32,000 cubic yards. The following summary reflects the DMMP agencies (Corps of Engineers, Department of Ecology, Department of Natural Resources and the Environmental Protection Agency) consensus decision on the acceptability of the sampling plan and all relevant test data to make a determination of suitability for the disposal of the material at a PSDDA open-water disposal site.

2. The ranking for this area is "moderate" based on the guidance found in the PSDDA User's Manual (1998).

3. A sampling and analysis plan was completed for this project and approved by the DMMP agencies on 14 December 1998. Sampling for this project was performed on 25 April 1999.

SAP approval date	14 December 1998
Sampling date	24 April 2000
Data Report submittal date	June 2000
Recency determination dates	April 2005 to April 2007

4. Samples were taken from a total of 8 surface locations and composited for two analyses. Analysis was completed for all chemicals of concern. In addition, pore-water analysis for tributyltin was completed on both composites. Subsurface samples of native material were collected and archived, with testing dependent on the results of the surface samples, and the suitability of the surface material for open-water disposal.

5. There were no exceedances of 1998 DMMP screening levels for the standard list of chemicals of concern. TBT was detected in both samples, but well below the screening level. All detection limits were below screening level. The archived native sediment samples were not analyzed, based on these results.

Attachment 3.

6. In summary, the DMMP-approved sampling and analysis plan was followed, and quality assurance, quality control guidelines specified by the DMMP were followed. The data gathered were deemed sufficient and acceptable for regulatory decision-making under the DMMP program. Based on the results of the chemical testing, the consensus determination of the DMMP agencies is that all 32,000 cubic yards from the Port of Anacortes Pier 1 dredging project are suitable for open-water disposal at either a dispersive or non-dispersive open-water disposal site.

7. This memorandum documents the suitability of proposed dredged sediments for disposal at a PSDDA open water disposal site or for beneficial use. It does not constitute final agency approval of the project. A dredging plan for this project must be completed as part of the final project approval process. A final decision will be made after full consideration of agency and public input, and after an alternatives analysis is done under section 404 (b) 1 of the Clean Water Act.

Concur:

5/1/01
Date

Stephanie Stirling
Seattle District Corps of Engineers

5/7/01
Date

Justine Barton
Environmental Protection Agency, Region 10

5/22/01
Date

Rick Vining
Washington Department of Ecology

5/18/01
Date

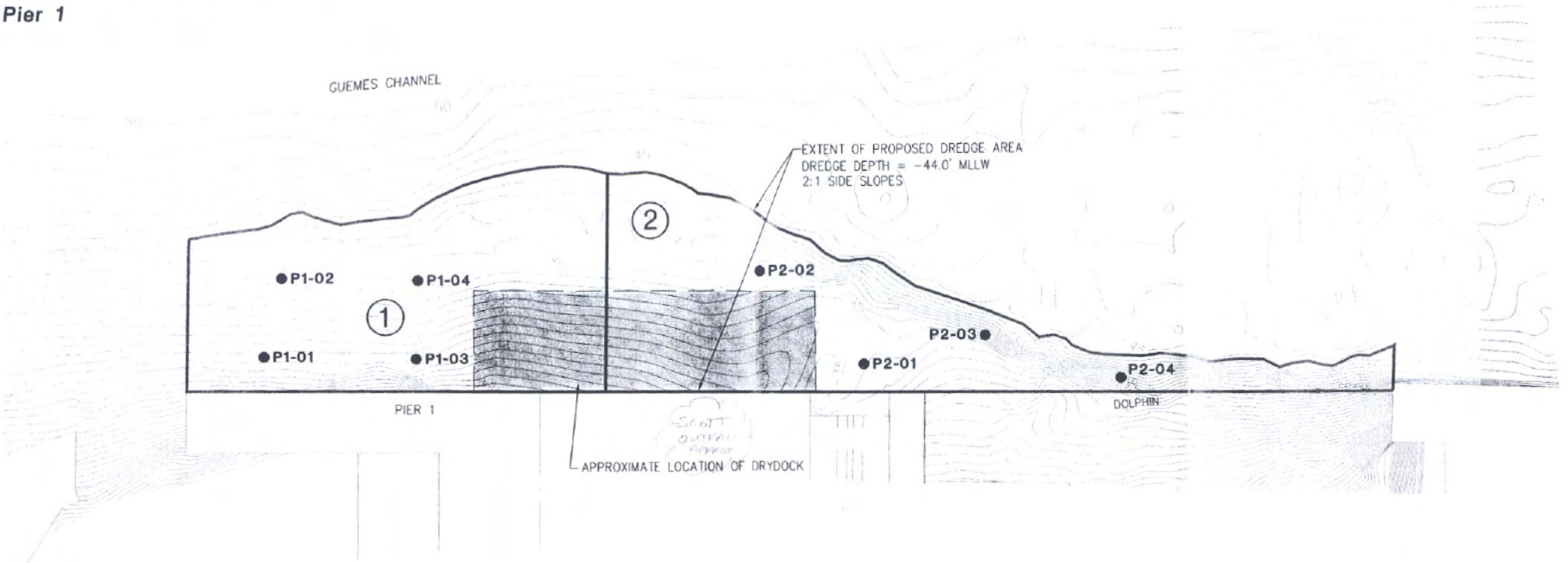
Robert Brenner
WA Department of Natural Resources

Copies Furnished:

EPA/Justine Barton
DOE/Rick Vining
DNR/Robert Brenner
CENWS/OD-RG/Olivia Romano

Confirmed Sampling Location Plan

Pier 1



(1) Surface DMMU Designation

●P1-01 Confirmed Sample Location and Number

N

0 100 200

Scale in Feet

Note: Base map prepared from drawing provided by Peratrovich, Nottingham & Drage, Inc. entitled "Plan View," dated September 7, 1998.

HARTCROWSER

J-7152 7/00

Figure 2

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Attachment-4: CENWS-OD-TS-DM 28 September 2005

MEMORANDUM FOR RECORD

SUBJECT: DETERMINATION OF THE SUPPLEMENTAL SUITABILITY OF SEDIMENT PROPOSED TO BE MAINTENANCED DREDGED FROM DAKOTA CREEK INDUSTRIES (DCI) SHIPYARD FACILITY/PIER 1, ANACORTES, WA FOR OPEN-WATER DISPOSAL AT THE PORT TOWNSEND WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES (DNR) OPEN WATER DISPOSAL SITE, AS EVALUATED UNDER SECTION 404 OF THE CLEAN WATER ACT.

1. The following summary reflects the consensus determination of the agencies that comprise the regional Dredged Material Management Program (DMMP) for the State of Washington. The agencies include the Corps of Engineers, Department of Ecology, Department of Natural Resources, and the Environmental Protection Agency. The agencies are charged with determining the suitability of proposed dredged material for in-water disposal and have evaluated the proposed maintenance dredging of 273,000 cubic yards (CY) from the Dakota Creek Industries (DCI) Shipyard Facility and Port of Anacortes Pier 1 located in Anacortes, WA.

The Port of Anacortes proposes to dredge approximately 241,000 cy of sediment from the two DMMUs at the DCI site and approximately 32,000 CY from the two DMMUs at the adjacent Pier 1 site. Of the 241,000 CY of sediment proposed for dredging at the DCI site, approximately 230,000 cy did not exceed PSDDA Screening Levels (SLs) and subsequently were determined to be suitable for open-water disposal whereas, approximately 16,000 CY (surficial material located within DMMU 1) will require disposal at an appropriate upland facility. All of the 32,000 CY characterized at Pier 1 did not exceed SLs and was determined to be suitable for open water.

Dioxin was not previously identified as a potential contaminant of concern in the initial sediment characterization studies, and subsequently, was not analyzed. To address concerns for the potential for contamination associated with historical pulp mill-related discharges at the site, four core samples were collected from the 2 to 4 foot layer within the established DCI and Pier 1 DMMUs and analyzed for dioxin. The stations will be located to sample historically-deposited material present at the 2 to 4 foot interval. Selection of specific sampling locations was based on a review of core log observations available from previous dredge material characterization studies, conservatively focusing on areas of finer-grained sediment deposits.

Two reference samples were collected using a van Veen-type grab sampler from Fidalgo Bay and Padilla Bay to characterize regional background sediment dioxin chemical concentrations. Reference sediment samples were surficial; the collected interval was from the 0 to 15 cm below mudline to characterize the dioxin concentration within the biologically mixed surface layer.

2. The project was ranked moderate for testing purposes. The sampling and analysis plan was approved on May 19, 2004 by the DMMP agencies for an estimated total dredged material footprint volume of 273,000 cubic yards. Five sediment cores were collected using a vibracorer from DMMUs DCI 1 (two cores), DCI 2 (one core), P1 (one core), P2 (one core). For each core,

a sample from the 1-to-3-foot interval was targeted. For DMMU DCI 1, samples DCI 1A and DCI 1B were composited into a single sample.

3. Relevant dates for regulatory tracking purposed are included in Table 1.

Table 1. Regulatory Tracking Information and Dates

Supplemental SAP submittal date:	**March 2004**
Supplemental SAP Approval letter date:	**19 May 2004**
Supplemental Sampling date(s):	**13/15 July 2004**
Supplemental Sediment data characterization report submittal date:	**October 2004**
Supplemental DAIS Tracking Number	**ANAC1-1-A-O-218**
Original Dakota Creek SAP submittal date:	14 December 1998
Original Dakota Creek SAP Approval letter Date:	25 April 2000
Original Dakota Creek Sampling date(s):	25 April 2000
Original Dakota Creek Sediment data characterization report submittal date:	June 2000
Dakota Creek DAIS Tracking Number:	ANAC11AF153
Original Dakota Creek Suitability Memorandum Date:	12 April 2001
Original Pier 1 SAP submittal date:	14 December 1998
Original Pier 1 SAP Approval letter Date:	14 December 1998
Original Pier 1 Sampling date(s):	24 April 2000
Original Pier 1 Sediment data characterization report submittal date:	June 2000
Pier 1 DAIS Tracking Number:	ANAC21AF168
Original Pier 1 Suitability Memorandum Date:	12 April 2001
Recency Determination Dates:	April 2005 to April 2007 (based upon the April 2001 SDM)

4. The sampling and Analysis Plan approved by the agencies for testing for the four DMMUs was followed, and quality assurance/quality control guidelines specified by the PSDDA Users Manual were generally complied with. The data gathered were deemed sufficient and acceptable for decision-making by the DMMP agencies based on best professional judgment and current program guidelines.

5. Site conditions required modification to the original compositing and analysis approach in consultation with DMMO. Deviations from the SAP included:

- Samples were taken from the 1-to-3-foot interval in accordance with direction provide by the DMMP.
- A second core sample (AN-DCI-1B) was added in DMMU DCI-1 at a location deemed most likely to accumulate fined-grained sediment and that has not previously been dredged per comments by DMMP.

- The sample from core AN-P1-1 was from the 2-to-3-foot interval because the material from 1-to-2-foot interval was primarily gravel and there was not enough sediment to extract a sample.

6. Conventional analyses (see Table 2): total solids 60%, total organic carbon 2.24%. Grain size: 14.1% gravel, total sands 42.84%, silt 26.6% and clay 13%.

7. Dioxin concentrations in the DCI and Pier 1 DMMUs were below both the DMMP criterion for 2, 3, 7, 8-TCDD (5ng/kg) and the calculated DMMP 2, 3, 7, 8-TCDD Toxicity Equivalent Concentration (TEC) (15ng/kg) (see Table 2).

8. The results of the chemical analysis for the sediment samples confirmed the previously issued open water disposal suitability issued for Dakota Creek and Pier 1 in April 2001, summarized below:

Dakota Creek. Samples were taken from eight surface locations and composited for two analyses (D1-A and D2-A). Samples were also taken for analysis of subsurface sediments. Analysis was completed for all chemicals of concern. In addition, pore-water analysis for TBT was completed on both surface composites. There were no exceedances of DMMP screening levels for the standard list of chemicals of concern in DMMU D1-A. DMMU D2-A had exceedances of screening levels for seven HPAHs as well as for total HPAH. TBT was detected in both samples, but well below the screening level. All detection limits were below screening levels. The Port of Anacortes chose not to pursue bioassay testing for the sediment represented by D2-A. Based on the chemistry data alone, the 16,000 cubic yards of sediment represented by this sample is not suitable for open water disposal.

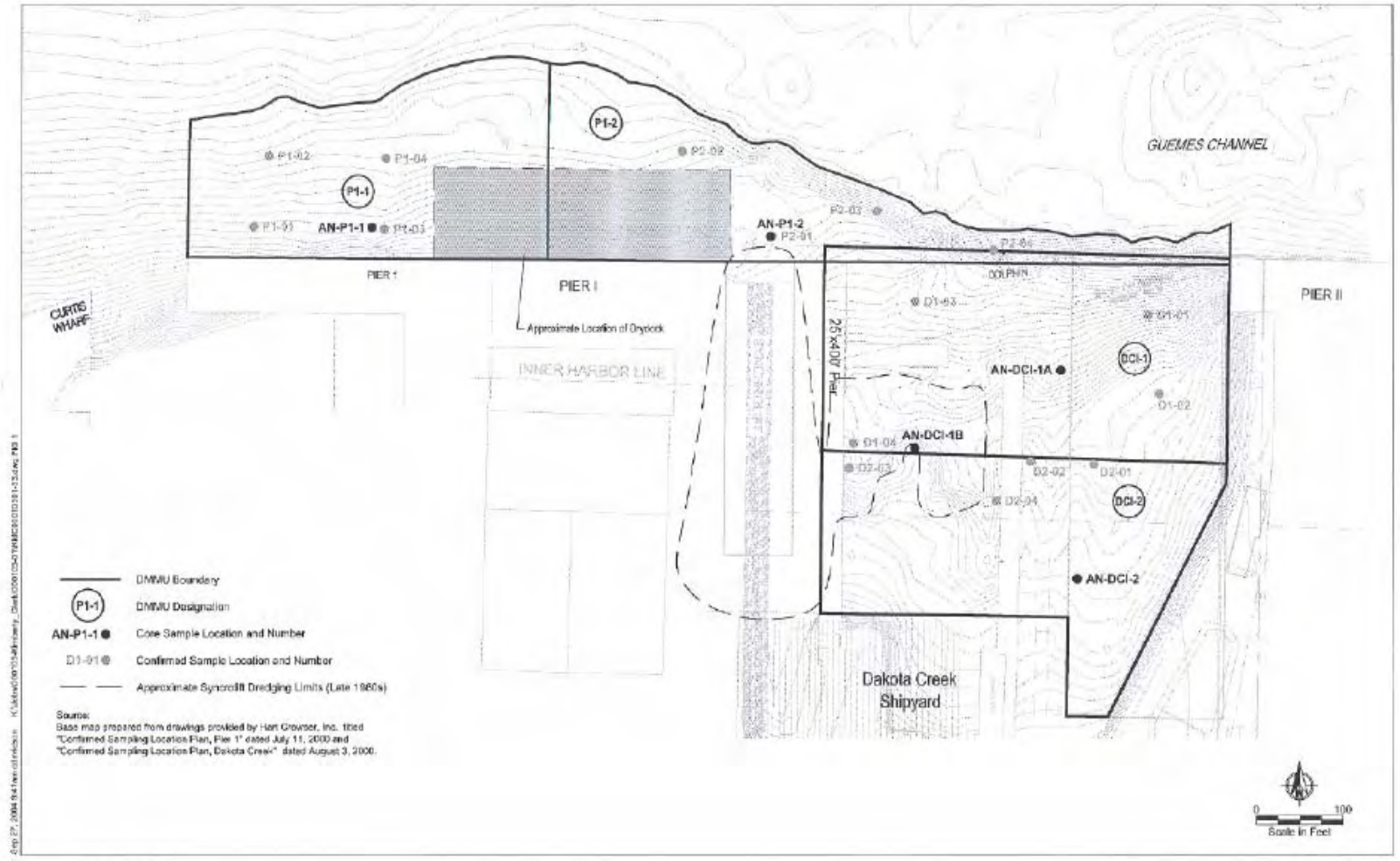
Native subsurface samples were not analyzed due to sampler refusal in the consolidated native sediment. Since chemistry data was not available for this material, a 1-2 foot buffer of native material must be removed with the overlying unsuitable material to assure that only suitable material is left exposed at the surface and only suitable material is placed at the open-water disposal site.

Based on the results of the chemical testing the consensus determination of the DMMP agencies was that approximately 230,000 CY (16,000 surface, 214,000 native subsurface) from the port of Anacortes Dakota Creek dredging project are suitable for open-water disposal at either a dispersive or non-dispersive site. Approximately 16,000 cubic yards of material from Dakota Creek is not suitable for open-water disposal.

Pier 1. Samples were taken from a total of 8 surface locations and composited for two analyses. In addition, pore-water analysis for tributyltin was completed on both composites. There were no exceedances of 1998 DMMP screening levels. TBT was detected in both samples, but well below the screening level. All 32,000 CY from the Port of Anacortes Pier 1 dredging project are deemed suitable for open-water disposal.

9. This memorandum documents the suitability of sediment to be dredged from the DCI/Pier 1 maintenance dredging project for disposal at a DNR approved dispersive open-water disposal

site. However, this suitability determination does not constitute final agency approval of the project. A dredging plan for this project must be completed as part of the final project approval process. A final decision will be made after full consideration of agency input and after an alternative analysis is done under Section 404(b) (1) of the Clean Water Act.



ANCHOR ENVIRONMENTAL L.L.C.

Figure 1
Actual Sample Location Map
Kimberly-Clark Anacortes, DCI

Table 2. Testing Summary

Analytical Results for DCI/Pier 1 Sediment Core Samples

Sample ID		AN-DCI-1	AN-DCI-2	AN-P1-1	AN-P1-2	AN-REF-1-01-SD	AN-REF-2-01-SD
Sample Date		7/15/2004	7/15/2004	7/15/2004	7/15/2004	7/13/2004	7/13/2004
Depth		1-3 ft	1-3 ft	2-3 ft	1-3 ft	0-15 cm	0-15 cm
Conventionals							
Total solids	%	60	60.4	67.2	78.2	58	70.6
Total organic carbon	%	2.24	4.25	0.27	0.64	1.17	0.74
Grain Size							
Gravel	%	14.1	1.71	7.84	3.96	0.02	0.04
Sand, Very Course	%	4.35	2.21	3.26	3.25	0.36	0.41
Sand, Course	%	3.97	3.95	4.14	3.9	0.47	4.37
Sand, Medium	%	5.22	11.2	6.85	6.82	0.74	19.5
Sand, Fine	%	14.7	36	7.54	10.2	16.9	24.8
Sand, Very Fine	%	14.6	26	7.08	3.38	33	5.57
Silt	%	26.6	14.5	33.8	35	34.6	30
Clay	%	13	4.4	24.6	31.9	10.8	6.23
Dioxins							
1,2,3,4,6,7,8-HpCDD	ng/kg	55.574	25.002	2.5 U	2.5 U	2.742 J	6.001
1,2,3,4,6,7,8-HpCDF	ng/kg	5.652	5.104	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,4,7,8,9-HpCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,4,7,8-HxCDD	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,4,7,8-HxCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,6,7,8-HxCDD	ng/kg	1.76 J	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,6,7,8-HxCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,7,8,9-HxCDD	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,7,8,9-HxCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,7,8-PeCDD	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,7,8-PeCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2,3,4,6,7,8-HxCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2,3,4,7,8-PeCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2,3,7,8-TCDD	ng/kg	1 U	1 U	1 U	1 U	1 U	1 U
2,3,7,8-TCDF	ng/kg	1 U	1 UC	1 U	1 U	1 U	1 U
OCDD	ng/kg	589.61 B	205.812 B	10.782 BJ	9.1 BJ	16.972 J	47.747 B
OCDF	ng/kg	10.785 J	18.241	5 U	5 U	5 U	5 U
Total HpCDD	ng/kg	187.883	74.169	1.144	2.5 U	2.742	13.324
Total HpCDF	ng/kg	17.656	15.014	2.5 U	2.5 U	2.5 U	2.5 U
Total HxCDD	ng/kg	14.483	4.915	2.5 U	2.5 U	1.218	2.5 U
Total HxCDF	ng/kg	8.325	6.699	2.5 U	2.5 U	2.5 U	2.5 U
Total PeCDD	ng/kg	2.5 U	3.567	2.5 U	2.5 U	2.5 U	2.5 U
Total PeCDF	ng/kg	0.737	4.561	2.5 U	2.5 U	2.5 U	2.5 U
Total TCDD	ng/kg	1 U	5	1 U	1 U	1 U	1 U
Total TCDF	ng/kg	1 U	1.084	1 U	1 U	1 U	1 U
Dioxin TEQ	ng/kg	1.39	0.635	0.0108	0.0091	0.0444	0.108

Table 2. Sampling Station Boring Depths and Elevations

Sample ID	Sampling Depth (ft)	Mudline Elevation (ft MLLW)	Subsample Intervals, Designations, and Elevations
AN-DCI-1A	-18.7	-20.1	-23.1
AN-DC1-1B	-6.8	-7.8	-10.8
AN-DC1-2	-4.9	-2.4	-5.4
AN-P1-1	-34.7	-33.1	-36.1
AN-P1-2	-33.3	-33.4	-36.4
AN-REF-1	-10.6	-9.5	(0 to 15 cm interval)
AN-REF-2	-13.5	-5.4	(0 to 15 cm interval)

Concur:

11/3/2005
Date

Gwyn Puckett, Seattle District Corps of Engineers

11/3/2005
Date

Erika Hoffman, Environmental Protection Agency

11/3/05
Date

Cinde Donoghue, Washington Department of Ecology

11/3/2005
Date

Peter Leon, Washington Department of Natural Resource

Copies Furnished:
Regulatory Branch Project Manager
Jonathan Freedman, EPA
Erika Hoffman, EPA
John Malek, EPA
Cinde Donoghue, Ecology
Helen Pressley, Ecology
Tom Gries, Ecology
Peter Leon, DNR
DMMO File

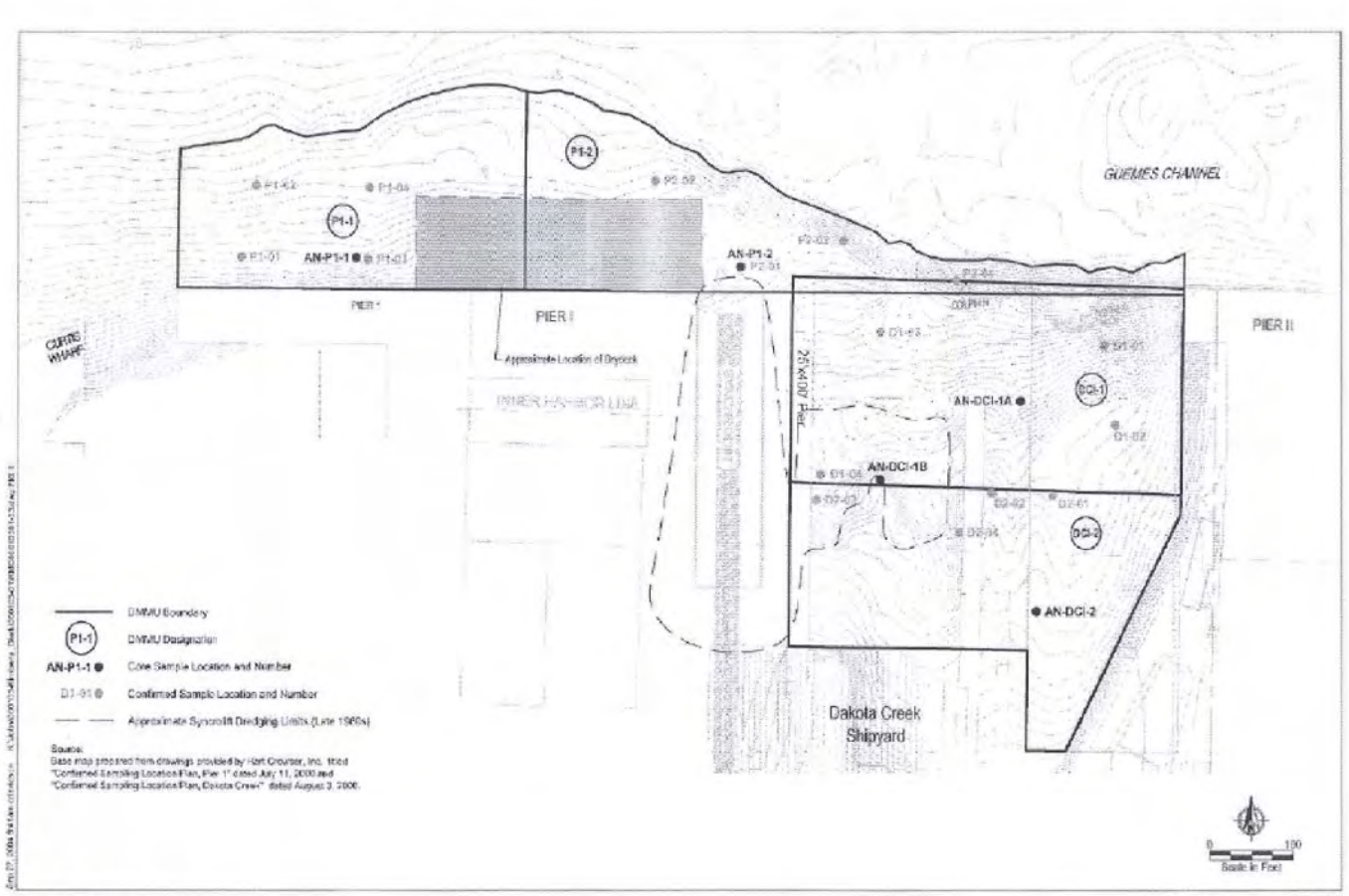


Figure 1
Actual Sample Location Map
Kimberly-Clark Anacortes, DCI

Table 2. Testing Summary

Analytical Results for DCI/Pier 1 Sediment Core Samples

Sample ID Sample Date Depth		AN-DCI-1 7/15/2004 1-3 ft	AN-DCI-2 7/15/2004 1-3 ft	AN-P1-1 7/15/2004 2-3 ft	AN-P1-2 7/15/2004 1-3 ft	AN-REF-1-01-SD 7/13/2004 0-15 cm	AN-REF-2-01-SD 7/13/2004 0-15 cm
Conventionals							
Total solids	%	60	60.4	87.2	78.2	58	70.6
Total organic carbon	%	2.24	4.25	0.27	0.64	1.17	0.74
Grain Size							
Gravel	%	14.1	1.71	7.84	3.96	0.02	0.04
Sand, Very Course	%	4.35	2.21	3.26	3.25	0.36	0.41
Sand, Course	%	3.97	3.95	4.14	3.9	0.47	4.37
Sand, Medium	%	5.22	11.2	6.85	6.82	0.74	19.5
Sand, Fine	%	14.7	36	7.54	10.2	16.9	24.8
Sand, Very Fine	%	14.6	26	7.08	3.38	33	6.57
Silt	%	26.6	14.5	33.6	35	34.6	30
Clay	%	13	4.4	24.6	31.9	10.8	6.23
Dioxins							
1,2,3,4,6,7,8-HpCDD	ng/kg	55.574	25.002	2.5 U	2.5 U	2.742 J	6.001
1,2,3,4,6,7,8-HpCDF	ng/kg	5.652	5.104	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,4,7,8,9-HpCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,4,7,8-HxCDD	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,4,7,8-HxCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,6,7,8-HxCDD	ng/kg	1.76 J	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3,6,7,8-HxCDF	ng/kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
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Total PeCDD	ng/kg	2.5 U	3.567	2.5 U	2.5 U	2.5 U	2.5 U
Total PeCDF	ng/kg	0.737	4.561	2.5 U	2.5 U	2.5 U	2.5 U
Total TCDD	ng/kg	1 U	5	1 U	1 U	1 U	1 U
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AN-DC1-1B	-6.8	-7.8	-10.8
AN-DC1-2	-4.9	-2.4	-5.4
AN-P1-1	-34.7	-33.1	-36.1
AN-P1-2	-33.3	-33.4	-36.4
AN-REF-1	-10.6	-9.5	(0 to 15 cm interval)
AN-REF-2	-13.5	-5.4	(0 to 15 cm interval)

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Floyd Snider McCarthy, Inc.
Strategy & Technical Solutions for Contaminated Properties
83 South King Street Suite 614 Seattle, Washington 98104 tel: 206.292.2078 fax: 206.682.7867

Attachment 5: July 14, 2004

Stephanie Stirling
Dredged Material Management Office
P.O. Box 3755
Seattle, Washington 98124-3755

SUBJECT: PORT OF ANACORTES PIER 1 OPEN WATER SUITABILITY DETERMINATION UPDATE
PROJECT NUMBER: POA-PSDDA

Dear Stephanie:

This letter informs the Dredged Material Management Office (DMMO) that the Port of Anacortes (Port) is taking actions to extend the recency of the Suitability Determination for open water disposal of dredged material for the proposed Pier 1 maintenance dredging project. As noted in the April 12, 2001 Memorandum for the Record, the recency determination dates for the open water approval granted for this project are April 2005 to April 2007. The Port plans to collect additional data from the site to demonstrate that the quality of the sediment material within the proposed dredge prism has not changed since the April 2000 characterization, and remains acceptable for disposal according to DMMO guidelines. The additional data collected by the Port will be submitted to the DMMO in a formal letter of request for an extension of the recency period for the current open water disposal approval.

Background

Due to recent concerns regarding potential historical dioxin contamination at the site the DMMO has required resampling of the two Dredge Material Management Units (DMMUs) delineated at the site. A sampling plan (Plan) dated March 2004 was prepared by Anchor Environmental, L.L.C. on behalf of the Port and the Kimberly-Clark Corporation (a potentially responsible party for dioxin at the site). The Plan was approved by the DMMO in a letter dated May 19, 2004. Subsequent to this approval, several additional comments were provided by the DMMO. These comments were addressed on July 12, 2004 in e-mail correspondence from Clay Patmont of Anchor Environmental, L.L.C.

Sediment Quality Sampling

Sediment quality sampling will be performed by both the Port and Kimberly-Clark in accordance with the approved Plan and is expected to commence on July 15, 2004. The proposed sampling involves collection of one 4-foot sediment core from each of the two DMMUs at the

site. The sampling locations are denoted as AN-P1-1 (DMMU 1) and AN-P1-2 (DMMU 2). These proposed sampling locations are co-located with the April 2000 coring locations P1-03 and P2-01, respectively. In addition to the proposed dioxin analysis, a split from each of the composite core samples will be handled in accordance with Table 4-1 of the PSDDA Users Manual. Analyses will be performed for the chemicals of concern as listed in Table 5-1 of this manual.

Results of the both the dioxin and spilt sample analyses will be presented to the DMMO in a formal letter of request to extend the recency determination at the site. Please give me a call at (206) 292-2078 with any questions you may have.

Sincerely yours,
Floyd Snider McCarthy, Inc.

John Herzog Ph.D.
Principal

Copies: Bob Elsner, Port of Anacortes

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strategy • science • engineering

83 South King Street, Suite 614
Seattle, Washington 98104
tel: 206.292.2078 fax: 206.682.7867

September 3, 2004

Bob Elsner
Director of Projects and Planning
Port of Anacortes
First and Commercial Avenue
P.O. Box 297
Anacortes, WA 98221

SUBJECT: DATA REPORT FOR PIER 1 RECENCY EXTENTION SAMPLING AND ANALYSIS
PROJECT NUMBER: POA-PSSDA

Dear Bob:

This letter report presents the results of the sediment sampling and analysis performed to support extension of the Recency for the Pier 1 dredged material disposal Open Water Suitability Determination. The current Recency determination dates granted for the open water approval are April 2005 to April 2007. Results of the July 2004 sampling and analysis, presented in this report, indicated no exceedances of the Dredged Material Management Program (DMMP) Screening Levels (SLs) in the samples tested, confirming that the sediment quality condition of the proposed dredge materials has not changed significantly since the last characterization of the site in April 2000.

July 2004 Field Investigation

Sediment samples were collected from two locations on July 15, 2004 (Figure 1). The sampling locations are denoted as AN-P1-1 (DMMU 1) and AN-P1-2 (DMMU 2). These proposed sampling locations were co-located with the April 2000 coring locations P1-03 and P2-01, respectively. All sampling and analyses activities were performed in accordance with the DMMO-approved Sampling and Analysis Plan (Anchor Environmental, 2004). Each of the two sediment samples was collected using a vibrating core sampler equipped with a 4-inch in diameter aluminum core tube and stainless steel finger catchers. The sediment coring device was advanced to approximately 6 feet below the mudline. After a sediment core was retrieved, the selected sample interval was cut from the core tube using a pipe cutter. Selected intervals were labeled and the core ends were closed with plastic caps, lined with aluminum foil, and taped with duct tape. A global positioning system (GPS) unit was used to record actual core locations.

The core tubes were delivered to shore and cut open lengthwise with a circular saw. The sediment cores were then examined and documented with digital photographs, visually characterized, and noted in a field log. Samples for chemical characterization were collected from the 0- to 4-foot interval, representative of the two upper Dredged Material Management Units (DMMUs) at the site.

Sediment Sample Descriptions

Each of the core samples collected was visually characterized. Both sediment cores AN-P1-1 and AN-P1-2 contained similar geological structuring, from sand to clayey silt and silty sand at depth. However, in AN-P1-1, coarse sand to gravel was observed and a small percentage of woody debris was also seen at the surface interval. The sediment core samples AN-P1-1 and AN-P1-2 are summarized in Table 1.

Laboratory Analytical Results

The following section summarizes the analytical results relative to DMMP SL criteria. A 0-to 4-foot interval composite sample was collected from each of the two core samples. Both of the composite samples were submitted to Analytical Resources, Inc. for analysis of metals, tributyltin (TBT), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), grain size, total solids, total volatile solids, ammonia, total organic carbon (TOC) and total sulfide in accordance with DMMP guidelines.

The results of the analyses are shown in Table 2. No exceedances of the SL were detected.

Data Quality Review

All analyses were conducted within the required holding times. All reporting limits were less than the DMMP criteria. The only reported qualifier for the two submitted samples was "U", indicating the compound was undetected at the reported concentration. Detailed summaries of chemical analyses are as follows:

- **Metals:** Method blank contamination was not detected. All matrix spike (MS), matrix spike duplicates (MSD) met quality control (QC) limits. Relative percent differences (RPD) and laboratory control sample (LCS) recoveries also met QC limits.
- **TBT:** For TBT, bulk sediment was analyzed instead of pore water, as sufficient pore water could not be obtained from centrifuged sediment samples. DMMO directed Floyd|Snider to proceed with TBT analysis of the bulk sediments instead of interstitial pore water. The reporting values, surrogate recoveries and method blanks were within the QC limits.
- **SVOCs:** Method blank contamination was not detected. All MS, MSDs met QC limits. RPDs and LCS also met QC limits. In the reconstructed ion chromatogram there is a large peak that is approximately 3 to 4 times greater than that shown for the other constituents. This is likely due to interference from external noise during analysis.
- **PCBs:** Method blank contamination was not detected. RPDs and LCS recoveries met QC limits.
- **VOCs:** Method blank contamination was not detected. All method blanks and LCS met QC limits. The surrogate recovery of sample AN-P1-1 for 1,2-Dichloroethane was slightly elevated at 112 percent, but within LCS/MB limits and QC limits.

Conventionals

- **Total Solids and Total Volatile Solids:** Method blank contamination was not detected. The RPD of duplicates for total solids and preserved total solids were 0.7 percent and 1.1 percent, respectively, well within the QC limits. The triplicate total solids analyses were very consistent with a percent RSD of 0.32.
- **Ammonia:** Method blank contamination was not detected. The RPD of the sample duplicates were low and met QC limits. The MS samples met QC limits.
- **TOC:** Method blank contamination was not detected. The LCS recovery was 98.4 percent. Triplicate analysis was conducted of sample AN-P1-1, with a low RPD of 8.3 percent. The MS samples met QC limits.
- **Sulfide:** Method blank contamination was not detected. The LCS recovery was 105 percent. The sample duplicate of AN-P1-1 resulted in a greater RPD of 42.9 percent. The sample detection was within two times the reporting limiting (RL). Consequently, a QC limit of ± the RL was used and the duplicate RPD met this criterion. The MS samples met QC limits.

Thank you for the opportunity to perform this sediment quality characterization project for the Port of Anacortes. Please give me a call at (206) 292-2078 with any questions you may have.

Sincerely yours,
FLOYD | SNIDER

John Herzog, Ph.D.
Principal

Encl.: Table 1
Table 2
Figure 1
Copies: Tom Newlon, Stoel Rives

References:

Anchor Environmental, Inc. 2004. Supplemental Sediment Characterization Dakota Creek Industries Shipyard Facility/Pier 1 Redevelopment Area Anacortes, Washington. Sampling and Analysis Plan. Draft. Prepared for Seattle District U.S. Army Corp of Engineers Seattle, Washington. March.

Floyd Snider McCarthy. 2004. Port of Anacortes Pier 1 Open Water Suitability Determination Update. July 14.

Michelsen, T. and K. Bragdon-Cook. 1993. Technical Information Memorandum. Organic Carbon Normalization of Sediment Data. June.

Table 1
Sediment Sample Descriptions

AN-P1-1	
Depth Interval (ft)	**Description**
0.0 to 1.0	Olive gray, fine to medium sand with white, sand sized shell hash, with approximately 1 to 2 percent wood fragments. Moist and loose.
1.0 to 2.2	Light olive gray, fine and coarse gravel with medium to coarse sand and coarse, sand size shell fragments. Moist and loose.
2.3 to 4.0	Upper inch of stratum was softer, weathered, and very moist. Grayish brown, clayey silt or silty clay with 1 to 3 percent rounded fine and coarse gravel and coarse sand. Moist and medium stiffness.
AN-P1-2	
Depth Interval (ft)	**Description**
0.0 to 0.4	Olive gray, well graded sand with coarse gravel and shell hash. Moist, loose to medium dense.
0.4 to 4.0	Light gray, clayey silt or silty clay with about 5 percent rounded medium to coarse sand. A 0.03-foot sand lens or lamellae, with shell fragments. Approximately 1.8-feet deep. Moist and medium stiffness.
4.0 to 5.0	Light gray, silty sand. Moist and dense.

Table 2 Analytical Results for Sediment Samples			
Constituent Groups	**PSDDA 2003 Criteria**	**AN-P1-1 (7/15/04)**	**AN-P1-2 (7/15/04)**
Conventionals (in percent)			
Total Solids	NA	83.8	77.8
Total Solids (preserved)	NA	81.6	79.6
Total Organic Carbon (TOC)	NA	0.241	0.92
Sulfide in mg/kg	NA	1.7	1 U
Ammonia (total as mg-N/kg)	NA	0.33	0.254
Grain Size (in percent)			
<10 Phi Clay	NA	6.2	12.6
8-9 Phi Clay	NA	1.9	4.6
9-10 Phi Clay	NA	1.6	3.6
Coarse Sand	NA	7.7	9.2
Coarse Silt	NA	2.7	2.8
Fine Sand	NA	4.8	6.2
Fine Silt	NA	3	5.6
Gravel	NA	45.5	17.9
Medium Sand	NA	7.8	7.2
Medium Silt	NA	3.4	7.1
Very Coarse Sand	NA	9.8	14
Very Fine Sand	NA	2.9	3.8
Very Fine Silt	NA	2.9	5.4
Metals (in mg/kg)			
Antimony	150	6 U	6 U
Arsenic	57	6 U	6 U
Cadmium	5.1	0.2 U	0.3 U
Chromium	NA	47.5	53.7
Copper	390	42.6	37.5
Lead	450	7	6

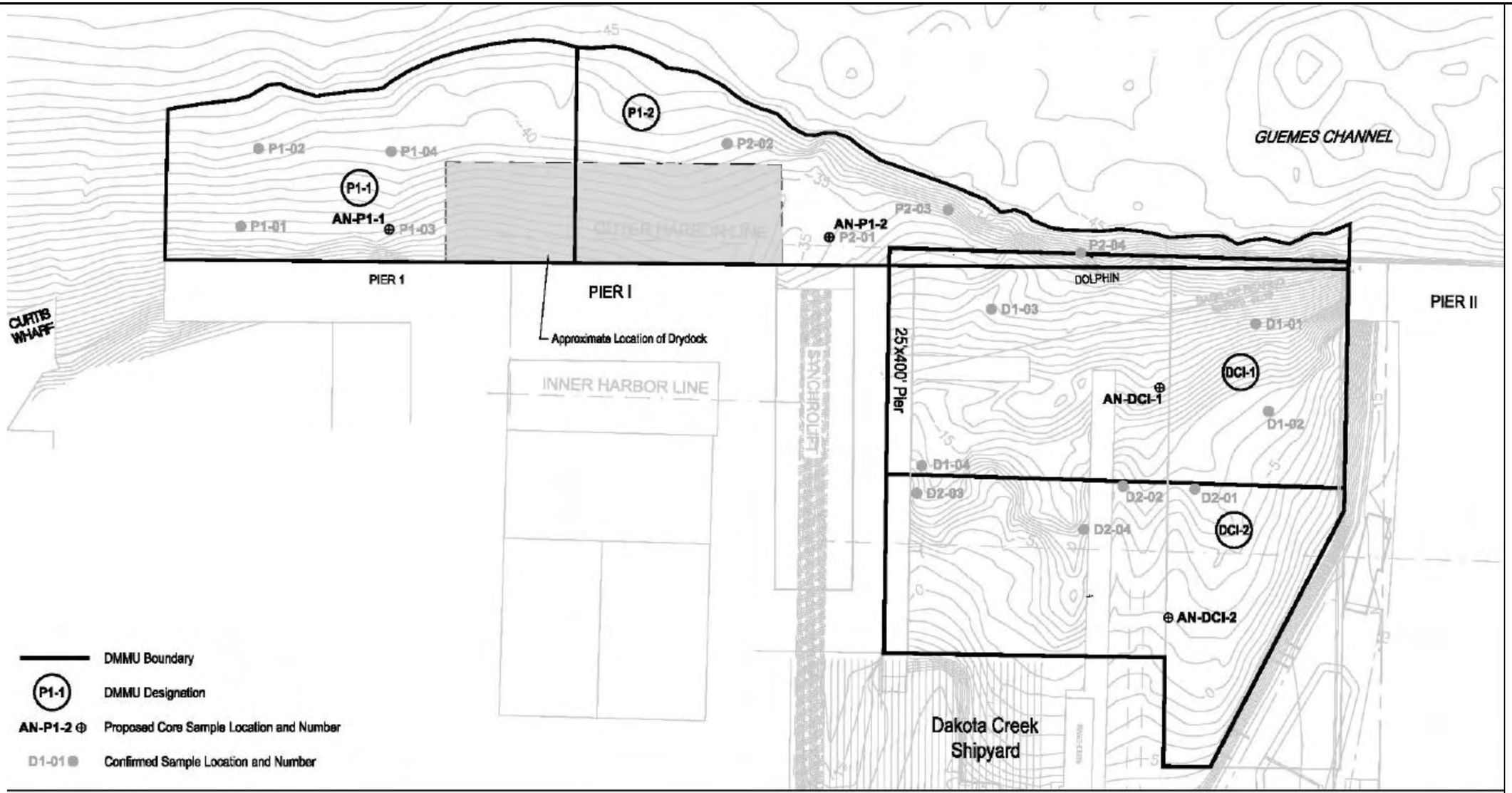
Table 2 Analytical Results for Sediment Samples					
Constituent Groups	**PSDDA 2003 Criteria**	**AN-P1-1 (7/15/04)**		**AN-P1-2 (7/15/04)**	
Nickel	140	38		41	
Silver	6.1	0.3	U	0.4	U
Zinc	410	51.3		55.9	
Mercury	0.41	0.05	U	0.05	U
Tributyltin (TBT) (in µg/kg)					
TBT	NA	4.895	U	5.073	U
Semivolatiles (in µg/kg)					
1,2,4-Trichlorobenzene	31	20	U	20	U
1,2-Dichlorobenzene	35	20	U	20	U
1,3-Dichlorobenzene	170	20	U	20	U
1,4-Dichlorobenzene	110	20	U	20	U
Hexachlorobenzene	22	20	U	20	U
Hexachlorobutadiene	29	20	U	20	U
N-Nitrosodiphenylamine	28	20	U	20	U
Dibenzofuran	540	20	U	20	U
Benzoic acid	650	200	U	200	U
Benzyl alcohol	57	20	U	20	U
HPAHs (in µg/kg)					
Benzo(a)anthracene	1300	21		20	U
Benzo(a)pyrene	1600	25		20	U
Benzo(b)fluoranthene	NA	22		20	U
Benzo(g,h,i)perylene	670	20	U	20	U
Benzo(k)fluoranthene	NA	20	U	20	U
Benzofluoranthenes (total)	3200	22		20	U
Chrysene	1400	25		20	U
Dibenzo(a,h)anthracene	230	20	U	20	U
Fluoranthene	1700	42		20	U

Table 2
Analytical Results for Sediment Samples

Constituent Groups	PSDDA 2003 Criteria	AN-P1-1 (7/15/04)		AN-P1-2 (7/15/04)	
Indeno(1,2,3-cd)pyrene	600	20	U	20	U
Pyrene	2600	36		20	U
Total HPAHs	12000	171		20	U
LPAHs (in µg/kg)					
2-Methylnaphthalene	670	20	U	20	U
Acenaphthene	500	20	U	20	U
Acenaphthylene	560	20	U	20	U
Anthracene	960	20	U	20	U
Fluorene	540	20	U	20	U
Naphthalene	2100	20	U	20	U
Phenanthrene	1500	20	U	20	U
Total LPAHs	12000	20	U	20	U
Phthalates (in µg/kg)					
bis(2-ethylhexyl)phthalate	8300	20	U	20	U
Butyl benzyl phthalate	970	20	U	20	U
Diethylphthalate	1200	20	U	20	U
Dimethyl phthalate	1400	20	U	20	U
Di-n-butyl phthalate	5100	20	U	20	U
Di-n-octyl phthalate	6200	20	U	20	U
Phenols (in µg/kg)					
2-Methylphenol	63	20	U	20	U
2,4-Dimethylphenol	29	20	U	20	U
4-Methylphenol	670	20	U	20	U
Pentachlorophenol	400	98	U	98	U
Phenol	420	20	U	20	U
Pesticides (in µg/kg)					
4,4'-DDD	NA	1.9	U	1.9	U

Table 2 Analytical Results for Sediment Samples					
Constituent Groups	**PSDDA 2003 Criteria**	**AN-P1-1 (7/15/04)**		**AN-P1-2 (7/15/04)**	
4,4'-DDE	NA	1.9	U	1.9	U
4,4'-DDT	NA	1.9	U	1.9	U
Aldrin	10	0.96	U	0.97	U
alpha-Chlordane	10	0.96	U	0.97	U
Dieldrin	10	1.9	U	1.9	U
gamma-BHC	10	0.96	U	0.97	U
gamma-Chlordane	NA	0.96	U	0.97	U
Heptachlor	10	0.96	U	0.97	U
PCBs (in µg/kg)					
PCB-1016	NA	16	U	16	U
PCB-1221	NA	16	U	16	U
PCB-1232	NA	16	U	16	U
PCB-1242	NA	16	U	16	U
PCB-1248	NA	16	U	16	U
PCB-1254	NA	16	U	16	U
PCB-1260	NA	16	U	16	U
Total PCBs	130	16	U	16	U
Volatiles (in µg/kg)					
Ethylbenzene	10	0.9	U	1	U
Tetrachloroethene	57	0.9	U	1	U
Trichloroethene	160	0.9	U	1	U
Xylene (total)	40	0.9	U	1	U

NA=Not applicable



Source: Anchor Environmental, Inc. Sampling and Analysis Plan. March 2004.

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Port of Anacortes Pier 1
Open Water Suitability Recency Determination

Figure 1
Sampling Location Map

F:\projects\POA\POA-PSDDA\Data Review\Figure 1.doc
09/03/04

APPENDIX E
Historical Well and Exploration Logs

GeoScience Management, Inc.
18608 89th Avenue NE
Bothell, WA 98011

Project Name: *Dakota Creek Upland Assessment*
Location: *Port of Anacortes - Dakota Creek Shipyards*
Geologist/Engineer: *Howard W. Small*
Drilling Contractor: *Boretec*
Drilling Method: *Modified B-24, 4 1/4-inch ID HSA*

Boring No: *DC - B - 1*
Date Began: *7/14/97*
Date Completed: *7/14/97*
Total Depth: *6.5 feet bgs.*
Sheet: *1 of 1*

Construction Details	Sampling Method	Sample Number	Blows per 6 inches	Depth Sampled	Depth In Feet	Graphic Log and Soil Group Symbol (USCS)	Lithologic Description
Ground Surface							(USCS Designation, density, moisture, color, soil type and comments
							0.0 to 6.5 feet: **SAND WITH GRAVEL** (SM) - (Medium dense), damp, dark brown and dark gray, gravely SAND, with concrete rubble (**FILL**).
Hydrated Bentonite Chips					ATD		Note: Collected grab sample of cuttings from approximately 0 to 6.5 foot depth interval. Sample labeled B-1, GRAB.
	SB	S-1	12		4.5		
			12				
			16				
			35		6.5		Refusal on hard, flat surface at 6.5 feet.
			100/1"				

Bottom of boring at 6.5 feet. Grouted from bottom of hole to ground surface with hydrated bentonite chips.

Note: Moved south approximately 3 feet from DC-B-1 location, and attempted second boring, designated DC-B-1A. No samples were collected. Hit refusal at 6.5 feet belwo ground surface on hard, flat surface. Moved another 3 feet farther south and drilled boring DC-B-1B (see next boring log).

MARKS:

Descriptive Modifiers: Trace - < 5%; Slightly - 5 to 12 %; Silty, Gravely, etc. - 12 to 30 %; Very - 30 to 50 %.

SB means 3-inch O.D. split barrel sampler driven with 140 lb. hammer. Blow counts DO NOT represent SPT values.

ATD means estimated depth to water At Time of Drilling.

GeoScience Management, Inc. 18608 89th Avenue NE Bothell, WA 98011	Project Name: *Dakota Creek Upland Assessmel.* Location: *Port of Anacortes - Dakota Creek Shipyards* Geologist/Engineer: *Howard W. Small* Drilling Contractor: *Boretec* Drilling Method: *Modified B-24, 4 1/4-inch ID HSA*	Boring No: *DC - B - 1B* Date Began: *7/14/97* Date Completed: *7/14/97* Total Depth: *6.5 feet bgs.* Sheet: *1 of 1*	

Construction Details	Sampling Data						Lithologic Description
PID Meter	Sampling Method	Sample Number	Blows per 6 inches	Depth Sampled	Depth In Feet	Graphic Log and Soil Group Symbol (USCS)	
Ground Surface							(USCS Designation, density, moisture, color, soil type and comments
							0.0 to 6.5 feet: **SAND WITH GRAVEL (SM)** - (Medium dense), damp, dark brown and dark gray, gravely SAND, with concrete rubble (**FILL**).
Hydrated Bentonite Chips					ATD		
<1	SB	S-1	10		4.5		
			8				
			14				
			13		6.5		Refusal on hard, flat surface at 6.5 feet.

Bottom of boring at 6.5 feet. Grouted from bottom of hole to ground surface with hydrated bentonite chips.

EMARKS:

Descriptive Modifiers: Trace - < 5%; Slightly - 5 to 12 %; Silty, Gravely, etc. - 12 to 30 %; Very - 30 to 50 %.

SB means 3-inch O.D. split barrel sampler driven with 140 lb. hammer. Blow counts DO NOT represent SPT values.

ATD means estimated depth to water At Time of Drilling.

GeoScience Management, Inc. 18608 89th Avenue NE Bothell, WA 98011	Project Name: *Dakota Creek Upland Assessment* Location: *Port of Anacortes - Dakota Creek Shipyards* Geologist/Engineer: *Howard W. Small* Drilling Contractor: *Boretec* Drilling Method: *Modified B-24, 4 1/4-inch ID HSA*	Boring No: *DC - B - 2* Date Began: *7/14/97* Date Completed: *7/14/97* Total Depth: *11.5 feet bgs.* Sheet: *1 of 1*

Construction Details	Sampling Data						Lithologic Description
	Sampling Method	Sample Number	Blows per 6 inches	Depth Sampled	Depth In Feet	Graphic Log and Soil Group Symbol (USCS)	
Ground Surface							(USCS Designation, density, moisture, color, soil type and comments)
	SB	S1A	10				0.0 to 1.0 foot: **SILTY SAND (SM)** - (Medium dense), damp, gray and
			9		1.0		dark brown, slightly gravely, silty, medium to fine SAND **(FILL)**.
		S1B	11				1.0 to 3.0 feet: **SILTY SAND (SM)** - (Medium dense), damp, gray, dark
			12		2.0		brown, and black, gravely, silty, SAND. Glass, metal frags. **(FILL)**.
							3.0 to 11.5 feet: **SAND (SM)** - (Loose to medium dense), damp, black,
Hydrated Bentonite Chips							fine sand with scattered shell fragments.
					4.5		
	SB	S2	5				
			3				
			2				
			2		6.5		
					ATD		
					9.5		
	SB	S3	5				
			6				
			6				10.6 to 10.9 feet: dark brown, wet, sandy silt
			6		11.5		

Bottom of boring at 11.5 feet. Grouted from bottom of hole to ground surface with hydrated bentonite chips.

MARKS:

Descriptive Modifiers: Trace - < 5%; Slightly - 5 to 12 %; Silty, Gravely, etc. - 12 to 30 %; Very - 30 to 50 %.

SB means 3-inch O.D. split barrel sampler driven with 140 lb. hammer. Blow counts DO NOT represent SPT values.

ATD means estimated depth to water At Time of Drilling.

GeoScience Management, Inc. 18608 89th Avenue NE Bothell, WA 98011	Project Name: *Dakota Creek Upland Assessmen* Location: *Port of Anacortes - Dakota Creek Shipyards* Geologist/Engineer: *Howard W. Small* Drilling Contractor: *Boretec* Drilling Method: *Modified B-24, 4 1/4-inch ID HSA*	Boring No: *DC - B - 2A* Date Began: *7/14/97* Date Completed: *7/14/97* Total Depth: *4.0 feet bgs.* Sheet: *1 of 1*

Construction Details	Sampling Data						Lithologic Description
PID Meter	Sampling Method	Sample Number	Blows per 6 inches	Depth Sampled	Depth In Feet	Graphic Log and Soil Group Symbol (USCS)	
Ground Surface							(USCS Designation, density, moisture, color, soil type and comments)
							Drilled approximately 2 feet south of boring B-2 location. 0.0 to 2.5 interval not logged. See boring log for location DC-B-2.
Hydrated Bentonite Chips					2.5		(Driving gravel at beginning of sampling interval).
21	SB	S1	120				2.5 to 4.0 feet: **SAND (SM)** - (Medium dense), damp, black, to dark brown, fine SAND with scattered shell fragments.
			15				
			12		4.0		

Bottom of boring at 4.0 feet. Grouted from bottom of hole to ground surface with hydrated bentonite chips.

EMARKS:

Descriptive Modifiers: Trace - < 5%; Slightly - 5 to 12 %; Silty, Gravely, etc. - 12 to 30 %; Very - 30 to 50 %.

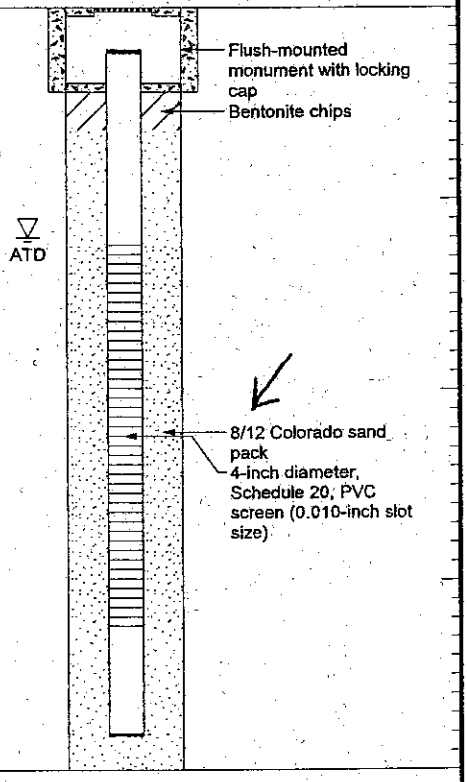
SB means 3-inch O.D. split barrel sampler driven with 140 lb. hammer. Blow counts DO NOT represent SPT values.

ATD means estimated depth to water At Time of Drilling.

MW-1

SAMPLE DATA					SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-stem Auger Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0						AC	Asphalt	
						ML	Black SILT with sand (very soft, moist)	
	MW-1-1	b1	1/ 2"			SP	Brown, fine to medium SAND with trace gravel below 6 ft. (loose to medium dense, moist to wet)	
5	MW-1-2	b1	7	15				ATD
	MW-1-3	b1	13	28				
	MW-1-4	b1	15	32				
10	MW-1-5	b1	17	36		SP	Brown, fine to medium SAND with trace gravel and shell fragments. (medium dense to dense, wet)	
	MW-1-6	b1	36	77		SP	Brown, gravelly SAND (medium dense, wet)	
15	MW-1-7	b1	7	15		CL	Brown-red, silty CLAY (medium stiff, moist)	
	MW-1-8	b1	18	39		CL	Gray-brown mottled, silty CLAY with trace gravel (stiff to very stiff, moist)	
	MW-1-9	b1	18	39				
20								

Monitoring Well Detail



Boring Completed 08/30/01
Total Depth of Boring = 20.0 ft.

Elevation at Top of Protective Casing = 14.27 ft.
Elevation at Top of Monitoring Well Casing = 13.95 ft.

25

30

35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

529006.041 3/20/02 S:\MODELING\GINT\WPROJECTS\529006.GPJ WELL LOG

Landau Associates

DCI Soil/GW Investigation
Anacortes, WA

Log of Boring and Monitoring Well MW-1

Figure
A-1

MW-2

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Hollow-stem Auger
Ground Elevation (ft):
Drilled By: Cascade Drilling Inc.

Monitoring Well Detail

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	USCS Symbol	Description
0					GP	GRAVEL
					SM	Black, silty SAND with trace gravel (very loose, wet) (fill, possible grit blast)
	MW-2-1	b1	2	4		
					CL	Brown CLAY with trace gravel (soft, moist)
5	MW-2-2	b1	4	9		
	MW-2-3	b1	3	6	ML	Gray, clayey SILT with trace gravel, occasional plant debris and shell fragments (medium stiff to hard, moist to wet) (fill)
	MW-2-4	b1	24	51		
10				39		glass fragment near 11 ft.
	MW-2-5	b1	18		SP	Brown, medium to coarse SAND with trace silt/clay at base of unit (medium dense to very dense, wet)
	MW-2-6	b1	40	86		
	MW-2-7	b1	15	32		
15					CL	Brown, silty CLAY (very stiff, moist to wet)
					SM	Brown, silty SAND (medium dense, wet)
	MW-2-8	b1	9	19	ML	Gray, silty CLAY (stiff to very stiff, moist)
	MW-2-9	b1	10	21		
20						

<3'

ATD

Flush-mounted monument with locking cap
Bentonite chips
10/20 Colorado sand pack
2-inch diameter, Schedule 20, PVC screen (0.010-inch slot size)

Boring Completed 08/30/01
Total Depth of Boring = 20.0 ft.

Elevation at Top of Protective Casing = 13.87 ft.
Elevation at Top of Monitoring Well Casing = 13.62 ft.

25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Anacortes, WA

Log of Boring and Monitoring Well MW-2

Figure
A-2

MW-3

SAMPLE DATA					SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-stem Auger Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0						GP	GRAVEL and grit blast	Monitoring Well Detail
	MW-3-1	b1	23	49		ML	Brown, slightly gravelly, clayey SILT (hard, moist) (possible fill)	
5	MW-3-2	b1	7	15		ML	Gray, sandy SILT with sand and clay (stiff, moist to wet) (possible fill)	ATD
	MW-3-3	b1	5	11				
	MW-3-4	b1	12	26		GP	Black SAND and sandy gravel , upper 3" of sand/possible grit blast (medium dense, wet) (possible fill)	
10	MW-3-5	b1	4	9		CL	Gray CLAY with silt (stiff, wet at top, becoming moist with depth)	
	MW-3-6	b1	12	26		CL	Brown, silty CLAY with trace gravel (very stiff, moist)	
15								
20								
25								
30								
35								

Flush-mounted monument with locking cap
Bentonite chips
10/20 Colorado sand pack
2-inch diameter, Schedule 20, PVC screen (0.010-inch slot size)

Boring Completed 08/30/01
Total Depth of Boring = 14.0 ft.

Elevation at Top of Protective Casing = 12.85 ft.
Elevation at Top of Monitoring Well Casing = 12.59 ft.

Notes:
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3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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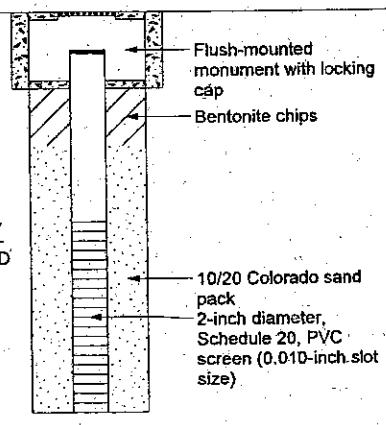
Log of Boring and Monitoring Well MW-3

Figure
A-3

MW-4

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-stem Auger Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0						GP	GRAVEL and glass	
	MW-4-1	b1	2	4		CL	Gray, silty CLAY with 2 inch layer of black medium to coarse sand near 2.5 ft. (soft, moist)	
5	MW-4-2	b1	7	15		SM	Black, medium SAND with silt, wood piece at bottom of unit (medium dense, wet)	
	MW-4-3	b1	12	26		ML/CL	Brown to black, silty CLAY/clayey SILT (very stiff, wet)	ATD
						SM	Gray SAND with gravel and silt (medium dense, wet)	
	MW-4-4	b1	3	6		CL	Brown, silty CLAY (medium stiff to hard, wet becoming moist with depth)	
10	MW-4-5	b1	15	32				

Monitoring Well Detail



Boring Completed 08/30/01
Total Depth of Boring = 12.0 ft.

Elevation at Top of Protective Casing = 14.23 ft.
Elevation at Top of Monitoring Well Casing = 13.58 ft.

15
20
25
30
35

Notes:
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3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Monitoring Well MW-4

Figure
A-4

S-1-WS

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0						AC	Asphalt	Soil Boring Detail
	S-1-WS-0	c3		0		SP-SM	Brown, fine to medium SAND with silt and gravel (moist) (possible fill)	
				0				
	S-1-WS-1	c3						
						CL	Brown to gray, sandy CLAY (moist to wet)	
5	S-1-WS-2	c3		0				
	S-1-WS-3	c3		0		SP	Gray, fine SAND with trace organics (wet)	▽ ATD
10								

Boring Completed 08/22/01
Total Depth of Boring = 10.0 ft.

15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Soil Boring S-1-WS

Figure
A-5

S-2-MS

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0						AC	Asphalt	
	S-2-MS-0	c3		0		SP	Brown-gray, fine to medium SAND with gravel (moist) (possible fill)	
	S-2-MS-1	c3		0		SP	Brown, fine SAND with silt (moist to wet)	
5	S-2-MS-2	c3		0				▽ ATD

Soil Boring Detail

Boring Completed 08/22/01
Total Depth of Boring = 7.0 ft.

10
15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Soil Boring S-2-MS

Figure
A-6

S-3-EFA

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0								Soil Boring Detail
	S-3-EFA-0	c3		0		SP	Brown, gravelly SAND wtih trace silt (moist) (fill)	Groundwater not encountered.
						CL	Gray CLAY (moist)	
						SP	Gray, fine SAND with gravel (moist)	
	S-3-EFA-1	c3		1.2		CL	Gray CLAY (moist)	
5								

Boring Completed 08/22/01
Total Depth of Boring = 6.0 ft

10
15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Soil Boring S-3-EFA

Figure
A-7

S-3-EFA (B)

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0								Soil Boring Detail
5	2	b4		0		SP	Brown to gray SAND with silt	
						CL	Gray CLAY (moist)	
		b4				WD	WOOD debris	
10						PT	ORGANICS (moist)	
	3	b4		0		OL	Brown, organic CLAY (moist)	
						SP	Gray, fine SAND (moist)	ATD
15								
20								
25								
30								
35								

Boring Completed 08/22/01
Total Depth of Boring = 13.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Soil Boring S-3-EFA (B)

Figure
A-7(A)

S-4-EFA

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
0	0	b4		0		SP	
						SP	
1	1	b4		0		CL	
5	2	b4		0		SP	
				0		PT	ATD
	3	b4				CL	
10							

Drilling Method: Geoprobe™

Ground Elevation (ft):

Drilled By: Cascade Drilling Inc.

Soil Boring Detail

Brown, gravelly SAND with trace silt, spent welding rods (moist) (fill)

Fine, gray SAND with gravel (moist) (possible fill)

Gray-brown, silty CLAY (moist)

Brown, fine SAND with gravle (moist)

Dark brown ORGANICS (moist)

Brown, silty CLAY (moist)

Boring Completed 08/22/01
Total Depth of Boring = 10.0 ft.

15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Soil Boring S-4-EFA

Figure
A-8

S-5-EFA

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0	0	b4		0		SP	Brown, gravelly, fine to medium SAND with trace silt (moist) (fill)	Groundwater not encountered.
						CL	Brown, silty CLAY with trace organics	
	1	b4		0		OL	Gray, silty CLAY with trace gravel	
5	2	b4		0		PT	Dark brown ORGANICS	
	3	b4		0		CL	Brown, silty CLAY	
10						CL	Gray, silty CLAY with sand	
	4	b4		0		CL	Gray, silty CLAY	
	5	b4						
15								
20								
25								
30								
35								

Soil Boring Detail

Boring Completed 08/22/01
Total Depth of Boring = 16.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Anacortes, WA

Log of Boring and Soil Boring S-5-EFA

Figure
A-9

S-6-UST

SAMPLE DATA					SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Soil Boring Detail
0	S-6-UST-0	c3		0		SP	Brown, gravelly, fine to medium SAND with trace silt (moist) (fill)		
	S-6-UST-1	c3		0		CL	Brown, silty CLAY (moist)		
						CL	Gray, silty CLAY (moist)		
5	S-6-UST-2	c3		.5		PT	Brown organics		
						CL	Gray, clayey SILT (moist)		
						SP	Gray, fine to medium SAND	▽ ATD	
	S-6-UST-3	c3		0		ML	Brown, silty CLAY		
10						SP	Gray, fine to medium SAND (moist)		

Boring Completed 08/22/01
Total Depth of Boring = 10.0 ft.

15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

529006.041 3/20/02 S:\MODELING\GINT\WPROJECTS\529006.GPJ WELL LOG

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Anacortes, WA

Log of Boring and Soil Boring S-6-UST

Figure
A-10

S-7-UST

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0	S-7-UST-0	c3				SP	Gray, gravelly, fine to coarse SAND with trace silt (moist) (fill)	
	S-7-UST-1	c3		2		SP	Brown, fine SAND with trace gravel, trace organics and an organic rich zone at 3.5 to 4 ft. (moist)	
5	S-7-UST-2	c3		2		SP	Fine, gray SAND (moist)	
						ML	Gray, clayey SILT (moist)	
						SP	Brown, fine SAND with trace organics and gravel (moist)	▽ ATD
	S-7-UST-3	c3		0				
10								

Boring Completed 08/22/01
Total Depth of Boring = 10.0 ft.

Soil Boring Detail

15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Soil Boring S-7-UST

Figure
A-11

S-8-UST

SAMPLE DATA					SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0	S-8-UST-0	c3		0		SP	Gray, gravelly SAND with trace silt (moist) (fill)	
	S-8-UST-1	c3		4		SP	Brown, fine SAND with gravel (moist) (possible fill)	
5						SM	Silty, fine SAND with organics (moist)	
	S-8-UST-2	c3		0		OL	Brown, organic, clayey SILT (moist)	▽ ATD
	S-8-UST-3	c3		0		SP	Fine, gray SAND (moist to wet)	
10						CL	Gray, silty CLAY (moist)	

Boring Completed 08/22/01
Total Depth of Boring = 10.0 ft.

Soil Boring Detail

15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Soil Boring S-8-UST

Figure
A-12

S-9-CPH

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0	0	b4		0		SP	Gray-brown, gravelly fine to medium SAND with trace silt (moist) (fill)	
						SP	Brown, fine to medium SAND with gravle (moist) (fill)	
	1	b4		0				
5	2	b4		0				ATD
	3	b4		0				
						PT	Black ORGANICS with trace product (moist)	
	3A	b4		0		CL	Gray, silty CLAY (moist)	
10						SP	Gray, fine to medium SAND (moist)	

Boring Completed 08/22/01
Total Depth of Boring = 10.0 ft.

Soil Boring Detail

15
20
25
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35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Soil Boring S-9-CPH

Figure
A-13

S-10-MR

SAMPLE DATA					SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Soil Boring Detail
0	S-10-MR-0	c3		0		SP	Brown, very gravelly, fine to coarse SAND (moist) (fill)		
						SP	Brown, gravelly, fine to coarse SAND (moist) (fill)		
	S-10-MR-1	c3		0		SP	Brown, fine SAND with trace organics (moist) (fill)		
5	S-10-MR-2	c3		0		CL	Brown, silty CLAY, with trace brick (moist) (fill)		
						SP	Gray, fine SAND with trace brick (wet) (fill)	▽ ATD	
	S-10-MR-3	c3		1		CL	Gray, silty CLAY (moist)		
10									

Boring Completed 08/22/01
Total Depth of Boring = 10.0 ft.

15
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Notes:
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3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and Soil Boring S-10-MR

Figure
A-14

S-14-TPH

SAMPLE DATA					SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Detail
0						SP-SM	Light brown, fine SAND with silt and trace fine gravel and trace wood, with thin interbedded silty fine sand, with slight creosote odor (moist)(fill)		
	S-14-UST-1	b4							
5	S-14-UST-4	b4						▽ ATD	
						SP-SM	Light brown, fine to medium SAND with silt and fine gravel (moist)(fill)		
	S-14-UST-7	b4							
10									

Boring Completed 10/24/01
Total Depth of Boring = 10.0 ft.

15
20
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Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and S-14-TPH

Figure
A-15

S-15-TPH

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Detail
0						SM	Gray to light brown, silty, gravelly, fine to medium SAND (moist)(fill)		
	S-15-UST-1	b4				SP/ SM	Light brown, brown, and reddish brown, fine SAND with silt to trace silt and wood (moist to wet)(fill)		
5	S-15-UST-4	b4						▽ ATD	
	S-15-UST-7	b4				SP	Light brown to gray, fine SAND with trace silt and wood (wet)(fill)		
10									

Boring Completed 10/24/01
Total Depth of Boring = 10.0 ft.

15
20
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Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and S-15-TPH

Figure
A-16

S-16-TPH

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Detail
0						SP-SM	Brown and light brown, very gravelly, fine to medium SAND with silt with petroleum odor (moist)(fill)		
	S-16-UST-1	b4				SP-SM	Gray to green, fine SAND with silt (moist)(fill)		
						SM	Light brown, gravelly, silty, fine to medium SAND with trace fine organics (moist)(fill)		
5	S-16-UST-4	b4				SM	Refusal at 3.5 feet (concrete slab?), moved boring 7 feet SE and continued sampling.	▽ ATD	
						SP-SM	Dark brown, silty, fine to medium SAND with abundent wood, petroleum staining and strong petroleum odor (moist to wet)(fill)		
	S-16-UST-7	b4					Gray, fine SAND with silt and thin interbedded fine sandy silt, with some scattered wood fragments, with petroleum odor (wet)(fill)		
10									

Boring Completed 10/24/01
Total Depth of Boring = 10.0 ft.

15
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35

Notes:
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2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and S-16-TPH

Figure
A-17

S-17-TPH

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Detail
0						SM	Mottled dark brown, brown, and gray, silty, gravelly, fine to medium SAND with scattered organics and charcoal?, unknown odor (moist)(fill)		
	S-17-UST-1	b4							
	S-17-UST-4a	b4				SP-SM / SP	Dark brown, gravelly, silty, fine to medium SAND with wood, creosote-like odor and staining (moist)(fill)		
5									
	S-17-UST-4b	b4					Light brown, fine SAND with trace silt (moist)(fill)	▽ ATD	
						SM	Light brown, fine SAND with silt (wet)(fill)		
	S-17-UST-7	b4							
						SW	Gray, very gravelly SAND with trace silt (wet)(fill?)		
10									

Boring Completed 10/24/01
Total Depth of Boring = 10.0 ft.

15
20
25
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35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and S-17-TPH

Figure
A-18

S-18-TPH

SAMPLE DATA					SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Detail
0						SM	Light brown, gravelly, silty, fine to medium SAND (moist)(fill)		
	S-18-UST-1	b4				SP	Mottled brown, gray, and reddish brown, fine SAND with trace silt and shell fragments from 2 to 4 feet (moist to wet)(fill)		
5	S-18-UST-4	b4						▽ ATD	
						SM	Gray to light brown, gravelly, silty, fine to medium SAND with charcoal? staining (wet)(fill)		
	S-18-UST-7	b4				SP-SM	Brown to gray, fine SAND with silt (wet)(fill)		
10									

Boring Completed 10/24/01
Total Depth of Boring = 10.0 ft.

15
20
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Notes:
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3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and S-18-TPH

Figure
A-19

S-19-TPH

SAMPLE DATA					SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Detail
0						ML	Light brown to reddish brown, gravelly, fine to medium sandy, SILT (moist)(fill)		
	S-19-UST-1	b4				SP/ SM	Brown to gray, fine SAND with silt to trace silt, with petroleum odor and sheen from 7 to 10 feet (moist to wet)(fill)		
5	S-19-UST-4	b4						ATD	
	S-19-UST-7	b4							
10									

Boring Completed 10/24/01
Total Depth of Boring = 10.0 ft.

15
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Notes:
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3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Anacortes, WA

Log of Boring and S-19-TPH

Figure
A-20

S-20-TPH

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Detail
0						SP/ SM	Light brown, silty, very gravelly, fine to medium SAND (moist)(fill)		
	S-20-UST-1	b4							
						SW-SM	Light brown to gray, very gravelly SAND with silt, with petroleum odor (moist)(fill)		
5	S-20-UST-4	b4				ML	Dark brown, SILT with abundent fine organics (peat?) and trace wood, with petroleum odor (moist)(fill)		
						SP		▽ ATD	
						SP-SM	Gray, fine SAND, with sheen and petroleum odor (moist to wet)(fill)		
	S-20-UST-7	b4				ML/ CL	Light brown to gray, fine SAND with silt, with petroleum odor and sheen (wet)(fill)		
10						SP-SM	Light brown to reddish brown, silty CLAY with trace organics, with light petroleum odor (wet)(alluvium?)		
							Gray, fine SAND with silt and trace wood, with petroleum odor and sheen (wet)(alluvium?)		

Boring Completed 10/24/01
Total Depth of Boring = 10.0 ft.

15
20
25
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35

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Anacortes, WA

Log of Boring and S-20-TPH

Figure
A-21

S-21-TPH

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level	Detail
0						SP/ SM	Light brown, silty, very gravelly, fine to medium SAND (moist to wet)(fill)		
	S-21-UST-1	b4							
							Poor Recovery		
5	S-21-UST-4	b4						ATD	
	S-21-UST-7	b4				SP	Light brown to gray, fine SAND with petroleum odor (wet)(fill?)		
						ML/ CL	Light brown, silty CLAY with light petroleum odor (wet)(alluvium)		
10						SP			
						PT	Gray, fine SAND, with petroleum odor (wet)(alluvium)		
							Dark brown, silty PEAT (wet)(alluvium)		

Boring Completed 10/24/01
Total Depth of Boring = 10.0 ft.

15
20
25
30
35

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3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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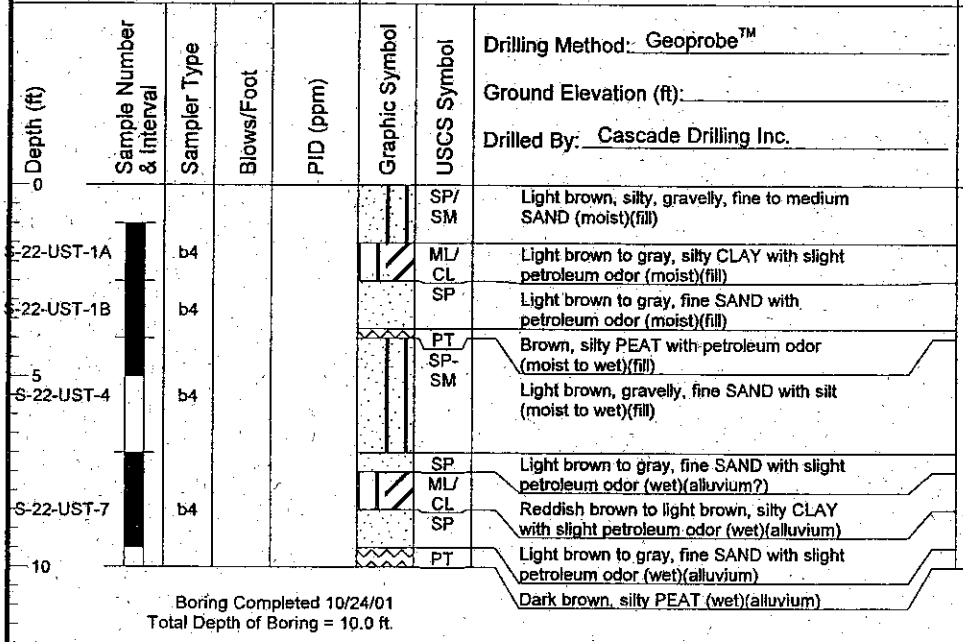
Log of Boring and S-21-TPH

Figure
A-22

S-22-TPH



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Anacortes, WA

Log of Boring and S-22-TPH

Figure
A-23

S-23-TPH

SAMPLE DATA					SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Drilled By: Cascade Drilling Inc.	Water Level
0						SM	Light brown, gravelly, silty, fine to medium SAND (moist)(fill)	Detail
	S-23-UST-1	b4				ML/CL	Light brown, clayey SILT with slight petroleum odor (moist)(fill)	
						SP-SM	Gray, fine SAND with silt and slight petroleum odor (moist)(fill)	
5	S-23-UST-4	b4				SP-SM	Light brown, gravelly, fine SAND with silt, with slight petroleum odor (moist to wet)(fill)	▽ ATD
						SP-SM	Gray to light brown, fine SAND with silt and slight petroleum odor (wet)(alluvium?)	
	S-23-UST-7	b4				ML/CL	Light brown, silty CLAY with slight petroleum odor (wet)(alluvium)	
10						SP-SM	Light brown to gray, fine SAND with silt and thin organic layer, with slight petroleum odor (wet)(alluvium)	
						PT	Brown, silty PEAT with interbedded silty fine sand (wet)(alluvium)	

Boring Completed 10/24/01
Total Depth of Boring = 10.0 ft.

15
20
25
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35

Notes:
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Anacortes, WA

Log of Boring and S-23-TPH

Figure
A-24

APPENDIX F
Environmental Groundwater Data

Table F-1

Chemical Analytical Groundwater Data

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]		MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1 (Dup)	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-2	MW-2	MW-2 (Dup)	MW-2	Proposed Groundwater Cleanup Level[3]
Sample Date		09/04/01	10/24/01	06/05/02	08/19/02	11/17/06	06/17/08	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	08/18/16	02/15/17	08/23/17	09/04/01	10/24/01	10/24/01	06/05/02	
Sample Study		2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2008 RI	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2001 RI	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	
Sampled By		Landau	Landau	Landau	Landau	Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
Field Measured Parameters																					
Depth to Water	ft	N/A	N/A	N/A	N/A	6.21	6.36	6.36	6.27	6.52	6.37	6.14	5.98	6.71	5.81	6.69	N/A	N/A	N/A	N/A	NE
Water Elevation	ft	N/A	N/A	N/A	N/A	7.74	7.59	7.59	7.68	7.43	7.58	7.81	7.97	7.24	8.14	7.26	N/A	N/A	N/A	N/A	NE
pH	n/a	N/A	N/A	N/A	N/A	6.63	5.8	5.8	6.64	6.69	6.61	6.47	6.57	6.8	6.68	6.61	N/A	N/A	N/A	N/A	NE
Conductivity (EC)	mS/cm	N/A	N/A	N/A	N/A	0.416	0.48	0.48	7.13	4.82	4.90	7.31	13.27	3.79	10.66	6.44	N/A	N/A	N/A	N/A	NE
Turbidity	NTU	N/A	N/A	N/A	N/A	9.9	15	15	2.0	16.4	6.66	5.9	6.2	8.21	9.7	5.08	N/A	N/A	N/A	N/A	NE
Dissolved Oxygen (DO)	mg/L	N/A	N/A	N/A	N/A	2.35	0.4	0.4	0.0	9.5	2.6	0.0	0.3	0.4	0.2	0.1	N/A	N/A	N/A	N/A	NE
Temperature	°C	N/A	N/A	N/A	N/A	16.48	14.0	14.0	12.7	16.4	14.2	11.9	12.9	16.0	12.7	16.2	N/A	N/A	N/A	N/A	NE
Total Dissolved Solids (TDS)	mg/L	N/A	N/A	N/A	N/A	N/A	310	310	4,500	3,100	3,140	4,600	1,292	2,951	9,042	4,977	N/A	N/A	N/A	N/A	NE
Oxidation Reduction Potential (ORP)	mV	N/A	N/A	N/A	N/A	N/A	5	5	169	-54	-119	-99	-19.4	70.8	-3.1	-0.9	N/A	N/A	N/A	N/A	NE
Salinity	ppt	N/A	N/A	N/A	N/A	N/A	0	0	4	2	3	4	10	2	8	4	N/A	N/A	N/A	N/A	NE
Total Metals																					
Arsenic	µg/L	--	--	**5**	**0.6**	**3.3**	**4.8**	**4.9**	17 U	**15**	16 U	**153**	**1.3**	**9.2**	**11**	5.6 U	--	--	--	**3**	8.0
Cadmium	µg/L	--	--	2 U	2 U	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	7.9
Total Chromium	µg/L	--	--	**15**	**14**	**10**	**11**	**12**	--	--	--	--	--	--	--	--	--	--	--	5 U	50
Copper	µg/L	--	--	**10**	**12**	**5.4**	**7**	**6.9**	**10**	**13**	20 U	15 U	--	--	--	--	--	--	--	2 U	20
Lead	µg/L	--	--	1	1	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	**1**	10
Mercury	µg/L	--	--	0.1 U	0.1 U	0.1 U	**0.037**	**0.034**	0.13 U	0.025 U	0.038 U	0.025 U	--	--	--	--	--	--	--	0.1 U	0.025
Nickel	µg/L	--	--	**3.8**	**4.2**	**2.1**	**3.2**	**3.3**	8 U	8 U	**5.4**	8 U	--	--	--	--	--	--	--	**7.5**	8.2
Silver	µg/L	--	--	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	10
Zinc	µg/L	--	--	**10**	0.6 U	4 U	4 U	**6**	25 U	25 U	50 U	25 U	--	--	--	--	--	--	--	6 U	160
Dissolved Metals																					
Arsenic	µg/L	**9**	**6**	**4**	--	--	--	--	15 U	**15**	16 U	**143**	**1.2 J**	7.8 U	**5.6**	5.6 U	**3**	**0.5**	**0.5**	**3**	8.0
Cadmium	µg/L	2 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	--	2 U	2 U	2 U	2 U	7.9
Total Chromium	µg/L	**12**	**10**	**9**	--	--	--	--	--	--	--	--	--	--	--	--	5 U	5 U	5 U	5 U	50
Copper	µg/L	**7**	**2**	**4**	--	--	--	--	10 U	10 U	20 U	15 U	--	--	--	--	2 U	**2**	**2**	2 U	20
Lead	µg/L	20 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--	20 U	20 U	20 U	1 U	10
Mercury	µg/L	0.1 U	0.1 U	0.1 U	--	--	--	--	0.13 U	0.025 U	0.038 U	0.025 U	--	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.025
Nickel	µg/L	10 U	**2.3**	**2.2**	--	--	--	--	8 U	8 U	5 U	8 U	--	--	--	--	10 U	**7**	**0.7**	**7.5**	8.2
Silver	µg/L	--	--	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	10
Zinc	µg/L	**8**	6 U	6 U	--	--	--	--	25 U	25 U	50 U	25 U	--	--	--	--	**7**	6 U	0.6 U	6 U	160
Petroleum Hydrocarbons																					
Gasoline-Range	µg/L	250 U	250 U	250 U	250 U	250 U	50 U	50 U	100 U	100 U	100 U	100 U	--	--	--	--	250 U	250 U	250 U	250 U	800
Diesel-Range	µg/L	250 UJ	250 U	250 U	250 U	250 U	--	--	260 U	260 U	260 U	260 U	--	--	--	--	**4,100**	**5,000**	**4,800**	**3,000**	500
Heavy Oil-Range	µg/L	500 UJ	500 U	500 U	500 U	500 U	--	--	410 U	410 U	410 U	410 U	--	--	--	--	500 U	**630**	**810**	500 U	500
Petroleum Hydrocarbons with Silica-Gel Cleanup																					
Diesel-Range	µg/L	--	--	250 U	--	--	130 U	130 U	260 U	260 U	260 U	260 U	--	--	--	--	--	--	--	250 U	500
Heavy Oil-Range	µg/L	--	--	500 U	--	--	250 U	250 U	410 U	410 U	410 U	410 U	--	--	--	--	--	--	--	500 U	500
BETX Compounds																					
Benzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	1.6
Ethylbenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	31
Toluene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	130
Xylenes	µg/L	1 U	--	1 U	--	0.4 U	4 U	4 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	630
Volatile Organic Compounds (VOCs)																					
1,1,1,2-Tetrachloroethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	71
1,1,1-Trichloroethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	12,000
1,1,2,2-Tetrachloroethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	1.0
(CFC113)	µg/L	2 U	--	2 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	2 U	--	--	2 U	360
1,1,2-Trichloroethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	1.0
1,1-Dichloroethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	110
1,1-Dichloroethene	µg/L	1 U	--	1 U	--	0.2 U	1 U	1 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	280
1,1-Dichloropropene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
1,2,3-Trichlorobenzene	µg/L	5 U	--	5 U	--	0.5 U	2 U	2 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	NE
1,2,3-Trichloropropane	µg/L	3 U	--	3 U	--	0.5 U	2 U	2 U	--	--	--	--	--	--	--	--	3 U	--	--	3 U	45
1,2,4-Trichlorobenzene	µg/L	5 U	--	5 U	--	0.5 U	2 U	2 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	5.0
1,2,4-Trimethylbenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	520
1,2-Dibromo-3-chloropropane	µg/L	5 U	--	5 U	--	0.5 U	10 U	10 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	5.0
1,2-Dibromoethane (EDB)	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	3.0
1,2-Dichlorobenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	800
1,2-Dichloroethane (EDC)	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	42
1,2-Dichloropropane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	3.1
1,3,5-Trimethylbenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	370
1,3-Dichlorobenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	2.0

Sample Location[1]		MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1 (Dup)	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-2	MW-2	MW-2 (Dup)	MW-2	Proposed Groundwater Cleanup Level[2]
Sample Date		09/04/01	10/24/01	06/05/02	08/19/02	11/17/06	06/17/08	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	08/18/16	02/15/17	08/23/17	09/04/01	10/24/01	10/24/01	06/05/02	
Sample Study		2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2008 RI	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2001 RI	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	
Sampled By		Landau	Landau	Landau	Landau	Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
1,3-Dichloropropane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
1,4-Dichlorobenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	22
2,2-Dichloropropane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
2-Butanone (MEK)	µg/L	5 U	--	5 U	--	1 U	10 U	10 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	3,700,000
2-Chloroethyl Vinyl Ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2-Chlorotoluene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
2-Hexanone	µg/L	5 U	--	5 U	--	3 U	10 U	10 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	16,000
4-Chlorotoluene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	5 U	--	5 U	--	1 U	10 U	10 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	1,000,000
Acetone	µg/L	5 U	--	5 U	--	3 U	25 U	25 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	32,000,000
Acrolein	µg/L	50 U	--	50 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	50 U	--	--	50 U	50
Acrylonitrile	µg/L	1 U	--	1 U	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	1.0
Bromobenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	1,400
Bromochloromethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
Bromoform	µg/L	2 U	--	2 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	2 U	--	--	2 U	12
Bromoethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
Bromomethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	28
Carbon Disulfide	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	870
Carbon Tetrachloride	µg/L	1 U	--	1 U	--	0.2 U	1.4 U	1.4 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	1.0
Chlorobenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	200
Chloroethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	32,000
Chloroform	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	12
Chloromethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	330
Cis-1,2-Dichloroethene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
Cis-1,3-Dichloropropene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
Dibromochloromethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	2.2
Dibromomethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	210
Dichlorobromomethane	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	2.8
Dichlorodifluoromethane (CFC 12)	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.2
Hexachlorobutadiene	µg/L	5 U	--	5 U	--	0.5 U	2 U	2 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	5.0
Isopropylbenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	2,000
Methyl Iodide	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
Methyl t-Butyl Ether (MTBE)	µg/L	--	--	--	--	--	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	--	8,600
Methylene Chloride	µg/L	2 U	--	2 U	--	**0.3**	5 U	5 U	--	--	--	--	--	--	--	--	2 U	--	--	2 U	100
Naphthalene	µg/L	5 U	--	5 U	--	0.5 U	2 U	2 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	89
n-Butylbenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
n-Propylbenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	4,900
p-Isopropyltoluene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
sec-Butylbenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
Styrene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	18,000
tert-Butylbenzene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
Tetrachloroethene (PCE)	µg/L	1 U	--	1 U	--	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	2.9
Trans-1,2-Dichloroethene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	170
Trans-1,3-Dichloropropene	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	NE
Trans-1,4-Dichloro-2-butene	µg/L	5 U	--	5 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	NE
Trichloroethene (TCE)	µg/L	1 U	--	1 U	--	0.2 U	1 U	1 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	1.0
Trichlorofluoromethane (CFC 11)	µg/L	1 U	--	1 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	--	1 U	260
Vinyl Acetate	µg/L	5 U	--	5 U	--	0.2 U	2 U	2 U	--	--	--	--	--	--	--	--	5 U	--	--	5 U	17,000
Vinyl Chloride	µg/L	0.02 U	--	1 U	--	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	0.02 U	--	--	1 U	1.0
Semi-Volatile Organic Compounds (SVOCs)																					
1,2,4-Trichlorobenzene	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	1.0
1,2-Dichlorobenzene	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	800
1,3-Dichlorobenzene	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	2.0
1,4-Dichlorobenzene	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	22
2,2'-Oxybis[1-chloropropane]	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	37
2,4,5-Trichlorophenol	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	600
2,4,6-Trichlorophenol	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	5.0
2,4-Dichlorophenol	µg/L	--	--	3 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	3 U	10
2,4-Dimethylphenol	µg/L	--	--	3 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	3 U	97
2,4-Dinitrophenol	µg/L	--	--	25 U	--	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--	--	--	25 U	100
2,4-Dinitrotoluene	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	5.0
2,6-Dinitrotoluene	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	NE
2-Chloronaphthalene	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	100
2-Chlorophenol	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	17
2-Nitroaniline	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	NE
2-Nitrophenol	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	NE
3,3'-Dichlorobenzidine	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	5.0
3-Nitroaniline	µg/L	--	--	6 U	--	5 U	5 U	5 U	--	--	--	--	--	--	--	--	--	--	--	6 U	NE
4,6-Dinitro-2-methylphenol	µg/L	--	--	15 U	--	10 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	15 U	10

Sample Location[1]		MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1 (Dup)	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-2	MW-2	MW-2 (Dup)	MW-2	Proposed Groundwater Cleanup Level[2]
Sample Date		09/04/01	10/24/01	06/05/02	08/19/02	11/17/06	06/17/08	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	08/18/16	02/15/17	08/23/17	09/04/01	10/24/01	10/24/01	06/05/02	
Sample Study		2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2008 RI	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2001 RI	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	
Sampled By		Landau	Landau	Landau	Landau	Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
4-Bromophenyl-phenylether	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	NE
4-Chloro-3-methylphenol	µg/L	--	--	2 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	36
4-Chloroaniline	µg/L	--	--	3 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	3 U	NE
4-Chlorophenyl-phenylether	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	NE
4-Nitroaniline	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	NE
4-Nitrophenol	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	NE
Benzoic acid	µg/L	--	--	50 U	--	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--	--	--	50 U	NE
Benzyl alcohol	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	NE
bis(2-Chloroethoxy)methane	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	NE
bis(2-chloroethyl)ether	µg/L	--	--	2 U	--	1 U	0.54 U	0.54 U	--	--	--	--	--	--	--	--	--	--	--	2 U	1.0
bis(2-Ethylhexyl)phthalate	µg/L	--	--	4 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	4 U	1.0
Butylbenzylphthalate	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	1.0
Carbazole	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	NE
Dibenzofuran	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	NE
Diethylphthalate	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	200
Dimethylphthalate	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	600
Di-n-butylphthalate	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	8.0
Di-n-octylphthalate	µg/L	--	--	2 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	NE
Hexachlorobenzene	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	1.0
Hexachlorobutadiene	µg/L	--	--	2 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	1.0
Hexachlorocyclopentadiene	µg/L	--	--	5 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	5.0
Hexachloroethane	µg/L	--	--	2 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	2.0
Isophorone	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	110
Nitrobenzene	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	100
n-Nitroso-di-n-propylamine	µg/L	--	--	2 U	--	5 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	5.0
n-Nitrosodiphenylamine	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	1.0
o-Cresol (2-Methylphenol)	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	NE
p-Cresol (4-Methylphenol)	µg/L	--	--	1 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	NE
Pentachlorophenol	µg/L	--	--	5 U	--	5 U	5 U	5 U	--	--	--	--	--	--	--	--	--	--	--	5 U	5.0
Phenol	µg/L	--	--	2 U	--	1 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	70,000
Non-Carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)																					
1-Methylnaphthalene	µg/L	--	--	--	--	--	0.02 U	0.02 U	0.095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	--	NE
2-Methylnaphthalene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	0.02 U	0.095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	14
Acenaphthene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	0.02 U	0.0095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	5.3
Acenaphthylene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	0.02 U	0.0095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	NE
Anthracene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	0.02 U	0.0095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	2.1
Benzo[g,h,i]perylene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	0.02 U	0.0095 U	0.0094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	NE
Fluoranthene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	0.02 U	0.0095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	2.2
Fluorene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	0.02 U	0.0095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	3.7
Naphthalene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	0.02 U	0.095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	89
Phenanthrene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	0.02 U	0.0095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	NE
Pyrene	µg/L	--	--	2 U	0.1 U	0.01 U	0.02 U	**0.03**	0.0095 U	0.094 U	0.095 U	0.095 U	--	--	--	--	--	--	--	2 U	2.0
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)																					
Benzo[a]anthracene	µg/L	--	--	2 U	0.1 U	0.01 U	0.018 U	0.018 U	0.0095 U	0.0094 U	0.0095 U	0.0095 U	--	--	--	--	--	--	--	2 U	see cPAHTEQ
Benzo[a]pyrene	µg/L	--	--	2 U	0.1 U	0.01 U	0.018 U	0.018 U	0.0095 U	0.0094 U	0.0095 U	0.0095 U	--	--	--	--	--	--	--	2 U	
Benzo[b]fluoranthene	µg/L	--	--	2 U	0.1 U	0.01 U	0.018 U	0.018 U	0.0095 U	0.0094 U	0.0095 U	0.0095 U	--	--	--	--	--	--	--	2 U	
Benzo[k]fluoranthene	µg/L	--	--	2 U	0.1 U	0.01 U	0.018 U	0.018 U	0.0095 U	0.0094 U	0.0095 U	0.0095 U	--	--	--	--	--	--	--	2 U	
Chrysene	µg/L	--	--	2 U	0.1 U	0.01 U	0.018 U	0.018 U	0.0095 U	0.0094 U	0.0095 U	0.0095 U	--	--	--	--	--	--	--	2 U	
Dibenz[a,h]anthracene	µg/L	--	--	2 U	0.1 U	0.01 U	0.018 U	0.018 U	0.0095 U	0.0094 U	0.0095 U	0.0095 U	--	--	--	--	--	--	--	2 U	
Indeno[1,2,3-c,d]pyrene	µg/L	--	--	2 U	0.1 U	0.01 U	0.018 U	0.018 U	0.0095 U	0.0094 U	0.0095 U	0.0095 U	--	--	--	--	--	--	--	2 U	
Total cPAH TEQ[4] (ND = 0.5RL)	µg/L	--	--	1.41 U	0.07 U	0.07 U	0.013 U	0.013 U	0.007 UT	0.007 UT	0.007 UT	0.007 UT	--	--	--	--	--	--	--	1.41 U	0.01
Pesticides																					
4,4'-DDD	µg/L	--	--	0.1 U	--	0.1 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	0.1
4,4'-DDE	µg/L	--	--	0.1 U	--	0.1 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	0.1
4,4'-DDT	µg/L	--	--	0.1 U	--	0.1 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	0.1
Aldrin	µg/L	--	--	0.051 U	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	0.05
Alpha-BHC	µg/L	--	--	0.051 U	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	0.05
Alpha-Chlordane (cis)	µg/L	--	--	0.051 U	--	0.05 U	0.01 U	0.01 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	NE
Beta-BHC	µg/L	--	--	0.051 U	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	0.05
Delta-BHC	µg/L	--	--	0.051 U	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	NE
Dieldrin	µg/L	--	--	0.1 U	--	0.1 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	0.1
Endosulfan I	µg/L	--	--	0.051 U	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	0.05
Endosulfan II	µg/L	--	--	0.1 U	--	0.1 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	NE
Endosulfan Sulfate	µg/L	--	--	0.1 U	--	0.1 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	10
Endrin	µg/L	--	--	0.1 U	--	0.1 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	0.1
Endrin Aldehyde	µg/L	--	--	0.1 U	--	0.1 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	0.1
Endrin Ketone	µg/L	--	--	0.1 U	--	0.1 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	NE
Gamma-Chlordane	µg/L	--	--	0.051 U	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	NE
Heptachlor	µg/L	--	--	0.051 U	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	0.05

Sample Location[1]		MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1 (Dup)	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-2	MW-2	MW-2 (Dup)	MW-2	
Sample Date		09/04/01	10/24/01	06/05/02	08/19/02	11/17/06	06/17/08	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	08/18/16	02/15/17	08/23/17	09/04/01	10/24/01	10/24/01	06/05/02	
Sample Study		2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2008 RI	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2001 RI	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	Proposed Groundwater Cleanup Level[2]
Sampled By		Landau	Landau	Landau	Landau	Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
Heptachlor Epoxide	µg/L	--	--	0.051 U	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	0.05
Lindane (Gamma-BHC)	µg/L	--	--	0.051 U	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.051 U	0.1
Herbicides																					
2,4,5-T	µg/L	--	--	0.6 U	--	0.25 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	0.61 U	NE
2,4-D	µg/L	--	--	1.5 U	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	1.5 U	12,000
2,4-DB	µg/L	--	--	10 U	--	5 U	5 U	5 U	--	--	--	--	--	--	--	--	--	--	--	10 U	NE
Dalapon (DPA)	µg/L	--	--	2 U	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	2 U	NE
Dicamba	µg/L	--	--	0.7 U	--	0.5 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	0.71 U	NE
Dichlorprop	µg/L	--	--	3.1 U	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	3.1 U	NE
Dinoseb	µg/L	--	--	0.5 U	--	0.25 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	0.51 U	NE
MCPA	µg/L	--	--	250 U	--	250 U	250 U	250 U	--	--	--	--	--	--	--	--	--	--	--	250 U	NE
Mecoprop (MCPP)	µg/L	--	--	--	--	--	250 U	250 U	--	--	--	--	--	--	--	--	--	--	--	--	NE
Silvex (Fenoprop or 2,4,5-TP)	µg/L	--	--	0.28 U	--	0.25 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	0.28 U	400
Polychlorinated Biphenyls (PCBs)																					
Total PCBs (Sum of Aroclors or Congeners)	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01
Dioxins and Furans																					
2,3,7,8-TCDD	pg/L	--	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDD	pg/L	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDD	pg/L	--	--	--	--	--	1.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDD	pg/L	--	--	--	--	--	1.7 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDD	pg/L	--	--	--	--	--	1.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDD	pg/L	--	--	--	--	--	**2.5 J**	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
OCDD	pg/L	--	--	--	--	--	**18 J**	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,7,8-TCDF	pg/L	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDF	pg/L	--	--	--	--	--	0.96 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,7,8-PeCDF	pg/L	--	--	--	--	--	0.75 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDF	pg/L	--	--	--	--	--	0.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDF	pg/L	--	--	--	--	--	0.96 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,6,7,8-HxCDF	pg/L	--	--	--	--	--	1.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDF	pg/L	--	--	--	--	--	0.67 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDF	pg/L	--	--	--	--	--	1.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8,9-HpCDF	pg/L	--	--	--	--	--	1.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
OCDF	pg/L	--	--	--	--	--	**2.1 J**	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Total Dioxins/Furans - Human Health TEQ[5] (ND = 0.5RL)	pg/L	--	--	--	--	--	**1.9 J**	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0

Notes:

[1] Groundwater sample locations are shown on Figure 13.

[2] Groundwater monitoring activities pre-date the 2002 independent cleanup actions completed at the Site; therefore do not represent current groundwater conditions and are not included as part of the RI data set.

[3] Proposed groundwater cleanup levels referenced from Table 3.

[4] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[5] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

[6] Monitoring well not accessible at the time of sampling.

MTCA = Model Toxics Control Act

N/A = Not available

°C = degrees Celsius

mg/L = milligrams per liter

m/V = millivolts

NTU = Nephelometric Turbidity Units

ppt = parts per thousand

mS/cm = milli-Semens centimeter

µg/L = Microgram per liter

pg/L = Picogram per liter

NE = Not established

TEQ = Toxic equivalent concentration

-- = not analyzed

ND = Not detected

RL = Reporting limit

NE = not established

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed groundwater cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table F-1

Chemical Analytical Groundwater Data

Dakota Creek Industries
Anacortes, Washington

Sample Location[1]		MW-2 (Dup)	MW-2	MW-2 (Dup)	MW-2	MW-2 (Dup)	MW-2	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A[6]	MW-2B	MW-2B	MW-2B	MW-3	MW-3 (Dup)	MW-3	MW-3	MW-3	Proposed Groundwater Cleanup Level[3]
Sample Date		06/05/02	08/19/02	08/19/02	11/17/06	11/17/06	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	08/19/16	02/15/17	08/23/17	09/04/01	09/04/01	10/24/01	06/05/02	08/19/02	
Sample Study		2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/1017 RI	2016/1017 RI	2016/1017 RI	2016/1017 RI	2001 RI[2]	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	
Sampled By		Landau	Landau	Landau	Floyd|Snider	Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	Landau	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
Field Measured Parameters																					
Depth to Water	ft	N/A	N/A	N/A	6.81	6.81	7.67	10.38	10.31	8.02	8.42	--	9.29	7.84	9.45	N/A	N/A	N/A	N/A	N/A	NE
Water Elevation	ft	N/A	N/A	N/A	8.26	8.26	7.4	4.69	4.76	7.05	6.65	--	5.44	6.89	5.28	N/A	N/A	N/A	N/A	N/A	NE
pH	n/a	N/A	N/A	N/A	6.92	6.92	5.9	7.1	6.8	6.9	6.99	--	7.09	7.1	6.9	N/A	N/A	N/A	N/A	N/A	NE
Conductivity (EC)	mS/cm	N/A	N/A	N/A	3.97	3.97	2.30	21.10	26.80	25.60	20.70	--	12.07	11.88	13.26	N/A	N/A	N/A	N/A	N/A	NE
Turbidity	NTU	N/A	N/A	N/A	355	355	27	23.8	18.1	29.1	20	--	10.2	3.01	4.82	N/A	N/A	N/A	N/A	N/A	NE
Dissolved Oxygen (DO)	mg/L	N/A	N/A	N/A	0.42	0.42	0.7	1.3	9.9	3.8	0.0	--	0.4	3.8	0.1	N/A	N/A	N/A	N/A	N/A	NE
Temperature	°C	N/A	N/A	N/A	13.57	13.57	10.8	10.8	13.4	12.4	10.6	--	17.2	9.2	16.6	N/A	N/A	N/A	N/A	N/A	NE
Total Dissolved Solids (TDS)	mg/L	N/A	N/A	N/A	N/A	N/A	2	13,000	17,000	15,800	13,000	--	9,230	11,063	10,258	N/A	N/A	N/A	N/A	N/A	NE
Oxidation Reduction Potential (ORP)	mV	N/A	N/A	N/A	N/A	N/A	5	201	23	33	-88	--	104.9	-16.2	31.2	N/A	N/A	N/A	N/A	N/A	NE
Salinity	ppt	N/A	N/A	N/A	N/A	N/A	1	12	16	15	12	--	8	10	9	N/A	N/A	N/A	N/A	N/A	NE
Total Metals																					
Arsenic	µg/L	**3**	**4**	**2**	**4**	**3.8**	**3.4**	12 U	7.5 U	10 U	**6**	--	**6**	7.8 U	5.6 U	--	--	--	1 U	**1**	8.0
Cadmium	µg/L	2 U	2 U	2 U	2 U	2 U	0.2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	2 U	7.9
Total Chromium	µg/L	5 U	5 U	5 U	**4**	**4**	**7**	--	--	--	--	--	--	--	--	--	--	--	5 U	5 U	50
Copper	µg/L	2 U	**7**	**4**	**3.1**	**3.3**	**2.6**	10 U	10 U	20 U	15 U	--	--	--	--	--	--	--	2 U	**4**	20
Lead	µg/L	**1**	1 U	1 U	**2**	**2**	**1**	--	--	--	--	--	--	--	--	--	--	--	**1**	**1**	10
Mercury	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.13 U	0.025 U	0.038 U	0.025 U	--	--	--	--	--	--	--	0.1 U	0.1 U	0.025
Nickel	µg/L	**7.5**	**9.9**	**8.2**	**3.9**	**3.9**	**2.4**	20 U	**17**	**13**	8 U	--	**6.9**	7.8 U	**8.2**	--	--	--	**3.4**	**3.7**	8.2
Silver	µg/L	--	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--	10
Zinc	µg/L	6 U	6 U	6 U	**4**	**5**	4 U	25 U	25 U	50 U	25 U	--	--	--	--	--	--	--	6 U	**17**	160
Dissolved Metals																					
Arsenic	µg/L	**3**	--	--	--	--	--	11 U	7.5 U	10 U	**7**	--	**6.5**	7 U	5 U	**1**	**2**	1 U	0.1 U	--	8.0
Cadmium	µg/L	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	2 U	2 U	0.2 U	--	7.9
Total Chromium	µg/L	5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5 U	5 U	5 U	0.5 U	--	50
Copper	µg/L	2 U	--	--	--	--	--	10 U	10 U	20 U	15 U	--	--	--	--	2 U	2 U	2 U	0.2 U	--	20
Lead	µg/L	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	20 U	20 U	20 U	0.1 U	--	10
Mercury	µg/L	0.1 U	--	--	--	--	--	0.13 U	0.025 U	0.038 U	0.025 U	--	--	--	--	0.1 U	0.1 U	0.1 U	0.01 U	--	0.025
Nickel	µg/L	**7.5**	--	--	--	--	--	20 U	**16**	**13**	8 U	--	**6**	7 U	**8.3**	10 U	10 U	**2.7**	**0.33**	--	8.2
Silver	µg/L	--	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--	10
Zinc	µg/L	6 U	--	--	--	--	--	25 U	25 U	50 U	25 U	--	--	--	--	6 U	6 U	6 U	0.6 U	--	160
Petroleum Hydrocarbons																					
Gasoline-Range	µg/L	250 U	250 U	250 U	250 U	250 U	50 U	100 U	100 U	100 U	100 U	--	--	--	--	250 U	250 U	250 U	250 U	250 U	800
Diesel-Range	µg/L	**2,800**	250 U	250 U	250 U	250 U	--	250 U	250 U	250 U	260 U	--	--	--	--	**640**	**750**	**640**	**680**	250 U	500
Heavy Oil-Range	µg/L	500 U	500 U	500 U	500 U	500 U	--	400 U	400 U	400 U	400 U	--	--	--	--	500 U	500 U	500 U	500 U	500 U	500
Petroleum Hydrocarbons with Silica-Gel Cleanup																					
Diesel-Range	µg/L	250 U	--	--	--	--	**180**	--	--	--	--	--	--	--	--	--	--	--	250 U	--	500
Heavy Oil-Range	µg/L	500 U	--	--	--	--	250 U	--	--	--	--	--	--	--	--	--	--	--	500 U	--	500
BETX Compounds																					
Benzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	1.6
Ethylbenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	31
Toluene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	130
Xylenes	µg/L	1 U	--	--	0.4 U	0.4 U	4 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	630
Volatile Organic Compounds (VOCs)																					
1,1,1,2-Tetrachloroethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	71
1,1,1-Trichloroethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	12,000
1,1,2,2-Tetrachloroethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	1.0
(CFC113)	µg/L	2 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	2 U	2 U	--	2 U	--	360
1,1,2-Trichloroethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	1.0
1,1-Dichloroethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	110
1,1-Dichloroethene	µg/L	1 U	--	--	0.2 U	0.2 U	1 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	280
1,1-Dichloropropene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
1,2,3-Trichlorobenzene	µg/L	5 U	--	--	0.5 U	0.5 U	2 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	NE
1,2,3-Trichloropropane	µg/L	3 U	--	--	0.5 U	0.5 U	2 U	--	--	--	--	--	--	--	--	3 U	3 U	--	3 U	--	45
1,2,4-Trichlorobenzene	µg/L	5 U	--	--	0.5 U	0.5 U	2 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	5.0
1,2,4-Trimethylbenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	520
1,2-Dibromo-3-chloropropane	µg/L	5 U	--	--	0.5 U	0.5 U	10 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	5.0
1,2-Dibromoethane (EDB)	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	3.0
1,2-Dichlorobenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	800
1,2-Dichloroethane (EDC)	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	42
1,2-Dichloropropane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	3.1
1,3,5-Trimethylbenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	370
1,3-Dichlorobenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	2.0

Sample Location[1]		MW-2 (Dup)	MW-2	MW-2 (Dup)	MW-2	MW-2 (Dup)	MW-2	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A[6]	MW-2B	MW-2B	MW-2B	MW-3	MW-3 (Dup)	MW-3	MW-3	MW-3	Proposed Groundwater Cleanup Level[2]
Sample Date		06/05/02	08/19/02	08/19/02	11/17/06	11/17/06	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	08/19/16	02/15/17	08/23/17	09/04/01	09/04/01	10/24/01	06/05/02	08/19/02	
Sample Study		2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/1017 RI	2016/1017 RI	2016/1017 RI	2016/1017 RI	2001 RI[2]	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	
Sampled By		Landau	Landau	Landau	Floyd|Snider	Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	Landau	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
1,3-Dichloropropane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
1,4-Dichlorobenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	22
2,2-Dichloropropane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
2-Butanone (MEK)	µg/L	5 U	--	--	1 U	1 U	10 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	3,700,000
2-Chloroethyl Vinyl Ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2-Chlorotoluene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
2-Hexanone	µg/L	5 U	--	--	3 U	3 U	10 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	16,000
4-Chlorotoluene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	5 U	--	--	1 U	1 U	10 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	1,000,000
Acetone	µg/L	5 U	--	--	**3.8**	3 U	25 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	32,000,000
Acrolein	µg/L	50 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	50 U	50 U	--	50 U	--	50
Acrylonitrile	µg/L	1 U	--	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	1.0
Bromobenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	1,400
Bromochloromethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
Bromoform	µg/L	2 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	2 U	2 U	--	2 U	--	12
Bromoethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
Bromomethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	28
Carbon Disulfide	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	870
Carbon Tetrachloride	µg/L	1 U	--	--	0.2 U	0.2 U	1.4 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	1.0
Chlorobenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	200
Chloroethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	32,000
Chloroform	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	12
Chloromethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	330
Cis-1,2-Dichloroethene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
Cis-1,3-Dichloropropene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
Dibromochloromethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	2.2
Dibromomethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	210
Dichlorobromomethane	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	2.8
Dichlorodifluoromethane (CFC 12)	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.2
Hexachlorobutadiene	µg/L	5 U	--	--	0.5 U	0.5 U	2 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	5.0
Isopropylbenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	2,000
Methyl Iodide	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
Methyl t-Butyl Ether (MTBE)	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	8,600
Methylene Chloride	µg/L	2 U	--	--	0.3 U	0.3 U	5 U	--	--	--	--	--	--	--	--	2 U	2 U	--	2 U	--	100
Naphthalene	µg/L	5 U	--	--	0.5 U	0.5 U	2 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	89
n-Butylbenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
n-Propylbenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	4,900
p-Isopropyltoluene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
sec-Butylbenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
Styrene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	18,000
tert-Butylbenzene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
Tetrachloroethene (PCE)	µg/L	1 U	--	--	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	2.9
Trans-1,2-Dichloroethene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	170
Trans-1,3-Dichloropropene	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	NE
Trans-1,4-Dichloro-2-butene	µg/L	5 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	NE
Trichloroethene (TCE)	µg/L	1 U	--	--	0.2 U	0.2 U	1 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	1.0
Trichlorofluoromethane (CFC 11)	µg/L	1 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	1 U	--	1 U	--	260
Vinyl Acetate	µg/L	5 U	--	--	0.2 U	0.2 U	2 U	--	--	--	--	--	--	--	--	5 U	5 U	--	5 U	--	17,000
Vinyl Chloride	µg/L	1 U	--	--	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	0.02 U	0.02 U	--	1 U	--	1.0
Semi-Volatile Organic Compounds (SVOCs)																					
1,2,4-Trichlorobenzene	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	1.0
1,2-Dichlorobenzene	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	800
1,3-Dichlorobenzene	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	2.0
1,4-Dichlorobenzene	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	22
2,2'-Oxybis[1-chloropropane]	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	37
2,4,5-Trichlorophenol	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	600
2,4,6-Trichlorophenol	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	5.0
2,4-Dichlorophenol	µg/L	3 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	3 U	--	10
2,4-Dimethylphenol	µg/L	3 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	3 U	--	97
2,4-Dinitrophenol	µg/L	25 U	--	--	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--	--	--	25 U	--	100
2,4-Dinitrotoluene	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	5.0
2,6-Dinitrotoluene	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	NE
2-Chloronaphthalene	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	100
2-Chlorophenol	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	17
2-Nitroaniline	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	NE
2-Nitrophenol	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	NE
3,3'-Dichlorobenzidine	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	5.0
3-Nitroaniline	µg/L	6 U	--	--	5 U	5 U	5 U	--	--	--	--	--	--	--	--	--	--	--	6 U	--	NE
4,6-Dinitro-2-methylphenol	µg/L	15 U	--	--	10 U	10 U	2 U	--	--	--	--	--	--	--	--	--	--	--	15 U	--	10

Sample Location[1]		MW-2 (Dup)	MW-2	MW-2 (Dup)	MW-2	MW-2 (Dup)	MW-2	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A[6]	MW-2B	MW-2B	MW-2B	MW-3	MW-3 (Dup)	MW-3	MW-3	MW-3	Proposed Groundwater Cleanup Level[2]
Sample Date		06/05/02	08/19/02	08/19/02	11/17/06	11/17/06	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	08/19/16	02/15/17	08/23/17	09/04/01	09/04/01	10/24/01	06/05/02	08/19/02	
Sample Study		2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/1017 RI	2016/1017 RI	2016/1017 RI	2016/1017 RI	2001 RI[2]	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	
Sampled By		Landau	Landau	Landau	Floyd|Snider	Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	Landau	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
4-Bromophenyl-phenylether	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	NE
4-Chloro-3-methylphenol	µg/L	2 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	--	36
4-Chloroaniline	µg/L	3 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	3 U	--	NE
4-Chlorophenyl-phenylether	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	NE
4-Nitroaniline	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	NE
4-Nitrophenol	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	NE
Benzoic acid	µg/L	50 U	--	--	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--	--	--	50 U	--	NE
Benzyl alcohol	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	NE
bis(2-Chloroethoxy)methane	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	NE
bis(2-chloroethyl)ether	µg/L	2 U	--	--	1 U	1 U	0.54 U	--	--	--	--	--	--	--	--	--	--	--	2 U	--	1.0
bis(2-Ethylhexyl)phthalate	µg/L	4 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	4 U	--	1.0
Butylbenzylphthalate	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	1.0
Carbazole	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	NE
Dibenzofuran	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	NE
Diethylphthalate	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	200
Dimethylphthalate	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	600
Di-n-butylphthalate	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	8.0
Di-n-octylphthalate	µg/L	2 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	--	NE
Hexachlorobenzene	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	1.0
Hexachlorobutadiene	µg/L	2 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	--	1.0
Hexachlorocyclopentadiene	µg/L	5 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	5.0
Hexachloroethane	µg/L	2 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	--	2.0
Isophorone	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	110
Nitrobenzene	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	100
n-Nitroso-di-n-propylamine	µg/L	2 U	--	--	5 U	5 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	--	5.0
n-Nitrosodiphenylamine	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	1.0
o-Cresol (2-Methylphenol)	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	NE
p-Cresol (4-Methylphenol)	µg/L	1 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	1 U	--	NE
Pentachlorophenol	µg/L	5 U	--	--	5 U	5 U	5 U	--	--	--	--	--	--	--	--	--	--	--	5 U	--	5.0
Phenol	µg/L	2 U	--	--	1 U	1 U	2 U	--	--	--	--	--	--	--	--	--	--	--	2 U	--	70,000
Non-Carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)																					
1-Methylnaphthalene	µg/L	--	--	--	--	--	0.02 U	0.094 U	0.095 U	0.093 U	0.094 U	--	--	--	--	--	--	--	--	--	NE
2-Methylnaphthalene	µg/L	2 U	0.1 U	0.1 U	**0.0062 J**	**0.0069 J**	0.02 U	0.094 U	0.095 U	0.093 U	0.094 U	--	--	--	--	--	--	--	2 U	0.1 U	14
Acenaphthene	µg/L	2 U	**0.08 J**	**0.1**	0.01 U	**0.0059 J**	**0.03**	0.0094 U	0.095 U	0.093 U	0.0094 U	--	--	--	--	--	--	--	2 U	**0.23**	5.3
Acenaphthylene	µg/L	2 U	0.1 U	0.1 U	**0.0052 J**	**0.0058 J**	0.02 U	0.0094 U	0.095 U	0.093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	NE
Anthracene	µg/L	2 U	0.1 U	0.1 U	**0.0051 J**	0.01 U	**0.05**	0.0094 U	0.095 U	0.093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	2.1
Benzo[g,h,i]perylene	µg/L	2 U	0.1 U	0.1 U	0.01 U	0.01 U	0.02 U	0.0094 U	0.0095 U	0.093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	NE
Fluoranthene	µg/L	2 U	0.1 U	0.1 U	**0.03**	**0.019**	0.02 U	0.0094 U	0.095 U	0.093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.17	2.2
Fluorene	µg/L	2 U	0.1 U	0.1 U	0.01 U	0.01 U	0.02 U	0.0094 U	0.095 U	0.093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1	3.7
Naphthalene	µg/L	2 U	0.1 U	0.1 U	0.021 U	0.027 U	**0.02**	0.094 U	0.095 U	0.093 U	0.094 U	--	--	--	--	--	--	--	2 U	0.1 U	89
Phenanthrene	µg/L	2 U	0.1 U	0.1 U	**0.0074 J**	**0.0054 J**	**0.03**	0.0094 U	0.095 U	0.093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	NE
Pyrene	µg/L	2 U	0.1 U	0.1 U	**0.028**	**0.015**	**0.03**	0.0094 U	0.095 U	0.093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.2	2.0
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)																					
Benzo[a]anthracene	µg/L	2 U	0.1 U	0.1 U	0.01 U	0.01 U	**0.03**	0.0094 U	0.0095 U	0.0093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	
Benzo[a]pyrene	µg/L	2 U	0.1 U	0.1 U	0.01 U	0.01 U	0.018 U	0.0094 U	0.0095 U	0.0093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	
Benzo[b]fluoranthene	µg/L	2 U	0.1 U	0.1 U	0.01 U	0.01 U	0.018 U	0.0094 U	0.0095 U	0.0093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	
Benzo[k]fluoranthene	µg/L	2 U	0.1 U	0.1 U	0.01 U	0.01 U	0.018 U	0.0094 U	0.0095 U	0.0093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	see cPAHTEQ
Chrysene	µg/L	2 U	0.1 U	0.1 U	**0.0069 J**	0.01 U	0.018 U	0.0094 U	0.0095 U	0.0093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	
Dibenz[a,h]anthracene	µg/L	2 U	0.1 U	0.1 U	0.01 U	0.01 U	0.018 U	0.0094 U	0.0095 U	0.0093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	
Indeno[1,2,3-c,d]pyrene	µg/L	2 U	0.1 U	0.1 U	0.01 U	0.01 U	0.018 U	0.0094 U	0.0095 U	0.0093 U	0.0094 U	--	--	--	--	--	--	--	2 U	0.1 U	
Total cPAH TEQ[4] (ND = 0.5RL)	µg/L	1.41 U	0.07 U	0.07 U	**0.007**	0.007 U	**0.015**	0.007 U	0.007 U	0.007 U	0.007 U	--	--	--	--	--	--	--	1.41 U	0.07 U	0.01
Pesticides																					
4,4'-DDD	µg/L	0.1 U	--	--	0.1 U	0.1 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	0.1
4,4'-DDE	µg/L	0.1 U	--	--	0.1 U	0.1 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	0.1
4,4'-DDT	µg/L	0.1 U	--	--	0.1 U	0.1 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	0.1
Aldrin	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	0.05
Alpha-BHC	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	0.05
Alpha-Chlordane (cis)	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.01 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	NE
Beta-BHC	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	0.05
Delta-BHC	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	NE
Dieldrin	µg/L	0.1 U	--	--	0.1 U	0.1 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	0.1
Endosulfan I	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	0.05
Endosulfan II	µg/L	0.1 U	--	--	0.1 U	0.1 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	NE
Endosulfan Sulfate	µg/L	0.1 U	--	--	0.1 U	0.1 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	10
Endrin	µg/L	0.1 U	--	--	0.1 U	0.1 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	0.1
Endrin Aldehyde	µg/L	0.1 U	--	--	0.1 U	0.1 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	0.1
Endrin Ketone	µg/L	0.1 U	--	--	0.1 U	0.1 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	NE
Gamma-Chlordane	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	NE
Heptachlor	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	0.05

Sample Location[1]		MW-2 (Dup)	MW-2	MW-2 (Dup)	MW-2	MW-2 (Dup)	MW-2	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A[6]	MW-2B	MW-2B	MW-2B	MW-3	MW-3 (Dup)	MW-3	MW-3	MW-3	
Sample Date		06/05/02	08/19/02	08/19/02	11/17/06	11/17/06	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	08/19/16	02/15/17	08/23/17	09/04/01	09/04/01	10/24/01	06/05/02	08/19/02	
Sample Study		2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/1017 RI	2016/1017 RI	2016/1017 RI	2016/1017 RI	2001 RI[2]	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	Proposed Groundwater Cleanup Level[2]
Sampled By		Landau	Landau	Landau	Floyd|Snider	Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	Landau	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
Heptachlor Epoxide	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	0.05
Lindane (Gamma-BHC)	µg/L	0.051 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--	0.05 U	--	0.1
Herbicides																					
2,4,5-T	µg/L	0.61 U	--	--	0.25 U	0.25 U	1 U	--	--	--	--	--	--	--	--	--	--	--	0.6 U	--	NE
2,4-D	µg/L	1.5 U	--	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	1.5 U	--	12,000
2,4-DB	µg/L	10 U	--	--	5 U	5 U	5 U	--	--	--	--	--	--	--	--	--	--	--	10 U	--	NE
Dalapon (DPA)	µg/L	2 U	--	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	2 U	--	NE
Dicamba	µg/L	0.71 U	--	--	0.5 U	0.5 U	1 U	--	--	--	--	--	--	--	--	--	--	--	0.7 U	--	NE
Dichlorprop	µg/L	3.2 U	--	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	3.1 U	--	NE
Dinoseb	µg/L	0.51 U	--	--	0.25 U	0.25 U	2 U	--	--	--	--	--	--	--	--	--	--	--	0.5 U	--	NE
MCPA	µg/L	260 U	--	--	250 U	250 U	250 U	--	--	--	--	--	--	--	--	--	--	--	250 U	--	NE
Mecoprop (MCPP)	µg/L	--	--	--	--	--	250 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Silvex (Fenoprop or 2,4,5-TP)	µg/L	0.29 U	--	--	0.25 U	0.25 U	1 U	--	--	--	--	--	--	--	--	--	--	--	0.28 U	--	400
Polychlorinated Biphenyls (PCBs)																					
Total PCBs (Sum of Aroclors or Congeners)	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01
Dioxins and Furans																					
2,3,7,8-TCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
OCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,7,8-TCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,7,8-PeCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,6,7,8-HxCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8,9-HpCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
OCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Total Dioxins/Furans - Human Health TEQ[5] (ND = 0.5RL)	pg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0

Notes:

[1] Groundwater sample locations are shown on Figure 13.

[2] Groundwater monitoring activities pre-date the 2002 independent cleanup actions completed at the Site; therefore do not represent current groundwater conditions and are not included as part of the RI data set.

[3] Proposed groundwater cleanup levels referenced from Table 3.

[4] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[5] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

[6] Monitoring well not accessible at the time of sampling.

MTCA = Model Toxics Control Act

N/A = Not available

°C = degrees Celsius

mg/L = milligrams per liter

m/V = millivolts

NTU = Nephelometric Turbidity Units

ppt = parts per thousand

mS/cm = milli-Semens centimeter

µg/L = Microgram per liter

pg/L = Picogram per liter

NE = Not established

TEQ = Toxic equivalent concentration

-- = not analyzed

ND = Not detected

RL = Reporting limit

NE = not established

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed groundwater cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table F-1

Chemical Analytical Groundwater Data

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]		MW-3	MW-3	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4 (Dup)	MW-4	Proposed Groundwater Cleanup Level[3]
Sample Date		11/17/06	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/11/16	08/19/16	02/16/17	08/24/17	09/04/01	10/24/01	06/05/02	08/19/02	11/17/06	06/17/08	08/16/12	08/16/12	11/13/12	
Sample Study		2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	
Sampled By		Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	Floyd|Snider	GEI	GEI	GEI	GEI	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Upland	Upland	Upland	Upland	Upland	Shoreline	Upland	Upland	Upland	
Field Measured Parameters																					
Depth to Water	ft	4.45	5.03	10.55	10.29	7.5	9.55	8.73	9.74	9.01	10.06	N/A	N/A	N/A	N/A	2.55	2.98	3.04	4.37	3.31	NE
Water Elevation	ft	10.38	9.8	4.28	4.54	7.33	5.28	6.1	5.09	5.82	4.77	N/A	N/A	N/A	N/A	11.03	10.6	10.54	9.21	10.27	NE
pH	n/a	7.09	6.0	7.4	7.3	7.6	7.3	7.4	7.4	7.6	7.3	N/A	N/A	N/A	N/A	6.06	5.7	6.3	6.4	6.3	NE
Conductivity (EC)	mS/cm	1.43	1.60	35.20	41.50	44.70	45.40	30.15	33.84	30.01	34.40	N/A	N/A	N/A	N/A	0.578	1.0	0.81	0.89	0.77	NE
Turbidity	NTU	21	11	3.1	20	4.58	6.7	8.1	1.15	2.55	4.07	N/A	N/A	N/A	N/A	127	14	5.8	0.0	5.0	NE
Dissolved Oxygen (DO)	mg/L	0.31	0.3	4.4	9.9	5.2	3.5	7.1	3.9	8.0	4.7	N/A	N/A	N/A	N/A	0.59	0.4	0.0	9.7	1.2	NE
Temperature	°C	13.51	12.8	10.4	13.9	10.3	8.0	8.3	14.4	7.4	14.1	N/A	N/A	N/A	N/A	13.48	11.8	11.2	14.9	13.3	NE
Total Dissolved Solids (TDS)	mg/L	N/A	1.0	21,000	26,000	27,300	28,000	8,745	27,551	29,400	28,177	N/A	N/A	N/A	N/A	N/A	0.6	520	570	490	NE
Oxidation Reduction Potential (ORP)	mV	N/A	4	194	147	57	72	132.4	99.4	-252.3	97.9	N/A	N/A	N/A	N/A	N/A	5	171	-94	-124	NE
Salinity	ppt	N/A	0	22	26	28	29	28	27	29	28	N/A	N/A	N/A	N/A	N/A	0	0	0	4	NE
Total Metals																					
Arsenic	µg/L	**0.9**	**0.8**	4 U	7.5 U	8 U	8 U	--	--	--	--	--	--	**8**	**12**	**11.6**	**8.1**	9 U	**11**	10 U	8.0
Cadmium	µg/L	2 U	0.2 U	4 U	4 U	8 U	8 U	--	--	--	--	--	--	2 U	2 U	0.2 U	0.2 U	--	--	--	7.9
Total Chromium	µg/L	**2**	**0.6**	10 U	10 U	20 U	10 U	--	--	--	--		--	5 U	5 U	**3**	**2.2**	--	--	--	50
Copper	µg/L	**1.3**	**1.8**	**12**	**14**	20 U	15 U	--	--	--	--	--	--	**3**	2 U	**1.1**	**1.8**	10 U	10 U	20 U	20
Lead	µg/L	**3**	1 U	1 U	1 U	2 U	5 U	--	--	--	--	--	--	**5**	1 U	**1**	**2**	--	--	--	10
Mercury	µg/L	0.1 U	0.2 U	0.13 U	0.025 U	0.038 U	0.025 U	--	--	--	--	--	--	0.1 U	0.1 U	0.1 U	0.2 U	0.13 U	0.025 U	0.038 U	0.025
Nickel	µg/L	**1.5**	**2.2**	8 U	**19**	**18**	**16**	**0.5 J**	7.8 U	5.6 U	5.6 U	--	--	**3.4**	**3.3**	**2**	**1.1**	20 U	8 U	5 U	8.2
Silver	µg/L	--	--	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--	--	10 U	10 U	10 U	10
Zinc	µg/L	4 U	**5**	25 U	**30**	50 U	25 U	--	--	--	--	--	--	**11**	6 U	4 U	**5**	25 U	25 U	50 U	160
Dissolved Metals																					
Arsenic	µg/L	--	--	4.5 U	7.5 U	8 U	8 U	--	--	--	--	**17**	**15**	**9**	--	--	--	9.5 U	**10**	10 U	8.0
Cadmium	µg/L	--	--	4 U	4 U	8 U	4 U	--	--	--	--	2 U	2 U	2 U	--	--	--	--	--	--	7.9
Total Chromium	µg/L	--	--	10 U	10 U	20 U	10 U	--	--	--	--	5 U	5 U	5 U	--	--	--	--	--	--	50
Copper	µg/L	--	--	**14**	**14**	20 U	15 U	--	--	--	--	2 U	**2**	2 U	--	--	--	10 U	10 U	20 U	20
Lead	µg/L	--	--	1 U	1 U	2 U	5 U	--	--	--	--	20 U	20 U	1 U	--	--	--	--	--	--	10
Mercury	µg/L	--	--	0.13 U	0.025 U	0.038 U	0.025 U	--	--	--	--	0.1 U	0.1 U	0.1 U	--	--	--	0.13 U	0.025 U	0.038 U	0.025
Nickel	µg/L	--	--	8 U	**18**	**17**	**18**	0.5 U	7 U	5 U	5 U	10 U	**2.7**	**1.1**	--	--	--	20 U	8 U	5 U	8.2
Silver	µg/L	--	--	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--	--	10 U	10 U	10 U	10
Zinc	µg/L	--	--	25 U	**28**	50 U	25 U	--	--	--	--	**10**	6 U	6 U	--	--	--	25 U	25 U	50 U	160
Petroleum Hydrocarbons																					
Gasoline-Range	µg/L	250 U	50 U	100 U	100 U	100 U	100 U	--	--	--	--	250 U	250 U	250 U	250 U	250 U	50 U	100 U	100 U	100 U	800
Diesel-Range	µg/L	250 U	--	250 U	250 U	250 U	250 U	--	--	--	--	**1,300**	**1,100**	**6,300**	250 U	250 U	--	260 U	260 U	260 U	500
Heavy Oil-Range	µg/L	500 U	--	400 U	400 U	400 U	400 U	--	--	--	--	500 U	500 U	500 U	500 U	500 U	--	420 U	420 U	410 U	500
Petroleum Hydrocarbons with Silica-Gel Cleanup																					
Diesel-Range	µg/L	--	130 U	--	--	--	--	--	--	--	--	--	--	250 U	--	--	130 U	--	--	--	500
Heavy Oil-Range	µg/L	--	250 U	--	--	--	--	--	--	--	--	--	--	500 U	--	--	250 U	--	--	--	500
BETX Compounds																					
Benzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	1.6
Ethylbenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	31
Toluene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	130
Xylenes	µg/L	0.4 U	4 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.4 U	4 U	--	--	--	630
Volatile Organic Compounds (VOCs)																					
1,1,1,2-Tetrachloroethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	71
1,1,1-Trichloroethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	12,000
1,1,2,2-Tetrachloroethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	1.0
(CFC113)	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	2 U	--	2 U	--	0.2 U	2 U	--	--	--	360
1,1,2-Trichloroethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	1.0
1,1-Dichloroethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	110
1,1-Dichloroethene	µg/L	0.2 U	1 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	1 U	--	--	--	280
1,1-Dichloropropene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
1,2,3-Trichlorobenzene	µg/L	0.5 U	2 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	0.5 U	2 U	--	--	--	NE
1,2,3-Trichloropropane	µg/L	0.5 U	2 U	--	--	--	--	--	--	--	--	3 U	--	3 U	--	0.5 U	2 U	--	--	--	45
1,2,4-Trichlorobenzene	µg/L	0.5 U	2 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	0.5 U	2 U	--	--	--	5.0
1,2,4-Trimethylbenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	520
1,2-Dibromo-3-chloropropane	µg/L	0.5 U	10 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	0.5 U	10 U	--	--	--	5.0
1,2-Dibromoethane (EDB)	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	3.0
1,2-Dichlorobenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	800
1,2-Dichloroethane (EDC)	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	42
1,2-Dichloropropane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	3.1
1,3,5-Trimethylbenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	370
1,3-Dichlorobenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	2.0

Sample Location[1]		MW-3	MW-3	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4 (Dup)	MW-4	Proposed Groundwater Cleanup Level[2]
Sample Date		11/17/06	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/11/16	08/19/16	02/16/17	08/24/17	09/04/01	10/24/01	06/05/02	08/19/02	11/17/06	06/17/08	08/16/12	08/16/12	11/13/12	
Sample Study		2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	
Sampled By		Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	Floyd|Snider	GEI	GEI	GEI	GEI	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Upland	Upland	Upland	Upland	Upland	Shoreline	Upland	Upland	Upland	
1,3-Dichloropropane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
1,4-Dichlorobenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	22
2,2-Dichloropropane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
2-Butanone (MEK)	µg/L	**4**	10 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	1 U	10 U	--	--	--	3,700,000
2-Chloroethyl Vinyl Ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2-Chlorotoluene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
2-Hexanone	µg/L	3 U	10 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	3 U	10 U	--	--	--	16,000
4-Chlorotoluene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	1 U	10 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	1 U	10 U	--	--	--	1,000,000
Acetone	µg/L	3 U	25 U	--	--	--	--	--	--	--	--	5 U	--	**9.3**	--	3 U	25 U	--	--	--	32,000,000
Acrolein	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	50 U	--	50 U	--	5 U	2 U	--	--	--	50
Acrylonitrile	µg/L	1 U	1 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	1 U	1 U	--	--	--	1.0
Bromobenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	1,400
Bromochloromethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
Bromoform	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	2 U	--	2 U	--	0.2 U	2 U	--	--	--	12
Bromoethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
Bromomethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	28
Carbon Disulfide	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	870
Carbon Tetrachloride	µg/L	0.2 U	1.4 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	1.4 U	--	--	--	1.0
Chlorobenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	200
Chloroethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	32,000
Chloroform	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	12
Chloromethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	330
Cis-1,2-Dichloroethene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
Cis-1,3-Dichloropropene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
Dibromochloromethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	2.2
Dibromomethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	210
Dichlorobromomethane	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	2.8
Dichlorodifluoromethane (CFC 12)	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.2
Hexachlorobutadiene	µg/L	0.5 U	2 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	0.5 U	2 U	--	--	--	5.0
Isopropylbenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	2,000
Methyl Iodide	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
Methyl t-Butyl Ether (MTBE)	µg/L	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	8,600
Methylene Chloride	µg/L	0.3 U	5 U	--	--	--	--	--	--	--	--	2 U	--	2 U	--	0.3 U	5 U	--	--	--	100
Naphthalene	µg/L	0.5 U	2 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	0.5 U	2 U	--	--	--	89
n-Butylbenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
n-Propylbenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	4,900
p-Isopropyltoluene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
sec-Butylbenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
Styrene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	18,000
tert-Butylbenzene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
Tetrachloroethene (PCE)	µg/L	0.2 U	0.2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	0.2 U	--	--	--	2.9
Trans-1,2-Dichloroethene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	170
Trans-1,3-Dichloropropene	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	NE
Trans-1,4-Dichloro-2-butene	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	1 U	2 U	--	--	--	NE
Trichloroethene (TCE)	µg/L	0.2 U	1 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	1 U	--	--	--	1.0
Trichlorofluoromethane (CFC 11)	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	1 U	--	1 U	--	0.2 U	2 U	--	--	--	260
Vinyl Acetate	µg/L	0.2 U	2 U	--	--	--	--	--	--	--	--	5 U	--	5 U	--	0.2 U	2 U	--	--	--	17,000
Vinyl Chloride	µg/L	0.2 U	0.2 U	--	--	--	--	--	--	--	--	1 U	--	0.02 U	--	0.2 U	0.2 U	--	--	--	1.0
Semi-Volatile Organic Compounds (SVOCs)																					
1,2,4-Trichlorobenzene	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	1.0
1,2-Dichlorobenzene	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	800
1,3-Dichlorobenzene	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	2.0
1,4-Dichlorobenzene	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	22
2,2'-Oxybis[1-chloropropane]	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	37
2,4,5-Trichlorophenol	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	600
2,4,6-Trichlorophenol	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	5.0
2,4-Dichlorophenol	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	3 U	--	5 U	2 U	--	--	--	10
2,4-Dimethylphenol	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	3 U	--	1 U	2 U	--	--	--	97
2,4-Dinitrophenol	µg/L	10 U	10 U	--	--	--	--	--	--	--	--	--	--	25 U	--	10 U	10 U	--	--	--	100
2,4-Dinitrotoluene	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	5.0
2,6-Dinitrotoluene	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	NE
2-Chloronaphthalene	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	100
2-Chlorophenol	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	17
2-Nitroaniline	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	NE
2-Nitrophenol	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	NE
3,3'-Dichlorobenzidine	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	5.0
3-Nitroaniline	µg/L	5 U	5 U	--	--	--	--	--	--	--	--	--	--	6 U	--	5 U	5 U	--	--	--	NE
4,6-Dinitro-2-methylphenol	µg/L	10 U	2 U	--	--	--	--	--	--	--	--	--	--	15 U	--	10 U	2 U	--	--	--	10

Sample Location[1]		MW-3	MW-3	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4 (Dup)	MW-4	Proposed Groundwater Cleanup Level[2]
Sample Date		11/17/06	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/11/16	08/19/16	02/16/17	08/24/17	09/04/01	10/24/01	06/05/02	08/19/02	11/17/06	06/17/08	08/16/12	08/16/12	11/13/12	
Sample Study		2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	
Sampled By		Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	Floyd|Snider	GEI	GEI	GEI	GEI	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Upland	Upland	Upland	Upland	Upland	Shoreline	Upland	Upland	Upland	
4-Bromophenyl-phenylether	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	NE
4-Chloro-3-methylphenol	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	2 U	--	5 U	2 U	--	--	--	36
4-Chloroaniline	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	3 U	--	5 U	2 U	--	--	--	NE
4-Chlorophenyl-phenylether	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	NE
4-Nitroaniline	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	NE
4-Nitrophenol	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	NE
Benzoic acid	µg/L	10 U	10 U	--	--	--	--	--	--	--	--	--	--	50 U	--	10 U	10 U	--	--	--	NE
Benzyl alcohol	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	NE
bis(2-Chloroethoxy)methane	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	NE
bis(2-chloroethyl)ether	µg/L	1 U	0.54 U	--	--	--	--	--	--	--	--	--	--	2 U	--	1 U	0.54 U	--	--	--	1.0
bis(2-Ethylhexyl)phthalate	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	4 U	--	1 U	2 U	--	--	--	1.0
Butylbenzylphthalate	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	1.0
Carbazole	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	NE
Dibenzofuran	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	NE
Diethylphthalate	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	200
Dimethylphthalate	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	600
Di-n-butylphthalate	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	8.0
Di-n-octylphthalate	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	2 U	--	1 U	2 U	--	--	--	NE
Hexachlorobenzene	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	1.0
Hexachlorobutadiene	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	2 U	--	1 U	2 U	--	--	--	1.0
Hexachlorocyclopentadiene	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	2 U	--	--	--	5.0
Hexachloroethane	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	2 U	--	1 U	2 U	--	--	--	2.0
Isophorone	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	110
Nitrobenzene	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	100
n-Nitroso-di-n-propylamine	µg/L	5 U	2 U	--	--	--	--	--	--	--	--	--	--	2 U	--	5 U	2 U	--	--	--	5.0
n-Nitrosodiphenylamine	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	1.0
o-Cresol (2-Methylphenol)	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	NE
p-Cresol (4-Methylphenol)	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	1 U	--	1 U	2 U	--	--	--	NE
Pentachlorophenol	µg/L	5 U	5 U	--	--	--	--	--	--	--	--	--	--	5 U	--	5 U	5 U	--	--	--	5.0
Phenol	µg/L	1 U	2 U	--	--	--	--	--	--	--	--	--	--	2 U	--	1 U	2 U	--	--	--	70,000
Non-Carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)																					
1-Methylnaphthalene	µg/L	--	0.02 U	0.094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	--	--	0.02 U	0.095 U	0.095 U	0.095 U	NE
2-Methylnaphthalene	µg/L	0.01 U	0.02 U	0.094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	0.01 U	0.02 U	0.095 U	0.095 U	0.095 U	14
Acenaphthene	µg/L	**0.22**	0.02 U	0.0094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	**0.039**	**0.03**	0.095 U	0.095 U	0.095 U	5.3
Acenaphthylene	µg/L	0.01 U	**0.3**	0.0094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	**0.012**	**0.08**	0.095 U	0.095 U	0.095 U	NE
Anthracene	µg/L	0.0056 J	**0.05**	0.0094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	**0.0088 J**	**0.04**	0.095 U	0.095 U	0.095 U	2.1
Benzo[g,h,i]perylene	µg/L	0.01 U	0.02 U	0.0094 U	0.0094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	0.01 U	0.02 U	0.0095 U	0.0095 U	**0.02**	NE
Fluoranthene	µg/L	0.13	**0.07**	0.0094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	**0.012**	**0.03**	0.095 U	0.095 U	0.095 U	2.2
Fluorene	µg/L	0.054	**0.07**	0.0094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	**0.043**	**0.09**	0.095 U	0.095 U	0.095 U	3.7
Naphthalene	µg/L	0.01 U	**0.03**	0.094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	0.011 U	0.02 U	0.095 U	0.095 U	0.095 U	89
Phenanthrene	µg/L	0.01 U	0.02 U	0.0094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	**0.024**	**0.14**	0.095 U	0.095 U	0.095 U	NE
Pyrene	µg/L	0.13	**0.07**	0.0094 U	0.094 U	0.093 U	0.093 U	--	--	--	--	--	--	--	0.1 U	**0.0092 J**	**0.03**	0.095 U	0.095 U	0.095 U	2.0
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)																					
Benzo[a]anthracene	µg/L	**0.0052 J**	0.018 U	0.0094 U	0.0094 U	0.0093 U	0.0093 U	--	--	--	--	--	--	--	0.1 U	0.01 U	0.018 U	0.0095 U	0.0095 U	**0.033**	
Benzo[a]pyrene	µg/L	0.01 U	0.018 U	0.0094 U	0.0094 U	0.0093 U	0.0093 U	--	--	--	--	--	--	--	0.1 U	0.01 U	0.018 U	0.0095 U	0.0095 U	**0.02**	
Benzo[b]fluoranthene	µg/L	0.01 U	0.018 U	0.0094 U	0.0094 U	0.0093 U	0.0093 U	--	--	--	--	--	--	--	0.1 U	0.01 U	0.018 U	0.0095 U	0.0095 U	**0.021**	
Benzo[k]fluoranthene	µg/L	0.01 U	0.018 U	0.0094 U	0.0094 U	0.0093 U	0.0093 U	--	--	--	--	--	--	--	0.1 U	0.01 U	0.018 U	0.0095 U	0.0095 U	**0.018**	see cPAHTEQ
Chrysene	µg/L	**0.0065 J**	0.018 U	0.0094 U	0.0094 U	0.0093 U	0.0093 U	--	--	--	--	--	--	--	0.1 U	0.01 U	0.018 U	0.0095 U	0.0095 U	**0.021**	
Dibenz[a,h]anthracene	µg/L	0.01 U	0.018 U	0.0094 U	0.0094 U	0.0093 U	0.0093 U	--	--	--	--	--	--	--	0.1 U	0.01 U	0.018 U	0.0095 U	0.0095 U	**0.018**	
Indeno[1,2,3-c,d]pyrene	µg/L	0.01 U	0.018 U	0.0094 U	0.0094 U	0.0093 U	0.0093 U	--	--	--	--	--	--	--	0.1 U	0.01 U	0.018 U	0.0095 U	0.0095 U	**0.021**	
Total cPAH TEQ[4] (ND = 0.5RL)	µg/L	**0.007 J**	0.013 U	0.007 U	0.007 U	0.007 U	0.007 U	--	--	--	--	--	--	--	0.07 U	0.007 U	0.013 U	0.007 U	0.007 U	**0.031**	0.01
Pesticides																					
4,4'-DDD	µg/L	0.1 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.1 U	--	0.1 U	0.05 U	--	--	--	0.1
4,4'-DDE	µg/L	0.1 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.1 U	--	0.1 U	0.05 U	--	--	--	0.1
4,4'-DDT	µg/L	0.1 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.1 U	--	0.1 U	0.05 U	--	--	--	0.1
Aldrin	µg/L	0.05 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.05 U	--	--	--	0.05
Alpha-BHC	µg/L	0.05 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.05 U	--	--	--	0.05
Alpha-Chlordane (cis)	µg/L	0.05 U	0.01 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.01 U	--	--	--	NE
Beta-BHC	µg/L	0.05 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.05 U	--	--	--	0.05
Delta-BHC	µg/L	0.05 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.05 U	--	--	--	NE
Dieldrin	µg/L	0.1 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.1 U	--	0.1 U	0.05 U	--	--	--	0.1
Endosulfan I	µg/L	0.05 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.05 U	--	--	--	0.05
Endosulfan II	µg/L	0.1 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.1 U	--	0.1 U	0.05 U	--	--	--	NE
Endosulfan Sulfate	µg/L	0.1 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.1 U	--	0.1 U	0.05 U	--	--	--	10
Endrin	µg/L	0.1 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.1 U	--	0.1 U	0.05 U	--	--	--	0.1
Endrin Aldehyde	µg/L	0.1 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.1 U	--	0.1 U	0.05 U	--	--	--	0.1
Endrin Ketone	µg/L	0.1 U	0.05 U	0.019 U	0.019 U	0.019 U	0.019 U	--	--	--	--	--	--	0.1 U	--	0.1 U	0.05 U	--	--	--	NE
Gamma-Chlordane	µg/L	0.05 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.05 U	--	--	--	NE
Heptachlor	µg/L	0.05 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.05 U	--	--	--	0.05

Sample Location[1]		MW-3	MW-3	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4 (Dup)	MW-4	Proposed Groundwater Cleanup Level[2]
Sample Date		11/17/06	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/11/16	08/19/16	02/16/17	08/24/17	09/04/01	10/24/01	06/05/02	08/19/02	11/17/06	06/17/08	08/16/12	08/16/12	11/13/12	
Sample Study		2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2001 RI[2]	2001 RI[2]	2002 Cleanup Action	2002 Cleanup Action	2006 GW Study	2008 RI	2012/2013 RI	2012/2013 RI	2012/2013 RI	
Sampled By		Floyd|Snider	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Landau	Landau	Landau	Landau	Floyd|Snider	GEI	GEI	GEI	GEI	
Well Location		Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Upland	Upland	Upland	Upland	Upland	Shoreline	Upland	Upland	Upland	
Heptachlor Epoxide	µg/L	0.05 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.05 U	--	--	--	0.05
Lindane (Gamma-BHC)	µg/L	0.05 U	0.05 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.052 U	--	0.05 U	0.05 U	--	--	--	0.1
Herbicides																					
2,4,5-T	µg/L	0.25 U	1 U	0.0094 U	0.0093 U	0.0093 U	0.0093 U	--	--	--	--	--	--	0.61 U	--	0.25 U	1 U	--	--	--	NE
2,4-D	µg/L	1 U	1 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	1.5 U	--	1 U	1 U	--	--	--	12,000
2,4-DB	µg/L	5 U	5 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	10 U	--	5 U	5 U	--	--	--	NE
Dalapon (DPA)	µg/L	1 U	1 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	2 U	--	1 U	1 U	--	--	--	NE
Dicamba	µg/L	0.5 U	1 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.71 U	--	0.5 U	1 U	--	--	--	NE
Dichlorprop	µg/L	1 U	1 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	3.2 U	--	1 U	1 U	--	--	--	NE
Dinoseb	µg/L	0.25 U	2 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.51 U	--	0.25 U	2 U	--	--	--	NE
MCPA	µg/L	250 U	250 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	260 U	--	250 U	250 U	--	--	--	NE
Mecoprop (MCPP)	µg/L	--	250 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	--	--	--	250 U	--	--	--	NE
Silvex (Fenoprop or 2,4,5-TP)	µg/L	0.25 U	1 U	0.0047 U	0.0047 U	0.0046 U	0.0047 U	--	--	--	--	--	--	0.29 U	--	0.25 U	1 U	--	--	--	400
Polychlorinated Biphenyls (PCBs)																					
Total PCBs (Sum of Aroclors or Congeners)	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01
Dioxins and Furans																					
2,3,7,8-TCDD	pg/L	--	--	1.1 U	1.6 U	0.87 U	0.88 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDD	pg/L	--	--	0.77 U	1.2 U	0.62 U	0.87 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDD	pg/L	--	--	0.78 U	1.5 U	0.6 U	0.8 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDD	pg/L	--	--	0.93 U	1.6 U	0.77 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDD	pg/L	--	--	0.91 U	1.3 U	0.63 U	0.76 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDD	pg/L	--	--	1.5 J	1.6 U	0.79 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
OCDD	pg/L	--	--	**7.9 J**	**3 J**	**7.2 J**	**5.5 J**	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,7,8-TCDF	pg/L	--	--	0.75 U	2 U	0.91 U	0.83 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDF	pg/L	--	--	0.69 U	1 U	0.66 U	0.72 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,7,8-PeCDF	pg/L	--	--	0.59 U	1.2 U	0.59 U	0.51 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDF	pg/L	--	--	0.77 U	1.2 U	0.63 U	0.74 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDF	pg/L	--	--	0.8 U	1.6 U	0.56 U	0.72 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,6,7,8-HxCDF	pg/L	--	--	0.6 U	1.3 U	0.54 U	0.55 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDF	pg/L	--	--	0.67 U	1.3 U	0.58 U	0.62 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDF	pg/L	--	--	1.9 U	1.3 U	0.81 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8,9-HpCDF	pg/L	--	--	1.3 U	1.3 U	0.71 U	0.84 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
OCDF	pg/L	--	--	1.8 U	2.1 U	1.8 U	1.3 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Total Dioxins/Furans - Human Health TEQ[5] (ND = 0.5RL)	pg/L	--	--	**1.39 J**	**2.18 J**	**1.13 J**	**1.30 J**	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0

Notes:

[1] Groundwater sample locations are shown on Figure 13.

[2] Groundwater monitoring activities pre-date the 2002 independent cleanup actions completed at the Site; therefore do not represent current groundwater conditions and are not included as part of the RI data set.

[3] Proposed groundwater cleanup levels referenced from Table 3.

[4] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[5] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

[6] Monitoring well not accessible at the time of sampling.

MTCA = Model Toxics Control Act

N/A = Not available

°C = degrees Celsius

mg/L = milligrams per liter

m/V = millivolts

NTU = Nephelometric Turbidity Units

ppt = parts per thousand

mS/cm = milli-Semens centimeter

µg/L = Microgram per liter

pg/L = Picogram per liter

NE = Not established

TEQ = Toxic equivalent concentration

-- = not analyzed

ND = Not detected

RL = Reporting limit

NE = not established

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed groundwater cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table F-1

Chemical Analytical Groundwater Data

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]		MW-4	MW-4	MW-4	MW-4	MW-4	MW-5	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	Proposed Groundwater Cleanup Level[3]
Sample Date		02/13/13	02/11/16	08/18/16	02/15/17	08/24/17	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/11/16	08/19/16	02/16/17	08/24/17	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	
Sample Study		2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2008 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	
Sampled By		GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Well Location		Upland	Upland	Upland	Upland	Upland	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Upland	Upland	Upland	Upland	Upland	
Field Measured Parameters																					
Depth to Water	ft	3.45	3.61	5.43	3.97	5.48	4.5	7.52	7.52	8.81	6.6	5.48	7.82	6.23	7.34	6.48	6.68	6.04	6.47	6.46	NE
Water Elevation	ft	10.13	9.97	8.15	9.61	8.1	8.24	4.94	4.94	3.65	5.86	6.98	4.64	6.23	5.12	6.88	6.68	7.32	6.89	6.9	NE
pH	n/a	6.2	5.9	6.6	6.4	6.4	6.4	7.4	7.2	7.2	7.0	7.3	7.4	7.5	7.3	6.6	6.7	6.8	6.6	6.9	NE
Conductivity (EC)	mS/cm	0.59	0.31	0.51	0.30	0.45	9.8	40.5	43	46.3	49.2	30.7	34.6	30.3	34.3	11.0	11.3	7.2	5.3	1.9	NE
Turbidity	NTU	26.2	5.2	2.9	2.0	5.5	22	2.5	20.1	27.1	15.6	5.8	1.89	3.74	0.98	7.8	10	1.39	1.4	10.9	NE
Dissolved Oxygen (DO)	mg/L	0.0	0.5	0.2	0.1	0.1	0.3	2.8	10.6	8.6	5.6	8.8	6.3	8.9	5.2	0.0	9.2	7.4	0.0	0.4	NE
Temperature	°C	9.5	10.5	17.3	10.4	16.2	12.7	11.5	15.01	9.4	7.8	8.2	14.7	7.3	13.2	11.7	15.7	14.4	10.91	11.3	NE
Total Dissolved Solids (TDS)	mg/L	380	272	390	272	356	6.2	25,000	26,000	28,200	30,000	9,394	28,000	29,985	28,781	7,000	7,000	4,560	3,400	2,342	NE
Oxidation Reduction Potential (ORP)	mV	-129	-60.2	73.5	-33.9	-14.7	5	210	117	150	53	91.8	121.9	-224.8	92.4	345	-74	-120	-132	-115.9	NE
Salinity	ppt	0	0.2	0.3	0.2	0.3	5	26	28	29	31	29	28	30	29	6	6	4	3	2.1	NE
Total Metals																					
Arsenic	µg/L	8 U	**3.5**	7.8 U	5.6 U	5.6 U	**10**	3.5 U	7.5 U	8 U	8 U	--	--	--	--	11 U	**10**	8 U	**9**	**12.9**	8.0
Cadmium	µg/L	--	--	--	--	--	0.2 U	4 U	4 U	8 U	8 U	--	--	--	--	4 U	4 U	8 U	4 U	--	7.9
Total Chromium	µg/L	--	--	--	--	--	**16**	10 U	10 U	20 U	10 U	--	--	--	--	10 U	10 U	20 U	15 U	--	50
Copper	µg/L	15 U	--	--	--	--	**3.6**	**20**	**19**	20 U	15 U	--	--	--	--	10 U	10 U	20 U	15 U	--	20
Lead	µg/L	--	--	--	--	--	1 U	1 U	1 U	2 U	5 U	--	--	--	--	1 U	1 U	2 U	5 U	--	10
Mercury	µg/L	0.025 U	--	--	--	--	0.2 U	0.13 U	0.025 U	0.038 U	0.025 U	--	--	--	--	0.13 U	0.025 U	0.038 U	0.025 U	--	0.025
Nickel	µg/L	8 U	--	--	--	--	**5.2**	20 U	**18**	**18**	8 U	0.4 U	7.8 U	5.6 U	5.6 U	20 U	**27**	**18**	**18**	**9.9**	8.2
Silver	µg/L	10 U	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--	--	10 U	10 U	10 U	10 U	--	10
Zinc	µg/L	25 U	--	--	--	--	**7**	25 U	25 U	50 U	25 U	--	--	--	--	25 U	25 U	50 U	25 U	--	160
Dissolved Metals																					
Arsenic	µg/L	8 U	**3.5**	7.8 U	5 U	5 U	--	3 U	7.5 U	8 U	8 U	--	--	--	--	9.8 U	7.5 U	8 U	**8**	**13**	8.0
Cadmium	µg/L	--	--	--	--	--	--	4 U	4 U	8 U	4 U	--	--	--	--	4 U	4 U	8 U	4 U	--	7.9
Total Chromium	µg/L	--	--	--	--	--	--	10 U	10 U	20 U	10 U	--	--	--	--	10 U	10 U	20 U	10 U	--	50
Copper	µg/L	15 U	--	--	--	--	--	**15**	**17**	20 U	15 U	--	--	--	--	10 U	10 U	20 U	15 U	--	20
Lead	µg/L	--	--	--	--	--	--	1 U	1 U	2 U	5 U	--	--	--	--	1 U	1 U	2 U	5 U	--	10
Mercury	µg/L	0.025 U	--	--	--	--	--	0.13 U	0.025 U	0.038 U	0.025 U	--	--	--	--	0.13 U	0.025 U	0.038 U	0.025 U	--	0.025
Nickel	µg/L	8 U	--	--	--	--	--	20 U	**19**	**18**	8 U	0.4 U	7 U	5 U	5 U	20 U	**27**	**19**	**18**	**5.2 J**	8.2
Silver	µg/L	10 U	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--	--	10 U	10 U	10 U	10 U	--	10
Zinc	µg/L	25 U	--	--	--	--	--	25 U	25 U	50 U	25 U	--	--	--	--	25 U	25 U	50 U	25 U	--	160
Petroleum Hydrocarbons																					
Gasoline-Range	µg/L	100 U	--	--	--	--	50 U	100 U	100 U	100 U	100 U	--	--	--	--	100 U	100 U	100 U	100 U	--	800
Diesel-Range	µg/L	260 U	--	--	--	--	--	250 U	250 U	250 U	250 U	--	--	--	--	250 U	250 U	250 U	250 U	--	500
Heavy Oil-Range	µg/L	410 U	--	--	--	--	--	400 U	400 U	400 U	400 U	--	--	--	--	410 U	410 U	410 U	410 U	--	500
Petroleum Hydrocarbons with Silica-Gel Cleanup																					
Diesel-Range	µg/L	--	--	--	--	--	130 U	250 U	250 U	250 U	250 U	--	--	--	--	250 U	250 U	250 U	250 U	--	500
Heavy Oil-Range	µg/L	--	--	--	--	--	250 U	400 U	400 U	400 U	400 U	--	--	--	--	410 U	410 U	410 U	410 U	--	500
BETX Compounds																					
Benzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6
Ethylbenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	31
Toluene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	130
Xylenes	µg/L	--	--	--	--	--	4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	630
Volatile Organic Compounds (VOCs)																					
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	71
1,1,1-Trichloroethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	12,000
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
(CFC113)	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	360
1,1,2-Trichloroethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
1,1-Dichloroethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	110
1,1-Dichloroethene	µg/L	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	280
1,1-Dichloropropene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3-Trichlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3-Trichloropropane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	45
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0
1,2,4-Trimethylbenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	520
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	--	--	10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0
1,2-Dibromoethane (EDB)	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	3.0
1,2-Dichlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	800
1,2-Dichloroethane (EDC)	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	42
1,2-Dichloropropane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	3.1
1,3,5-Trimethylbenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	370
1,3-Dichlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0

Sample Location[1]		MW-4	MW-4	MW-4	MW-4	MW-4	MW-5	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	Proposed Groundwater Cleanup Level[2]
Sample Date		02/13/13	02/11/16	08/18/16	02/15/17	08/24/17	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/11/16	08/19/16	02/16/17	08/24/17	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	
Sample Study		2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2008 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	
Sampled By		GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Well Location		Upland	Upland	Upland	Upland	Upland	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Upland	Upland	Upland	Upland	Upland	
1,3-Dichloropropane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
1,4-Dichlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	22
2,2-Dichloropropane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2-Butanone (MEK)	µg/L	--	--	--	--	--	10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	3,700,000
2-Chloroethyl Vinyl Ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2-Chlorotoluene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2-Hexanone	µg/L	--	--	--	--	--	10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	16,000
4-Chlorotoluene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	--	--	--	--	--	10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000,000
Acetone	µg/L	--	--	--	--	--	25 U	--	--	--	--	--	--	--	--	--	--	--	--	--	32,000,000
Acrolein	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	50
Acrylonitrile	µg/L	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
Bromobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1,400
Bromochloromethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Bromoform	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	12
Bromoethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Bromomethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	28
Carbon Disulfide	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	870
Carbon Tetrachloride	µg/L	--	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
Chlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	200
Chloroethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	32,000
Chloroform	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	12
Chloromethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	330
Cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Cis-1,3-Dichloropropene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Dibromochloromethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2
Dibromomethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	210
Dichlorobromomethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8
Dichlorodifluoromethane (CFC 12)	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.2
Hexachlorobutadiene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0
Isopropylbenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000
Methyl Iodide	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Methyl t-Butyl Ether (MTBE)	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	8,600
Methylene Chloride	µg/L	--	--	--	--	--	5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Naphthalene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	89
n-Butylbenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
n-Propylbenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	4,900
p-Isopropyltoluene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
sec-Butylbenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Styrene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000
tert-Butylbenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Tetrachloroethene (PCE)	µg/L	--	--	--	--	--	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	2.9
Trans-1,2-Dichloroethene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	170
Trans-1,3-Dichloropropene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Trans-1,4-Dichloro-2-butene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Trichloroethene (TCE)	µg/L	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
Trichlorofluoromethane (CFC 11)	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	260
Vinyl Acetate	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	17,000
Vinyl Chloride	µg/L	--	--	--	--	--	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
Semi-Volatile Organic Compounds (SVOCs)																					
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
1,2-Dichlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	800
1,3-Dichlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0
1,4-Dichlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	22
2,2'-Oxybis[1-chloropropane]	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	37
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	600
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0
2,4-Dichlorophenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	10
2,4-Dimethylphenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	97
2,4-Dinitrophenol	µg/L	--	--	--	--	--	10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	100
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2-Chloronaphthalene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	100
2-Chlorophenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	17
2-Nitroaniline	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
2-Nitrophenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0
3-Nitroaniline	µg/L	--	--	--	--	--	5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	10

Sample Location[1]		MW-4	MW-4	MW-4	MW-4	MW-4	MW-5	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	Proposed Groundwater Cleanup Level[2]
Sample Date		02/13/13	02/11/16	08/18/16	02/15/17	08/24/17	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/11/16	08/19/16	02/16/17	08/24/17	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	
Sample Study		2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2008 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	
Sampled By		GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Well Location		Upland	Upland	Upland	Upland	Upland	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Upland	Upland	Upland	Upland	Upland	
4-Bromophenyl-phenylether	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	36
4-Chloroaniline	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
4-Chlorophenyl-phenylether	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
4-Nitroaniline	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
4-Nitrophenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Benzoic acid	µg/L	--	--	--	--	--	10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Benzyl alcohol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
bis(2-chloroethyl)ether	µg/L	--	--	--	--	--	0.54 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
Butylbenzylphthalate	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
Carbazole	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Dibenzofuran	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Diethylphthalate	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	200
Dimethylphthalate	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	600
Di-n-butylphthalate	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	8.0
Di-n-octylphthalate	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Hexachlorobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
Hexachlorobutadiene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0
Hexachloroethane	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0
Isophorone	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	110
Nitrobenzene	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	100
n-Nitroso-di-n-propylamine	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0
n-Nitrosodiphenylamine	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
o-Cresol (2-Methylphenol)	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
p-Cresol (4-Methylphenol)	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE
Pentachlorophenol	µg/L	--	--	--	--	--	5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0
Phenol	µg/L	--	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	70,000
Non-Carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)																					
1-Methylnaphthalene	µg/L	0.095 U	--	--	--	--	0.02 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.094 U	0.094 U	0.094 U	0.095 U	--	NE
2-Methylnaphthalene	µg/L	0.095 U	--	--	--	--	0.02 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.094 U	0.094 U	0.094 U	0.095 U	--	14
Acenaphthene	µg/L	0.095 U	--	--	--	--	0.02 U	0.0095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.0094 U	0.094 U	0.094 U	0.095 U	--	5.3
Acenaphthylene	µg/L	0.095 U	--	--	--	--	0.02 U	0.0095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.0094 U	0.094 U	0.094 U	0.095 U	--	NE
Anthracene	µg/L	0.095 U	--	--	--	--	0.02 U	0.0095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.0094 U	0.094 U	0.094 U	0.095 U	--	2.1
Benzo[g,h,i]perylene	µg/L	**0.017**	--	--	--	--	0.02 U	0.0095 U	0.0095 U	**0.02**	**0.017**	--	--	--	--	0.0094 U	0.0094 U	0.094 U	0.0095 U	--	NE
Fluoranthene	µg/L	0.095 U	--	--	--	--	0.02 U	0.0095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.0094 U	0.094 U	0.094 U	0.095 U	--	2.2
Fluorene	µg/L	0.095 U	--	--	--	--	0.02 U	0.0095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.0094 U	0.094 U	0.094 U	0.095 U	--	3.7
Naphthalene	µg/L	0.095 U	--	--	--	--	0.02 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.094 U	0.094 U	0.1 U	0.095 U	--	89
Phenanthrene	µg/L	0.095 U	--	--	--	--	**0.03**	0.0095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.0094 U	0.094 U	0.094 U	0.095 U	--	NE
Pyrene	µg/L	0.095 U	--	--	--	--	0.02 U	0.0095 U	0.095 U	0.095 U	0.095 U	--	--	--	--	0.0094 U	0.094 U	0.094 U	0.095 U	--	2.0
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)																					
Benzo[a]anthracene	µg/L	0.0095 U	0.01 U	**0.013**	0.0094 U	0.0094 U	0.018 U	**0.01**	0.0093 U	0.0092 U	0.0093 U	--	--	--	--	0.0094 U	**0.027**	**0.013**	0.0095 U	--	
Benzo[a]pyrene	µg/L	0.0095 U	0.01 U	0.01 U	0.0094 U	0.0094 U	0.018 U	0.0093 U	0.0093 U	0.0092 U	0.0093 U	--	--	--	--	0.0094 U	0.0094 U	**0.0097**	0.0095 U	--	
Benzo[b]fluoranthene	µg/L	0.0095 U	0.01 U	0.01 U	0.0094 U	0.0094 U	0.018 U	0.0093 U	0.0093 U	0.0092 U	0.0093 U	--	--	--	--	0.0094 U	**0.014**	0.0094 U	0.0095 U	--	
Benzo[k]fluoranthene	µg/L	**0.011**	0.01 U	0.01 U	0.0094 U	0.0094 U	0.018 U	0.0093 U	0.0093 U	0.0092 U	0.0093 U	--	--	--	--	0.0094 U	0.0094 U	0.0094 U	0.0095 U	--	see cPAHTEQ
Chrysene	µg/L	**0.013**	0.01 U	0.01 U	0.0094 U	0.0094 U	0.018 U	0.0093 U	0.0093 U	0.0092 U	0.0093 U	--	--	--	--	0.0094 U	**0.014**	0.0094 U	0.0095 U	--	
Dibenz[a,h]anthracene	µg/L	0.0095 U	0.01 U	0.01 U	0.0094 U	0.0094 U	0.018 U	0.0093 U	0.0093 U	0.0092 U	0.0093 U	--	--	--	--	0.0094 U	0.0094 U	0.0094 U	0.0095 U	--	
Indeno[1,2,3-c,d]pyrene	µg/L	0.0095 U	0.01 U	0.01 U	0.0094 U	0.0094 U	0.018 U	0.0093 U	0.0093 U	0.0092 U	0.0093 U	--	--	--	--	0.0094 U	0.0094 U	0.0094 U	0.0095 U	--	
Total cPAH TEQ[4] (ND = 0.5RL)	µg/L	**0.015**	0.007 U	**0.008**	0.007 U	0.007 U	0.013 U	**0.008**	0.007 U	0.007 U	0.007 U	--	--	--	--	0.007 U	**0.01**	**0.013**	0.007 U	--	0.01
Pesticides																					
4,4'-DDD	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.1
4,4'-DDE	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.1
4,4'-DDT	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.1
Aldrin	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.05
Alpha-BHC	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.05
Alpha-Chlordane (cis)	µg/L	--	--	--	--	--	0.01 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Beta-BHC	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.05
Delta-BHC	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Dieldrin	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.1
Endosulfan I	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.05
Endosulfan II	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Endosulfan Sulfate	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	10
Endrin	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.1
Endrin Aldehyde	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.1
Endrin Ketone	µg/L	--	--	--	--	--	0.05 U	0.019 U	0.019 U	0.018 U	0.019 U	--	--	--	--	0.019 U	0.019 U	0.019 U	0.019 U	--	NE
Gamma-Chlordane	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Heptachlor	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.05

Sample Location[1]		MW-4	MW-4	MW-4	MW-4	MW-4	MW-5	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	Proposed Groundwater Cleanup Level[2]
Sample Date		02/13/13	02/11/16	08/18/16	02/15/17	08/24/17	06/17/08	05/23/12	08/16/12	11/13/12	02/13/13	02/11/16	08/19/16	02/16/17	08/24/17	05/23/12	08/16/12	11/13/12	02/13/13	02/10/16	
Sample Study		2012/2013 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2016/2017 RI	2008 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	
Sampled By		GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Well Location		Upland	Upland	Upland	Upland	Upland	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Upland	Upland	Upland	Upland	Upland	
Heptachlor Epoxide	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.05
Lindane (Gamma-BHC)	µg/L	--	--	--	--	--	0.05 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	0.1
Herbicides																					
2,4,5-T	µg/L	--	--	--	--	--	1 U	0.0093 U	0.0094 U	0.0092 U	0.0093 U	--	--	--	--	0.0095 U	0.0097 U	0.0095 U	0.0095 U	--	NE
2,4-D	µg/L	--	--	--	--	--	1 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	12,000
2,4-DB	µg/L	--	--	--	--	--	5 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Dalapon (DPA)	µg/L	--	--	--	--	--	1 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Dicamba	µg/L	--	--	--	--	--	1 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Dichlorprop	µg/L	--	--	--	--	--	1 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Dinoseb	µg/L	--	--	--	--	--	2 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
MCPA	µg/L	--	--	--	--	--	250 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Mecoprop (MCPP)	µg/L	--	--	--	--	--	250 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	NE
Silvex (Fenoprop or 2,4,5-TP)	µg/L	--	--	--	--	--	1 U	0.0046 U	0.0047 U	0.0046 U	0.0046 U	--	--	--	--	0.0047 U	0.0048 U	0.0047 U	0.0047 U	--	400
Polychlorinated Biphenyls (PCBs)																					
Total PCBs (Sum of Aroclors or Congeners)	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01
Dioxins and Furans																					
2,3,7,8-TCDD	pg/L	--	--	--	--	--	--	0.83 U	1.2 U	0.69 U	0.99 U	--	--	--	--	0.65 U	1.3 U	0.88 U	1 U	--	NE
1,2,3,7,8-PeCDD	pg/L	--	--	--	--	--	--	0.59 U	1.2 U	0.64 U	0.89 U	--	--	--	--	0.68 U	1.2 U	0.75 U	1 U	--	NE
1,2,3,4,7,8-HxCDD	pg/L	--	--	--	--	--	--	0.94 U	1.2 U	0.55 U	0.79 U	--	--	--	--	1 U	1.3 U	0.81 U	1 U	--	NE
1,2,3,6,7,8-HxCDD	pg/L	--	--	--	--	--	--	1.1 U	1.1 U	0.58 U	1 U	--	--	--	--	1 U	1.7 U	0.86 U	1 U	--	NE
1,2,3,7,8,9-HxCDD	pg/L	--	--	--	--	--	--	0.96 U	1.2 U	0.61 U	0.86 U	--	--	--	--	0.94 U	1.3 U	0.83 U	0.73 U	--	NE
1,2,3,4,6,7,8-HpCDD	pg/L	--	--	--	--	--	--	1.2 U	1.6 U	0.63 U	2.2 U	--	--	--	--	1.1 U	2.3 U	0.66 U	1 U	--	NE
OCDD	pg/L	--	--	--	--	--	--	**7.5 J**	2.6 U	3.9 U	**16 J**	--	--	--	--	**4.5 J**	2.6 U	1.5 U	3.6 U	--	NE
2,3,7,8-TCDF	pg/L	--	--	--	--	--	--	0.78 U	1.2 U	1.1 U	1.1 U	--	--	--	--	0.6 U	1.3 U	1.2 U	0.97 U	--	NE
1,2,3,7,8-PeCDF	pg/L	--	--	--	--	--	--	0.57 U	1 U	0.78 U	0.64 U	--	--	--	--	0.57 U	1.1 U	0.62 U	0.56 U	--	NE
2,3,4,7,8-PeCDF	pg/L	--	--	--	--	--	--	0.65 U	0.6 U	0.42 U	0.53 U	--	--	--	--	0.56 U	0.97 U	0.49 U	0.45 U	--	NE
1,2,3,4,7,8-HxCDF	pg/L	--	--	--	--	--	--	0.68 U	1.1 U	0.91 U	0.79 U	--	--	--	--	0.63 U	1 U	0.8 U	0.77 U	--	NE
1,2,3,6,7,8-HxCDF	pg/L	--	--	--	--	--	--	1 U	0.83 U	0.47 U	0.75 U	--	--	--	--	0.78 U	1.3 U	0.52 U	0.72 U	--	NE
2,3,4,6,7,8-HxCDF	pg/L	--	--	--	--	--	--	0.65 U	0.57 U	0.43 U	0.76 U	--	--	--	--	0.54 U	1 U	0.54 U	0.58 U	--	NE
1,2,3,7,8,9-HxCDF	pg/L	--	--	--	--	--	--	0.83 U	0.55 U	0.56 U	0.74 U	--	--	--	--	0.63 U	0.91 U	0.48 U	0.7 U	--	NE
1,2,3,4,6,7,8-HpCDF	pg/L	--	--	--	--	--	--	2 U	1.2 U	0.61 U	1.1 U	--	--	--	--	1.7 U	1.8 U	0.81 U	0.94 U	--	NE
1,2,3,4,7,8,9-HpCDF	pg/L	--	--	--	--	--	--	1.7 U	1 U	0.61 U	0.8 U	--	--	--	--	1.3 U	1.8 U	0.58 U	0.74 U	--	NE
OCDF	pg/L	--	--	--	--	--	--	2.5 U	1.7 U	0.68 U	2.8 U	--	--	--	--	1.6 U	2.4 U	0.83 U	1.1 U	--	NE
Total Dioxins/Furans - Human Health TEQ[5] (ND = 0.5RL)	pg/L	--	--	--	--	--	--	**1.18 J**	1.75 U	1.04 U	**1.41 J**	--	--	--	--	**1.08 U**	1.95 U	1.22 U	1.42 U	--	5.0

Notes:

[1] Groundwater sample locations are shown on Figure 13.

[2] Groundwater monitoring activities pre-date the 2002 independent cleanup actions completed at the Site; therefore do not represent current groundwater conditions and are not included as part of the RI data set.

[3] Proposed groundwater cleanup levels referenced from Table 3.

[4] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[5] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

[6] Monitoring well not accessible at the time of sampling.

MTCA = Model Toxics Control Act

N/A = Not available

°C = degrees Celsius

mg/L = milligrams per liter

m/V = millivolts

NTU = Nephelometric Turbidity Units

ppt = parts per thousand

mS/cm = milli-Semens centimeter

µg/L = Microgram per liter

pg/L = Picogram per liter

NE = Not established

TEQ = Toxic equivalent concentration

-- = not analyzed

ND = Not detected

RL = Reporting limit

NE = not established

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed groundwater cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table F-1

Chemical Analytical Groundwater Data

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]		MW-7	MW-7	MW-7	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	Proposed Groundwater Cleanup Level[3]
Sample Date		08/19/16	02/16/17	08/23/17	02/10/16	02/10/16	08/18/16	08/18/16	02/15/17	02/15/17	08/23/17	08/23/17	
Sample Study		2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	
Sampled By		GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Well Location		Upland	Upland	Upland	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
Field Measured Parameters													
Depth to Water	ft	6.74	5.49	6.69	7.01	7.01	7.71	7.71	6.69	6.69	7.71	7.71	NE
Water Elevation	ft	6.62	7.87	6.67	6.79	6.79	6.09	6.09	7.11	7.11	6.09	6.09	NE
pH	n/a	6.8	6.8	6.7	7.1	7.1	7.1	7.1	7.2	7.2	7.3	7.3	NE
Conductivity (EC)	mS/cm	8.9	9.2	8.8	0.6	0.6	0.5	0.5	0.8	0.8	1.1	1.1	NE
Turbidity	NTU	2.61	5.67	4.25	22.8	22.8	6.14	6.14	11.3	11.3	8.11	8.11	NE
Dissolved Oxygen (DO)	mg/L	0.1	0.2	0.1	0.6	0.6	0.1	0.1	0.2	0.2	0.6	0.6	NE
Temperature	°C	18.5	11	17.6	12	12	15.4	15.4	12.2	12.2	14.7	14.7	NE
Total Dissolved Solids (TDS)	mg/L	6,766	7,894	6,610	487	487	423	423	618	618	882	882	NE
Oxidation Reduction Potential (ORP)	mV	85.1	-339	24.4	77.7	77.7	65.4	65.4	-55.9	-55.9	14.2	14.2	NE
Salinity	ppt	5.6	7.3	5.8	0.4	0.37	0.32	0.32	0.47	0.47	0.61	0.61	NE
Total Metals													
Arsenic	µg/L	**12**	**9.2**	**14**	**16.6**	**16.1**	**16**	**14**	**12**	5.6 U	**17**	**17**	8.0
Cadmium	µg/L	--	--	--	--	--	--	--	--	--	--	--	7.9
Total Chromium	µg/L	--	--	--	--	--	--	--	--	--	--	--	50
Copper	µg/L	--	--	--	--	--	--	--	--	--	--	--	20
Lead	µg/L	--	--	--	--	--	--	--	--	--	--	--	10
Mercury	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.025
Nickel	µg/L	**11**	**6.7**	**8.8**	**9.1**	**8.4**	7.8 U	7.8 U	5.6 U	5.6 U	**6.7**	**6**	8.2
Silver	µg/L	--	--	--	--	--	--	--	--	--	--	--	10
Zinc	µg/L	--	--	--	--	--	--	--	--	--	--	--	160
Dissolved Metals													
Arsenic	µg/L	**11**	**7.1**	**12**	**16.1**	**16.3**	**15**	**14**	**12**	5 U	**17**	**15**	8.0
Cadmium	µg/L	--	--	--	--	--	--	--	--	--	--	--	7.9
Total Chromium	µg/L	--	--	--	--	--	--	--	--	--	--	--	50
Copper	µg/L	--	--	--	--	--	--	--	--	--	--	--	20
Lead	µg/L	--	--	--	--	--	--	--	--	--	--	--	10
Mercury	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.025
Nickel	µg/L	**10**	**6.6**	**9.3**	**7.4**	**7.8**	7.8 U	7.8 U	5 U	5 U	5.6 U	5.6 U	8.2
Silver	µg/L	--	--	--	--	--	--	--	--	--	--	--	10
Zinc	µg/L	--	--	--	--	--	--	--	--	--	--	--	160
Petroleum Hydrocarbons													
Gasoline-Range	µg/L	--	--	--	--	--	--	--	--	--	--	--	800
Diesel-Range	µg/L	--	--	--	--	--	--	--	--	--	--	--	500
Heavy Oil-Range	µg/L	--	--	--	--	--	--	--	--	--	--	--	500
Petroleum Hydrocarbons with Silica-Gel Cleanup													
Diesel-Range	µg/L	--	--	--	--	--	--	--	--	--	--	--	500
Heavy Oil-Range	µg/L	--	--	--	--	--	--	--	--	--	--	--	500
BETX Compounds													
Benzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.6
Ethylbenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	31
Toluene	µg/L	--	--	--	--	--	--	--	--	--	--	--	130
Xylenes	µg/L	--	--	--	--	--	--	--	--	--	--	--	630
Volatile Organic Compounds (VOCs)													
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	71
1,1,1-Trichloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	12,000
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
(CFC113)	µg/L	--	--	--	--	--	--	--	--	--	--	--	360
1,1,2-Trichloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
1,1-Dichloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	110
1,1-Dichloroethene	µg/L	--	--	--	--	--	--	--	--	--	--	--	280
1,1-Dichloropropene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3-Trichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3-Trichloropropane	µg/L	--	--	--	--	--	--	--	--	--	--	--	45
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.0
1,2,4-Trimethylbenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	520
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.0
1,2-Dibromoethane (EDB)	µg/L	--	--	--	--	--	--	--	--	--	--	--	3.0
1,2-Dichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	800
1,2-Dichloroethane (EDC)	µg/L	--	--	--	--	--	--	--	--	--	--	--	42
1,2-Dichloropropane	µg/L	--	--	--	--	--	--	--	--	--	--	--	3.1
1,3,5-Trimethylbenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	370
1,3-Dichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	2.0

Sample Location[1]		MW-7	MW-7	MW-7	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	Proposed Groundwater Cleanup Level[2]
Sample Date		08/19/16	02/16/17	08/23/17	02/10/16	02/10/16	08/18/16	08/18/16	02/15/17	02/15/17	08/23/17	08/23/17	
Sample Study		2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	
Sampled By		GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Well Location		Upland	Upland	Upland	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
1,3-Dichloropropane	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,4-Dichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	22
2,2-Dichloropropane	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2-Butanone (MEK)	µg/L	--	--	--	--	--	--	--	--	--	--	--	3,700,000
2-Chloroethyl Vinyl Ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2-Chlorotoluene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2-Hexanone	µg/L	--	--	--	--	--	--	--	--	--	--	--	16,000
4-Chlorotoluene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	--	--	--	--	--	--	--	--	--	--	--	1,000,000
Acetone	µg/L	--	--	--	--	--	--	--	--	--	--	--	32,000,000
Acrolein	µg/L	--	--	--	--	--	--	--	--	--	--	--	50
Acrylonitrile	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
Bromobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	1,400
Bromochloromethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Bromoform	µg/L	--	--	--	--	--	--	--	--	--	--	--	12
Bromoethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Bromomethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	28
Carbon Disulfide	µg/L	--	--	--	--	--	--	--	--	--	--	--	870
Carbon Tetrachloride	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
Chlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	200
Chloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	32,000
Chloroform	µg/L	--	--	--	--	--	--	--	--	--	--	--	12
Chloromethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	330
Cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Cis-1,3-Dichloropropene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Dibromochloromethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	2.2
Dibromomethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	210
Dichlorobromomethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	2.8
Dichlorodifluoromethane (CFC 12)	µg/L	--	--	--	--	--	--	--	--	--	--	--	9.2
Hexachlorobutadiene	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.0
Isopropylbenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	2,000
Methyl Iodide	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Methyl t-Butyl Ether (MTBE)	µg/L	--	--	--	--	--	--	--	--	--	--	--	8,600
Methylene Chloride	µg/L	--	--	--	--	--	--	--	--	--	--	--	100
Naphthalene	µg/L	--	--	--	--	--	--	--	--	--	--	--	89
n-Butylbenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
n-Propylbenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	4,900
p-Isopropyltoluene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
sec-Butylbenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Styrene	µg/L	--	--	--	--	--	--	--	--	--	--	--	18,000
tert-Butylbenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Tetrachloroethene (PCE)	µg/L	--	--	--	--	--	--	--	--	--	--	--	2.9
Trans-1,2-Dichloroethene	µg/L	--	--	--	--	--	--	--	--	--	--	--	170
Trans-1,3-Dichloropropene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Trans-1,4-Dichloro-2-butene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Trichloroethene (TCE)	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
Trichlorofluoromethane (CFC 11)	µg/L	--	--	--	--	--	--	--	--	--	--	--	260
Vinyl Acetate	µg/L	--	--	--	--	--	--	--	--	--	--	--	17,000
Vinyl Chloride	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
Semi-Volatile Organic Compounds (SVOCs)													
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
1,2-Dichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	800
1,3-Dichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	2.0
1,4-Dichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	22
2,2'-Oxybis[1-chloropropane]	µg/L	--	--	--	--	--	--	--	--	--	--	--	37
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	600
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.0
2,4-Dichlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	10
2,4-Dimethylphenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	97
2,4-Dinitrophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	100
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.0
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2-Chloronaphthalene	µg/L	--	--	--	--	--	--	--	--	--	--	--	100
2-Chlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	17
2-Nitroaniline	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2-Nitrophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.0
3-Nitroaniline	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	10

Sample Location[1]		MW-7	MW-7	MW-7	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	Proposed Groundwater Cleanup Level[2]
Sample Date		08/19/16	02/16/17	08/23/17	02/10/16	02/10/16	08/18/16	08/18/16	02/15/17	02/15/17	08/23/17	08/23/17	
Sample Study		2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	
Sampled By		GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Well Location		Upland	Upland	Upland	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
4-Bromophenyl-phenylether	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	36
4-Chloroaniline	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
4-Chlorophenyl-phenylether	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
4-Nitroaniline	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
4-Nitrophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Benzoic acid	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Benzyl alcohol	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
bis(2-chloroethyl)ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
Butylbenzylphthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
Carbazole	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Dibenzofuran	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Diethylphthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	200
Dimethylphthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	600
Di-n-butylphthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	8.0
Di-n-octylphthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Hexachlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
Hexachlorobutadiene	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.0
Hexachloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	2.0
Isophorone	µg/L	--	--	--	--	--	--	--	--	--	--	--	110
Nitrobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	100
n-Nitroso-di-n-propylamine	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.0
n-Nitrosodiphenylamine	µg/L	--	--	--	--	--	--	--	--	--	--	--	1.0
o-Cresol (2-Methylphenol)	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
p-Cresol (4-Methylphenol)	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Pentachlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.0
Phenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	70,000
Non-Carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)													
1-Methylnaphthalene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2-Methylnaphthalene	µg/L	--	--	--	--	--	--	--	--	--	--	--	14
Acenaphthene	µg/L	--	--	--	--	--	--	--	--	--	--	--	5.3
Acenaphthylene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Anthracene	µg/L	--	--	--	--	--	--	--	--	--	--	--	2.1
Benzo[g,h,i]perylene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Fluoranthene	µg/L	--	--	--	--	--	--	--	--	--	--	--	2.2
Fluorene	µg/L	--	--	--	--	--	--	--	--	--	--	--	3.7
Naphthalene	µg/L	--	--	--	--	--	--	--	--	--	--	--	89
Phenanthrene	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Pyrene	µg/L	--	--	--	--	--	--	--	--	--	--	--	2.0
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)													
Benzo[a]anthracene	µg/L	--	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.0094 U	0.0094 U	**0.1**	**0.02**	see cPAHTEQ
Benzo[a]pyrene	µg/L	--	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.0094 U	0.0094 U	**0.12**	**0.029**	
Benzo[b]fluoranthene	µg/L	--	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.0094 U	0.0094 U	**0.18**	**0.042**	
Benzo[k]fluoranthene	µg/L	--	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.0094 U	0.0094 U	**0.068**	**0.014**	
Chrysene	µg/L	--	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.0094 U	0.0094 U	**0.14**	**0.029**	
Dibenz[a,h]anthracene	µg/L	--	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.0094 U	0.0094 U	0.024 U	0.0094 U	
Indeno[1,2,3-c,d]pyrene	µg/L	--	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.0094 U	0.0094 U	**0.094**	**0.026**	
Total cPAH TEQ[4] (ND = 0.5RL)	µg/L	--	--	--	0.008 U	0.008 U	0.008 U	0.008 U	0.007 U	0.007 U	**0.167**	**0.04**	0.01
Pesticides													
4,4'-DDD	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.1
4,4'-DDE	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.1
4,4'-DDT	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.1
Aldrin	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.05
Alpha-BHC	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.05
Alpha-Chlordane (cis)	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Beta-BHC	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.05
Delta-BHC	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Dieldrin	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.1
Endosulfan I	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.05
Endosulfan II	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Endosulfan Sulfate	µg/L	--	--	--	--	--	--	--	--	--	--	--	10
Endrin	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.1
Endrin Aldehyde	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.1
Endrin Ketone	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Gamma-Chlordane	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Heptachlor	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.05

Sample Location[1]		MW-7	MW-7	MW-7	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	MW-8	MW-8 (Dup)	Proposed Groundwater Cleanup Level[2]
Sample Date		08/19/16	02/16/17	08/23/17	02/10/16	02/10/16	08/18/16	08/18/16	02/15/17	02/15/17	08/23/17	08/23/17	
Sample Study		2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	2008-2017 RI	
Sampled By		GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Well Location		Upland	Upland	Upland	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	
Heptachlor Epoxide	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.05
Lindane (Gamma-BHC)	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.1
Herbicides													
2,4,5-T	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2,4-D	µg/L	--	--	--	--	--	--	--	--	--	--	--	12,000
2,4-DB	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Dalapon (DPA)	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Dicamba	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Dichlorprop	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Dinoseb	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
MCPA	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Mecoprop (MCPP)	µg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Silvex (Fenoprop or 2,4,5-TP)	µg/L	--	--	--	--	--	--	--	--	--	--	--	400
Polychlorinated Biphenyls (PCBs)													
Total PCBs (Sum of Aroclors or Congeners)	µg/L	--	--	--	--	--	--	--	--	--	--	--	0.01
Dioxins and Furans													
2,3,7,8-TCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
OCDD	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,7,8-TCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8-PeCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,7,8-PeCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8-HxCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,6,7,8-HxCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
2,3,4,6,7,8-HxCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,7,8,9-HxCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,6,7,8-HpCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
1,2,3,4,7,8,9-HpCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
OCDF	pg/L	--	--	--	--	--	--	--	--	--	--	--	NE
Total Dioxins/Furans - Human Health TEQ[5] (ND = 0.5RL)	pg/L	--	--	--	--	--	--	--	--	--	--	--	5.0

Notes:

[1] Groundwater sample locations are shown on Figure 13.

[2] Groundwater monitoring activities pre-date the 2002 independent cleanup actions completed at the Site; therefore do not represent current groundwater conditions and are not included as part of the RI data set.

[3] Proposed groundwater cleanup levels referenced from Table 3.

[4] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[5] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

[6] Monitoring well not accessible at the time of sampling.

MTCA = Model Toxics Control Act

N/A = Not available

°C = degrees Celsius

mg/L = milligrams per liter

m/V = millivolts

NTU = Nephelometric Turbidity Units

ppt = parts per thousand

mS/cm = milli-Semens centimeter

µg/L = Microgram per liter

pg/L = Picogram per liter

NE = Not established

TEQ = Toxic equivalent concentration

-- = not analyzed

ND = Not detected

RL = Reporting limit

NE = not established

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed groundwater cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

APPENDIX G
Environmental Soil Data

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]		#2	#4	#6	#7	#8	#9	#10	#1A	#3A	#5A	S-1	S-1	S-2	S-2	SS-1A	SS-1B	Proposed Soil Cleanup Level[2]	
Sample Identification		North Wall	South Wall	West Wall	North Wall	East Wall	South Wall	Base Center	Tank Hole	Tank Hole	Tank Hole	DC-B-1	DC-B-1B	DC-B-2	DC-B-2A	DC-UPLD SS-1A	DC-UPLD SS-1B		
Date Sampled		10/02/91	10/02/91	10/02/91	10/02/91	10/02/91	10/02/91	10/02/91	10/02/91	10/02/91	10/02/91	07/14/97	07/14/97	07/14/97	07/14/97	07/03/97	07/03/97		
Sample Interval		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose		
Sample Study		1991 UST Removal	1991 UST Removal	1991 UST Removal	1991 UST Removal	1991 UST Removal	1991 UST Removal	1991 UST Removal	1991 UST Removal	1991 UST Removal	1991 UST Removal	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	Vadose Zone	Saturated Zone
Sampled By	Units	A-1	A-1	A-1	A-1	A-1	A-1	A-1	A-1	A-1	A-1	Otten	Otten	Otten	Otten	Otten	Otten		
Metals																			
Arsenic	mg/kg	--	--	--	--	--	--	--	--	--	--	**5.24**	**8.85**	**2.11**	**1.0**	**32.1 J**	**1.74 J**	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	**17.3 J**	**20 J**	**15.2 J**	**10.3 J**	**49.9 J**	**19.2 J**	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	**102**	**183**	**98.4**	**7.26**	**1,740 J**	**14.8 J**	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	**22.6 J**	**56 J**	**28.4 J**	**29.8 J**	**24.4 J**	**2.59 J**	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	**0.279**	**0.577**	**0.380**	**0.113**	ND	ND	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	**32.7**	**25.6**	**22.9**	**5.75**	**20.9 J**	**45.7 J**	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	ND	**0.134**	**0.157 J**	ND	**0.574**	ND	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	**103**	**186**	**59**	ND	**828 J**	**27.4 J**	1,100,000	1,100,000
Organometallic Compounds																			
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																			
Gasoline-Range	mg/kg	**166**	**59**	--	10 U	--	10 U	--	--	10 U	10 U	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	**136**	10 U	**35**	10 U	**41**	**48**	10 U	10 U	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																			
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																			
Benzene	mg/kg	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	--	--	--	ND	--	--	2,400	2,400
Ethylbenzene	mg/kg	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	--	--	--	ND	--	--	350,000	350,000
Toluene	mg/kg	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	--	--	--	ND	--	--	280,000	280,000
Xylenes	mg/kg	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	--	--	--	ND	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

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RL = Reporting limit

TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	SS-2A	SS-2B	SS-3	SS-4	SS-6	SS-9	SS-11	SS-13A	SS-14A	SS-14B	VS-1	VS-2	VS-3	VS-6	VS-7	VS-8	DCI-SB-UL01	Proposed Soil Cleanup Level[2]	
Sample Identification		DC-UPLD SS-2A	DC-UPLD SS-2B	DC-UPLD SS-3	DC-UPLD SS-4	DC-UPLD SS-6	DC-UPLD SS-9	DC-UPLD SS-11[2]	DC-UPLD SS-13A[2]	DC-UPLD SS-14A[2]	DC-UPLD SS-14B[2]	VS-1 DH66A	VS-2 DH66B	VS-3 DH66C	VS-6 DL 19A	VS-7 DL 19B	VS-8 DL 19C	0020-LAI		
Date Sampled		07/03/97	07/03/97	07/30/97	07/30/97	07/30/97	07/30/97	07/30/97	07/30/97	07/30/97	07/30/97	06/28/01	06/28/01	06/28/01	07/03/01	07/03/01	07/03/01	07/17/01		
Sample Interval		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose		
Sample Study		1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	2001 Soil Excavation	2001 Soil Excavation	2001 Soil Excavation	2001 Soil Excavation	2001 Soil Excavation	2001 Soil Excavation	2001 Site Inspection		
Sampled By	Units	Otten	Otten	Otten	Otten	Otten	Otten	Otten	Otten	Otten	Otten	Landau	Landau	Landau	Landau	Landau	Landau	EPA/Weston	Vadose Zone	Saturated Zone
Metals																				
Arsenic	mg/kg	**15 J**	**1.44 J**	**3**	**7.26**	--	--	--	**22.6**	**27**	**1.97**	--	--	--	--	--	--	**5**	20	20
Cadmium	mg/kg	ND	ND	**0.152 J**	**0.322 J**	--	--	--	**0.252 J**	**0.866 J**	**0.444 J**	--	--	--	--	--	--	**0.5 J**	3,500	3,500
Total Chromium	mg/kg	**45.5 J**	**22.8 J**	**26.8 J**	**25.7 J**	--	--	--	**27.9 J**	**31.9 J**	**52.2**	--	--	--	--	--	--	**51.1**	5,300,000	5,300,000
Copper	mg/kg	**7,780 J**	**14.4 J**	**147**	**416**	--	--	--	**6,150**	**7,520**	**2,240**	--	--	--	--	--	--	**69.4**	140,000	140,000
Lead	mg/kg	**23.6 J**	**2.19 J**	**2.04 J**	**57.5 J**	--	--	--	**52.4 J**	**92.6 J**	**559 J**	--	--	--	--	--	--	**10.3 J**	1,000	1,000
Mercury	mg/kg	ND	ND	ND	ND	--	--	--	ND	**0.287**	**30.9 J**	--	--	--	--	--	--	0.06 U	1,100	1,100
Nickel	mg/kg	**27.9 J**	**52.6 J**	**35.7 J**	**21.7 J**	--	--	--	**15.1 J**	**16.5 J**	**23.3 J**	--	--	--	--	--	--	**46.7**	48	48
Silver	mg/kg	**0.534**	ND	**0.611 J**	**1.36 J**	--	--	--	**2.76 J**	**2.69 J**	**0.812 J**	--	--	--	--	--	--	1.3 U	18,000	18,000
Zinc	mg/kg	**1,150 J**	**30.7 J**	**1,110**	**802**	--	--	--	**1,220**	**1,600**	**643**	--	--	--	--	--	--	**94.9**	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.45 UJ	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**7.4 J**	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**5.1 J**	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**4.4 J**	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	ND	ND	ND	**233**	**126**	**26.7**	**22.9**	**23.1**	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	**10.9**	**203**	**492**	**8,360**	**16,300**	**421**	**1,590**	**2,900**	**6.6**	**55**	**44**	**9.3**	**190**	**1,100**	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	**63.9**	**2,220[4]**	**2,100[4]**	**4,470**	**1,980**	**843**	**18,500**	**2,820**	**13**	**180**	**140**	**31**	**320**	**1,900**	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	ND	ND	**0.31**	ND	**0.29**	**0.37**	ND	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	ND	ND	ND	ND	ND	**0.056**	ND	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	**1.78**	ND	**4.12**	ND	**2**	**1.56**	**0.11**	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	DCI-SB-UL01	DCI-SB-UL01	DCI-SB-UL03	DCI-SB-UL03	S-1-WS	S-1-WS	S-1-WS	S-1-WS	S-2-MS	S-2-MS	S-2-MS	S-3-EFA	S-3-EFA	S-3-EFA	S-3-EFA	S-4-EFA	S-4-EFA	Proposed Soil Cleanup Level[2]	
Sample Identification		0040-LAI	0070-LAI	0020-LAI	0060-LAI	S-1-WS-0	S-1-WS-1	S-1-WS-2	S-1-WS-3	S-2-MS-0	S-2-MS-1	S-2-MS-2	S-3-EFA-0	S-3-EFA-1	S-3-EFA-2	S-3-EFA-3	S-4-EFA-0	S-4-EFA-1		
Date Sampled		07/17/01	07/17/01	07/17/01	07/17/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		N/A	N/A	N/A	N/A	0.5-1 ft	1-4 ft	4-7 ft	7-10 ft	0.5-1 ft	1-4 ft	4-7 ft	0-1 ft	1-4 ft	4-7 ft	10-13 ft	0-1 ft	1-4 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose		
Sample Study		2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By		EPA/Weston	EPA/Weston	EPA/Weston	EPA/Weston	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Metals																				
Arsenic	mg/kg	**6.5**	**5.3**	**2.7**	**3.0**	**3.4**	**3.8**	**3.1**	**2.2**	**3.8**	**5.3**	**1.5**	**25**	**4.3**	**3.6**	**6.5**	**13.6**	**5.4**	20	20
Cadmium	mg/kg	**0.51 J**	**0.36 J**	**0.21 J**	**0.25 J**	0.2 U	0.2 U	0.2 U	0.3 U	0.2 U	0.2 U	0.2 U	**1.1**	**0.2**	**0.3**	**1.0**	0.6 U	0.2 U	3,500	3,500
Total Chromium	mg/kg	**37.1**	**48.7**	**24.7**	**29.1**	**38.1**	**44.3**	**48.7**	**22.0**	**17.9**	**28.7**	**26.5**	**69**	**38.9**	**31.9**	**45.5**	**65**	**43.1**	5,300,000	5,300,000
Copper	mg/kg	**38.2**	**28.4**	**13.1**	**11.6**	**29.8**	**22.3**	**24.7**	**6.7**	**16.1**	**21.4**	**9.2**	**889**	**44.7**	**50.5**	**38.2**	**1,080**	**51.9**	140,000	140,000
Lead	mg/kg	**66.7**	**8.4 J**	**6.2 J**	**2.5 J**	**6**	**6**	**4**	**3**	**5**	**8**	**4**	**71**	**15**	**25**	**74**	**33**	**8**	1,000	1,000
Mercury	mg/kg	**0.29**	0.08 U	0.05 U	**0.1 J**	0.05 U	0.05 U	0.05 U	0.07 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.06 U	0.09 U	**0.13**	**0.06**	1,100	1,100
Nickel	mg/kg	**35.4**	**42.9**	**17.7**	**21.8**	**58**	**52**	**59**	**16**	**17**	**20**	**12**	**63**	**32**	**30**	**38**	**52**	**42**	48	48
Silver	mg/kg	**1.4 J**	1.1 U	**1.9 J**	1.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	**426**	**45.1**	**60.9**	**32**	**49.4**	**43.3**	**50.7**	**28.5**	**47.6**	**58.4**	**31.1**	**1,080**	**92.9**	**90.8**	**134**	**677**	**83.7**	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	1.3 U	1.7 U	R	1.3 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	**0.72 J**	1.7 U	R	1.3 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	**0.4 J**	1.7 U	R	1.3 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	**5.6**	1.7 U	R	1.3 U	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	5.8 U	6 U	7.3 U	**200**[4]	**250**[4]	7.2 U	17 U	5.5 U	6.4 U	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	**8.1 J**	**5.9 J**	**5.4 J**	**990**	**370**	**19**	**19 J**	**97**	**6.6 J**	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	**18 J**	10 U	10 U	**620**	50 U	**22**	**55 J**	**340**	**24 J**	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

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Table G-1

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Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	S-4-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-6-UST	S-6-UST	S-6-UST	S-6-UST	S-7-UST	S-7-UST	S-7-UST	S-7-UST	S-8-UST	S-8-UST	S-8-UST	Proposed Soil Cleanup Level[2]	
Sample Identification		S-4-EFA-2	S-5-EFA-0	S-5-EFA-1	S-5-EFA-2	S-5-EFA-3	S-5-EFA-4	S-6-TPH-0	S-6-TPH-1	Dup (S-6-TPH-1)	S-6-TPH-2	S-7-TPH-0[2]	S-7-TPH-1[2]	S-7-TPH-2[2]	S-7-TPH-3[2]	S-8-TPH-0[2]	S-8-TPH-1[2]	S-8-TPH-2[2]		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	10-13 ft	0-1 ft	1-4 ft	1-4 ft	4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	0-1 ft	1-4 ft	4-7 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Metals																				
Arsenic	mg/kg	**6.3**	**21**	**6.1**	**6.5**	**4.5**	**3.1**	**8.0**	**3.9**	**3.8**	**4.1**	**74**	**45**	**6.2**	**1.8**	–	–	–	20	20
Cadmium	mg/kg	**0.5**	**0.6**	0.2 U	**0.5**	0.3 U	**0.3**	**0.3**	**0.3**	**0.3**	**1.0**	**0.4**	**0.4**	**1.1**	**0.3**	–	–	–	3,500	3,500
Total Chromium	mg/kg	**55.8**	**83**	**44**	**46.5**	**108**	**43.4**	**94.3**	**36.9**	**40.9**	**26.1**	**62**	**36.2**	**27.2**	**18.8**	–	–	–	5,300,000	5,300,000
Copper	mg/kg	**1,090**	**701**	**41**	**58.1**	**29.2**	**40.8**	**492**	**30.7**	**25.1**	**131**	**411**	**189**	**63**	**6.2**	–	–	–	140,000	140,000
Lead	mg/kg	**685**	**96**	**6**	**172**	**50**	**4**	**26**	**25 J**	**16 J**	**160**	**58**	**78**	**94**	**4**	–	–	–	1,000	1,000
Mercury	mg/kg	**3.18**	**0.06**	0.06 U	**0.54**	**0.16**	**0.06**	**0.27**	**0.12**	**0.09**	**0.17**	**0.29**	**0.52**	**0.18**	0.05 U	–	–	–	1,100	1,100
Nickel	mg/kg	**72**	**63**	**39**	**37**	**54**	**43**	**105**	**36**	**41**	**22**	**66**	**39**	**28**	**12**	–	–	–	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	**626**	**651**	**62.6**	**201**	**75**	**51.2**	**227**	**65.9**	**73.1**	**166**	**364**	**277**	**606**	**28**	–	–	–	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	7.8 U	6.3 U	6.7 U	8.4 U	7.8 U	6.8 U	5.7 U	6.6 U	7.1 U	9.3 U	5.4 U	**68**	**560**	7.8 U	**130**	**310**	**50**	100	100
Diesel-Range	mg/kg	**130 J**	**68**	**9**	**10**	**8.2 J**	5 U	**46 J**	**65 J**	**330 J**	**68 J**	**48**	**4,400**	**7,600 J**	**360 J**	**970 J**	**1,100 J**	**74 J**	2,000	2,000
Heavy Oil-Range	mg/kg	**220**	**220**	**15**	**23**	**35 J**	10 U	**230**	**42 J**	**100 J**	**91**	**76**	500 U	500 U	40 U	**4,100**	**780**	**76**	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	0.0012U	0.0011 U	0.0012 U	**0.0033**	0.0013 U	0.0011 U	0.057 U	0.066 U	0.071 U	0.093 U	0.053 U	0.061 U	0.084 U	0.078 U	0.06 U	0.061 U	0.082 U	2,400	2,400
Ethylbenzene	mg/kg	0.0012U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	0.057 U	0.066 U	0.071 U	0.093 U	0.053 U	0.061 U	0.084 U	0.078 U	**0.067**	**0.07**	0.082 U	350,000	350,000
Toluene	mg/kg	0.0012U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	0.057 U	0.066 U	0.071 U	0.093 U	0.053 U	0.061 U	0.084 U	0.078 U	**0.11**	**0.13**	0.082 U	280,000	280,000
Xylenes	mg/kg	0.0012U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	0.057 U	0.066 U	0.071 U	0.093 U	0.053 U	0.061 U	**0.09**	0.078 U	**0.13**	**0.14**	0.082 U	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

ng/kg = Nanogram per kilogram

-- = not analyzed

NE = not established

ND = Non-detect

RL = Reporting limit

TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	S-8-UST	S-9-CPH	S-9-CPH	S-9-CPH	S-9-CPH	S-9-CPH	S-9-CPH	S-10-MR	S-10-MR	S-10-MR	S-10-MR	S-11-MR	S-12-MR	S-12-MR	S-13-MR	S-14-TPH	S-14-TPH	Proposed Soil Cleanup Level[2]	
Sample Identification		S-8-TPH-3[2]	S-9-CPH-0	Dup (S-9-CPH-0)	S-9-CPH-1	S-9-CPH-2	S-9-CPH-3	S-9-CPH-3A	S-10-MR-0	S-10-MR-1	S-10-MR-2	S-10-MR-3	S-11-MR[2]	S-12-MR-0[2]	Dup (S-12-MR-0)[2]	S-13-MR[2]	S-14-TPH-1	S-14-TPH-4		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	10/24/01	10/24/01		
Sample Interval		7-10 ft	0-1 ft	0-1 ft	1-4 ft	4-7 ft	7-9 ft	9-10 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	0-1 ft	0-1 ft	0.7 ft	0-0.5 ft	1-3.1 ft	4-6.4 ft		
Sample Horizon		Saturated	Vadose	Vadose	Vadose	Saturated	Saturated	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Metals																				
Arsenic	mg/kg	--	**5.3**	**5.9**	**2.3**	**2.6**	**7.2**	**4.7**	**10.5**	**5.1**	**4.5**	**4.2**	**39**	**124 J**	**240 J**	**270**	--	--	20	20
Cadmium	mg/kg	--	**0.6**	**0.5**	0.2 U	0.2 U	**0.5**	**0.6**	0.5 U	**0.3**	0.2 U	0.2 U	1 U	**1**	1 U	0.5 U	--	--	3,500	3,500
Total Chromium	mg/kg	--	**46.9**	**58.9**	**16.4**	**21.1**	**23**	**28.3**	**104**	**26.9**	**39.6**	**30.6**	**81 J**	**122 J**	**134 J**	**52 J**	--	--	5,300,000	5,300,000
Copper	mg/kg	--	**141**	**201**	**12.2**	**17.5**	**39.1**	**17.5**	**120**	**132**	**36.8**	**23.2**	**8,200**	**2,270 J**	**2,260**	**1,180**	--	--	140,000	140,000
Lead	mg/kg	--	**14 J**	**21 J**	**2**	**21**	**270**	**84**	**74**	**47**	**9**	**8**	**700 J**	**650 J**	**770 J**	**220 J**	--	--	1,000	1,000
Mercury	mg/kg	--	**0.11**	**0.11**	0.05 U	0.05 U	**0.39**	**0.14**	**0.14**	**0.15**	**0.06**	0.05 U	**22.4**	**1.91**	**1.54**	**0.58**	--	--	1,100	1,100
Nickel	mg/kg	--	**59**	**70**	**28**	**31**	**24**	**24**	**173**	**26**	**42**	**28**	**67 J**	**56 J**	**65 J**	**22 J**	--	--	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	**806**	**1,090**	**26.6**	**56.8**	**219**	**142**	**114**	**302**	**54.8**	**45.5**	**2,530**	**4,320**	**4,220**	**1,520**	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	**35**	5.6 U	5.6 U	6 U	6.5 U	**47**	9 U	5.6 U	6.1 U	6.7 U	**8**	**470**	5.9 U	6 U	**7**	5.8 U	6.4 U	100	100
Diesel-Range	mg/kg	**13 J**	**14 J**	**18 J**	**5.5 J**	**25 J**	**420 J**	**94 J**	**35 J**	**22 J**	**8.3 J**	**8.0 J**	**2,600**	**1,900**	**1,900**	**120**	**72**	5 U	2,000	2,000
Heavy Oil-Range	mg/kg	**26**	**52 J**	**60 J**	10 U	**23 J**	**330 J**	**82 J**	**200 J**	**70 J**	**25 J**	**29 J**	**1,300**	**790**	**720**	**340**	**100**	10 U	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	0.35 U	0.0011 U	0.0011 U	0.0011 U	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.012 U	0.0056 U	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	0.35 U	0.0011 U	0.0011 U	0.0011 U	0.0012 U	**0.028**	0.0014 U	0.001 U	0.0012 U	0.012 U	0.0056 U	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	0.35 U	0.0011 U	**0.0012**	0.0011 U	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.012 U	0.0056 U	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	0.35 U	0.0011 U	0.0011 U	0.0011 U	0.0012 U	**0.124**	0.0014 U	0.001 U	0.0012 U	0.012 U	0.0056 U	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

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Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	S-14-TPH	S-15-TPH	S-15-TPH	S-15-TPH	S-16-TPH	S-16-TPH	S-16-TPH	S-17-TPH	S-17-TPH	S-17-TPH	S-17-TPH	S-18-TPH	S-18-TPH	S-18-TPH	S-19-TPH	S-19-TPH	S-19-TPH	Proposed Soil Cleanup Level[2]	
Sample Identification		S-14-TPH-7	S-15-TPH-1	S-15-TPH-4	S-15-TPH-7	S-16-TPH-1[2]	S-16-TPH-4[2]	S-16-TPH-7[2]	S-17-TPH-1	S-17-TPH-4A	S-17-TPH-4B	S-17-TPH-7	S-18-TPH-1	S-18-TPH-4	S-18-TPH-7	S-19-TPH-1	S-19-TPH-4	S-19-TPH-7		
Date Sampled		10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01		
Sample Interval		7-10 ft	1-3.8 ft	4-6.1 ft	7-9.9 ft	1-3.7 ft	4-6.3 ft	7-10 ft	1-3.7 ft	4-4.4 ft	4.4-6.3 ft	7-9.8 ft	1-3.4 ft	4-6.7 ft	7-9.9 ft	1-3.6 ft	4-6.4 ft	7-9.9 ft		
Sample Horizon		Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Metals																				
Arsenic	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	7.9 U	5.5 U	6.8 U	7.6 U	**120**	**2,000**	7.2 U	6.6 U	9.3 U	7.3 U	7.6 U	5.9 UJ	6.2 U	6.8 U	6.1 U	**69**	7.5 U	100	100
Diesel-Range	mg/kg	5 U	**15**	**7**	5 U	**730**	**40,000**	**21**	**51**	**500**	**6**	5 U	**48 J**	**9**	5 U	**350**	**1700 J**	**190**	2,000	2,000
Heavy Oil-Range	mg/kg	10 U	**32**	10 U	10 U	**730**	**1,300**	10 U	**130**	100 U	10 U	10 U	**150**	10 U	10 U	100 U	**36 J**	10 U	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	S-20-TPH	S-20-TPH	S-20-TPH	S-21-TPH	S-21-TPH	S-21-TPH	S-22-TPH	S-22-TPH	S-22-TPH	S-22-TPH	S-23-TPH	S-23-TPH	S-23-TPH	CS-1	CS-2	CS-3	CS-4	Proposed Soil Cleanup Level[2]	
Sample Identification		S-20-TPH-1[2]	S-20-TPH-4[2]	S-20-TPH-7[2]	S-21-TPH-1[2]	S-21-TPH-4[2]	S-21-TPH-7[2]	S-22-TPH-1A[2]	S-22-TPH-1B[2]	S-22-TPH-4[2]	S-22-TPH-7[2]	S-23-TPH-1[2]	S-23-TPH-4[2]	S-23-TPH-7[2]	CS-1 8-20	CS-2 8-20	CS-3 8-20	CS-4 8-20		
Date Sampled		10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	10/24/01	08/20/02	08/20/02	08/20/02	08/20/02		
Sample Interval		1-3.9 ft	4-6.5 ft	7-10 ft	1-2.2 ft	4-4.1 ft	7-9.4 ft	1-2.5 ft	2.5-4 ft	4-5 ft	7-9.5 ft	1-3.4 ft	4-6.7 ft	7-9.6 ft	N/A	N/A	N/A	N/A		
Sample Horizon		Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	N/A	N/A	N/A	N/A		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action		
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Vadose Zone	Saturated Zone
Metals																				
Arsenic	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	5.8 U	**210**	9 U	5.5 U	5.7 U	8 U	6.9 U	**700**	**360**	**34**	5.9 U	6.9 U	8.9 U	10 U	10 U	10 U	10 U	100	100
Diesel-Range	mg/kg	**9**	**2,600**	**12**	**12**	**140**	**8**	**1,600**	**6,700**	**380**	**10**	5 U	**3,800**	**9**	20 U	20 U	20 U	20 U	2,000	2,000
Heavy Oil-Range	mg/kg	**15**	**140 J**	**18**	10 U	**35**	10U	**960**	**110 J**	**39**	**11**	10 U	**210 J**	10 U	40 U	40 U	40 U	40 U	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

ng/kg = Nanogram per kilogram

-- = not analyzed

NE = not established

ND = Non-detect

RL = Reporting limit

TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries
Anacortes, Washington

Sample Location[1]		CS-5	CS-6	CS-7	CS-8	CS-9	CS-10	CS-11	CS-12	CS-13	CS-14	CS-15	CS-16	CS-17	CS-18	CS-19	CS-20	CS-21	Proposed Soil Cleanup Level[2]	
Sample Identification		CS-5 8-20	CS-6 8-20	CS-7 8-20	CS-8 8-20	CS-9 8-20	CS-10 8-20	CS-11 8-20	CS-12 8-20	CS-13 8-20	CS-14 8-20	CS-15 8-20	CS-16 8-20	CS-17 8-20[2]	CS-18 8-20	CS-19 8-20[2]	CS-20 8-20[2]	CS-21 8-20		
Date Sampled		08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02		
Sample Interval		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Sample Horizon		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Sample Study		2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	Vadose Zone	Saturated Zone
Sampled By	Units	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Metals																				
Arsenic	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	100	100
Diesel-Range	mg/kg	20 U	20 U	20 U	20 U	20 U	20 U	**120**	20 U	20 U	20 U	20 U	20 U	**4,900**	20 U	**29,000**	**5,100**	20 U	2,000	2,000
Heavy Oil-Range	mg/kg	40 U	40 U	40 U	**45**	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

MTCA = Washington State Model Toxics Control Act
mg/kg = Milligrams per kilogram
ng/kg = Nanogram per kilogram
-- = not analyzed
NE = not established
ND = Non-detect
RL = Reporting limit
TEQ = toxic equivalent concentration.
R = Rejected Result
U = The analyte was not detected at a concentration greater than the value identified.
J = The analyte was detected and the detected concentration is considered an estimate.
Bold font type indicates the analyte was detected at the reported concentration.
Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.
Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	CS-22	CS-23	CS-24	CS-25	CS-26	CS-27	CS-28	CS-29	CS-30	CS-31	CS-32	CS-33	CS-34	CS-35	CS-36	CS-37	CS-38	Proposed Soil Cleanup Level[2]	
Sample Identification		CS-22 8-20	CS-23 8-20	CS-24 8-20	CS-25 8-20	CS-26 8-20[2]	CS-27 8-20	CS-28 8-20	CS-29 8-20	CS-30 8-20	CS-31 8-20	CS-32 8-20	CS-33 8-20	CS-34 8-20	CS-35 8-20	CS-36 8-20	CS-37 8-20	CS-38 8-20[2]		
Date Sampled		08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02		
Sample Interval		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Sample Horizon		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Sample Study		2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	Vadose Zone	Saturated Zone
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Metals																				
Arsenic	mg/kg	--	--	--	--	--	--	--	--	5 U	--	--	5 U	--	--	--	--	--	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	1 U	--	--	1 U	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	5 U	--	--	5 U	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	**8.0**	--	--	5 U	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	0.5 U	--	--	0.5 U	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	20 U	--	--	20 U	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	10 U	10 U	10 U	10 U	**810**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**4,000**	100	100
Diesel-Range	mg/kg	20 U	20 U	20 U	20 U	**16,000**	20 U	20 U	20 U	20 U	20 U	20 U	**770**	**260**	20 U	20 U	20 U	**23,000**	2,000	2,000
Heavy Oil-Range	mg/kg	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	CS-39	CS-40	CS-41	CS-42	CS-43	CS-44	CS-45	CS-46	CS-47	CS-48	CS-49	CS-50	CS-51	CS-52	CS-53	CS-54	CS-55	Proposed Soil Cleanup Level[2]	
Sample Identification		CS-39 8-20	CS-40 8-20	CS-41 8-20	CS-42 8-20	CS-43 8-20	CS-44 8-20	CS-45 8-20	CS-46 8-20	CS-47 8-20	CS-48 8-20	CS-49 8-20	CS-50 8-20	CS-51 8-20	CS-52 8-20	CS-53 8-20	CS-54 8-20	CS-55 8-20		
Date Sampled		08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02	08/20/02		
Sample Interval		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Sample Horizon		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Sample Study		2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	2002 Cleanup Action	Vadose Zone	Saturated Zone
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Metals																				
Arsenic	mg/kg	--	--	--	--	--	5 U	5 U	--	--	--	--	--	--	--	--	--	--	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100	100
Diesel-Range	mg/kg	20 U	20 U	20 U	20 U	20 U	20 U	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	2,000	2,000
Heavy Oil-Range	mg/kg	40 U	**720**	**320**	40 U	40 U	40 U	--	40 U	40 U	40 U	40 U	50 U	50 U	50 U	50 U	50 U	50 U	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	CS-56	SS-1	SS-2	SS-3	SS-4	MW-5	MW-5	SB-1	SB-1	SB-2	SB-2	SB-4	SB-4	SB-5	SB-5	SB-7	SB-7	Proposed Soil Cleanup Level[2]	
Sample Identification		CS-56 8-20	SS-1-1	SS-2-1	SS-3-1	SS-4-0.5	MW-5-5.0	MW-5-10.0	SB-1-2.0	SB-1-4.0	SB-2-2.0	SB-2-4.0	SB-4-3.0	SB-4-9.0	SB-5-3.0	SB-5-9.0	SB-7-3.0	SB-7-9.0		
Date Sampled		08/20/02	06/16/08	06/16/08	06/16/08	06/16/08	05/27/08	05/27/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08		
Sample Interval		N/A	1-1.5 ft	1-1.5 ft	1-1.5 ft	0.5 -1 ft	5-6.5 ft	10-11.5 ft	2-3 ft	4-5 ft	2-3 ft	4-5 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft		
Sample Horizon		N/A	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated		
Sample Study		2002 Cleanup Action	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	Vadose Zone	Saturated Zone
Sampled By		Landau	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Metals																				
Arsenic	mg/kg	--	--	--	--	--	--	--	**8.7**	5 U	5 U	5 U	--	--	--	--	--	--	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	**190**	**98**	**2,100**	**360**	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	5.0 U	--	--	--	--	3 U	3 U	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	20 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	**200**	**59**	--	--	--	--	25 U	--	25 U	--	**760**	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	**91**	50 U	--	--	--	--	50 U	--	**85**	--	**370**	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	0.03 U	0.03 U	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	0.2 U	0.2 U	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	SB-8	SB-8	SB-9	SB-9	SB-10	SB-10	SB-11	SB-11	SB-12	SB-12	SB-13	SB-13	SB-14	SB-14	SB-15	SB-15	TP-3	Proposed Soil Cleanup Level[2]	
Sample Identification		SB-8-0.5	SB-8-4.0	SB-9-0.5	SB-9-4.0	SB-10-0.5	SB-10-4.0	SB-11-0.5	SB-11-4.0	SB-12-0.5	SB-12-4.0	SB-13-0.5	SB-13-4.0	SB-14-0.5	SB-14-4.0	SB-15-0.5	SB-15-4.0	TP-3-6		
Date Sampled		06/17/08	06/17/08	06/16/08	06/16/08	06/17/08	06/17/08	06/17/08	06/17/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	09/05/08		
Sample Interval		0.5-1.5 ft	4-5 ft	0.5-1.5 ft	4-5 ft	0.5-1.5 ft	4-5 ft	0.5-1.5 ft	4-5 ft	0.5-1.5 ft	4-5 ft	0.5-1.5 ft	4-5 ft	0.5-1.5 ft	4-5 ft	0.5-1.5 ft	4-5 ft	6-6.5 ft		
Sample Horizon		Vadose	Saturated	Vadose	Saturated	Vadose	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose		
Sample Study		2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	Vadose Zone	Saturated Zone
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Metals																				
Arsenic	mg/kg	--	--	--	--	--	--	--	--	**910**	**48**	**5.2**	5 U	**73**	5 U	**180**	5 U	5 U	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	**1,100**	**2,000**	**45**	**73**	**920**	**10**	**540**	**22**	**27**	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	**120**	**300**	**86**	**78**	**230**	**280**	**74**	**280**	**2,800**	**720**	**65**	**110**	**920**	**38**	**770**	**44**	**56**	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	TP-4	TP-5	TP-5	TP-10	TP-10	TP-11	TP-12	TP-13	TP-13	TP-14	TP-15	TP-16	TP-16	GEI-1	GEI-2	GEI-2	GEI-2	Proposed Soil Cleanup Level[2]	
Sample Identification		TP-4-6	TP-5-2	TP-5-4	TP-10-4	TP-10-6	TP-11-6	TP-12-3	TP-13-2	TP-13-4	TP-14-0-2	TP-15-2-4	TP-16-0-2	TP-16-4-6	GEI-01_3-4_092914	GEI-02_1-2_092914	GEI-02_4-5_092914	GEI-02_7-8_092914		
Date Sampled		09/08/08	09/08/08	09/08/08	09/08/08	09/08/08	09/08/08	09/08/08	09/08/08	09/08/08	09/18/08	09/18/08	09/18/08	09/18/08	09/29/2014	09/29/2014	09/29/2014	09/29/2014		
Sample Interval		6-6.5 ft	2-2.5 ft	4-4.5 ft	4-4.5 ft	6-6.5 ft	6-6.5 ft	3-3.5 ft	2-2.5 ft	4-4.5 ft	0-2 ft	2-4 ft	0-2 ft	4-6 ft	3-4 ft	1-2 ft	4-5 ft	7-8 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated		
Sample Study		2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2014 RI	2014 RI	2014 RI	2014 RI		
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	Vadose Zone	Saturated Zone
Metals																				
Arsenic	mg/kg	5 U	**15**	**9.6**	5 U	--	5 U	5 U	**24**	**34**	5 U	5 U	5 U	5 U	6 U	5.2 U	5.8 U	5.3 U	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	**6.9**	**100**	**240**	**49**	**34**	**2.9**	**49**	**360**	**350**	**92**	**45**	**66**	**52**	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**34**	--	**8**	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	**18**	**130**	**170**	**44**	--	**16**	**84**	**290**	**350**	**110**	**58**	**99**	**68**	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	GEI-3	GEI-3	GEI-4	GEI-4	GEI-4	GEI-5	GEI-6	GEI-6	GEI-6	GEI-7	GEI-7	GEI-8	GEI-8	GEI-8	GEI-9	GEI-9	GEI-9	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-03_2.5-3.5_092914	GEI-03_7-8_092914	GEI-04_1-2_092914	GEI-04_3-4_092914	GEI-04_6-7_092914	GEI-05_7-8_092914	GEI-06_1.5-2.5_092914	GEI-06_4-5_092914	GEI-06_7-8_092914	GEI-07_1.5-2.5_092914	GEI-07_7-8_092914	GEI-08_1.5-2.5_092914	GEI-08_4-5_092914	GEI-08_7-8_092914	GEI-09_0.5-1.5_092914	GEI-09_3-4_092914	GEI-09_6-7_092914		
Date Sampled		09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014		
Sample Interval		2.5-3.5 ft	7-8 ft	1-2 ft	3-4 ft	6-7 ft	7-8 ft	1.5-2.5 ft	4-5 ft	7-8 ft	1.5-2.5 ft	7-8 ft	1.5-2.5 ft	4-5 ft	7-8 ft	0.5-1.5 ft	3-4 ft	6-7 ft		
Sample Horizon		Vadose	Saturated	Vadose	Vadose	Saturated	Saturated	Vadose	Vadose	Saturated	Vadose	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI		
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	Vadose Zone	Saturated Zone
Metals																				
Arsenic	mg/kg	**7.8**	5.7 U	5.2 U	**13**	**33**	6.0 U	**23**	5.2 U	5.6 U	**27**	4.400	5.2 U	5.3 U	6.3 U	**62**	5.4 U	**4.6**	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	**25**	**21 J**	**31**	--	**43**	**88**	**58**	--	**29**	**52**	**38**	**50**	--	**27**	**57**	--	**40**	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

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-- = not analyzed

NE = not established

ND = Non-detect

RL = Reporting limit

TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	GEI-10	GEI-10	GEI-11	GEI-11	GEI-11	GEI-12	GEI-12	GEI-12	GEI-13	GEI-13	GEI-13	GEI-14	GEI-14	GEI-14	GEI-14	GEI-15	GEI-15	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-10_2-3_092914	GEI-10_7-8_092914	GEI-11_2-3_092914	GEI-11_7-8_092914	GEI-11_9-10_092914	GEI-12_2-3_092914	GEI-12_4-5_092914	GEI-12_7-8_092914	GEI-13_2-3_093014	GEI-13_5-6_093014	GEI-13_7-8_093014	GEI-14_2-3_093014	GEI-14_3.5-4.5_093014	GEI-14_7-8_093014	GEI-14_9-10_093014	GEI-15_2-3_093014	GEI-15_5.5-6.5_093014		
Date Sampled		09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/29/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014		
Sample Interval		2-3 ft	7-8 ft	2-3 ft	7-8 ft	9-10 ft	2-3 ft	4-5 ft	7-8 ft	2-3 ft	5-6 ft	7-8 ft	2-3 ft	3.5-4.5 ft	7-8 ft	9-10 ft	2-3 ft	5.5-6.5 ft		
Sample Horizon		Vadose	Saturated	Vadose	Saturated	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Saturated	Vadose	Vadose		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	Vadose Zone	Saturated Zone
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Metals																				
Arsenic	mg/kg	**33**	6.1 U	**5.9**	5.5 U	5.6 U	5.2 U	**19**	5.8 U	**85**	5.2 U	5.3 U	**91**	**6.5**	**7.4**	6.4 U	5.2 U	6.0 U	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	**150**	**8.3**	**26**	**38**	**34**	--	--	--	**110**	--	**12**	**43**	--	**13**	--	--	**41**	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

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RL = Reporting limit

TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	GEI-15	GEI-16	GEI-16	GEI-16	GEI-17	GEI-17	GEI-17	GEI-17	GEI-18	GEI-18	GEI-18	GEI-18	GEI-19	GEI-19	GEI-19	GEI-19	GEI-20	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-15_10-11_093014	GEI-16_2-3_093014	GEI-16_6-7_093014	GEI-16_8-9_093014	GEI-17_1-2_093014	GEI-17_4-5_093014	GEI-17_7-8_093014	GEI-17_9-10_093014	GEI-18_1-2_093014	GEI-18_4-5_093014	GEI-18_8-9_093014	GEI-18_9-10_093014	GEI-19_2-3_093014	GEI-19_4-5_093014	GEI-19_7-8_093014	GEI-19_9-10_093014	GEI-20_2-3_093014		
Date Sampled		09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014		
Sample Interval		10-11 ft	2-3 ft	6-7 ft	8-9 ft	1-2 ft	4-5 ft	7-8 ft	9-10 ft	1-2 ft	4-5 ft	8-9 ft	9-10 ft	2-3 ft	4-5 ft	7-8 ft	9-10 ft	2-3 ft		
Sample Horizon		Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Saturated	Vadose	Vadose	Saturated	Saturated	Vadose	Vadose	Saturated	Saturated	Vadose		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	Vadose Zone	Saturated Zone
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Metals																				
Arsenic	mg/kg	--	**6.6**	6.6 U	5.8 U	--	**8**	**31**	**8.1**	**5.2**	**18**	**11**	**6.9**	--	5.2 U	**2.6**	--	--	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	**39**	**36**	**6.2**	**15**	**41**	--	**39**	**58**	**36**	**37**	**200**	**49**	**43**	--	--	**29**	**37**	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	GEI-20	GEI-20	GEI-20	GEI-21	GEI-21	GEI-21	GEI-22	GEI-22	GEI-22	GEI-23	GEI-23	GEI-23	GEI-24	GEI-24	GEI-24	GEI-24	GEI-25	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-20_4-5_093014	GEI-20_6-7_093014	GEI-20_8-9_093014	GEI-21_1-2_093014	GEI-21_5-6_093014	GEI-21_7.5-8.5_093014	GEI-22_2-3_100114	GEI-22_5-6_100114	GEI-22_7.5-8.5_100114	GEI-23_1-2_093014	GEI-23_5-6_093014	GEI-23_7.5-8.5_093014	GEI-24_2-3_093014	GEI-24_4-5_093014	GEI-24_6-7_093014	GEI-24_9-10_093014	GEI-25_1-2_093014		
Date Sampled		09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	10/01/2014	10/01/2014	10/01/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014		
Sample Interval		4-5 ft	6-7 ft	8-9 ft	1-2 ft	5-6 ft	7.5-8.5 ft	2-3 ft	5-6 ft	7.5-8.5 ft	1-2 ft	5-6 ft	7.5-8.5 ft	2-3 ft	4-5 ft	6-7 ft	9-10 ft	1-2 ft		
Sample Horizon		Vadose	Saturated	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Saturated	Vadose		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	Vadose Zone	Saturated Zone
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Metals																				
Arsenic	mg/kg	**6.5**	--	**5.7**	--	5.9 U	**3.1**	5.3 U	5.4 U	**92**	5.2 U	**12**	6.1 U	5.2 U	5.2 U	**13**	6.3 U	**7.5**	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	**33**	**28**	--	**35**	**30**	--	**27**	--	--	**40**	--	--	--	**36**	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

MTCA = Washington State Model Toxics Control Act

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Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	GEI-25	GEI-25	GEI-25	GEI-26	GEI-26	GEI-27	GEI-27	GEI-27	GEI-28	GEI-28	GEI-28	GEI-29	GEI-29	GEI-29	GEI-29	GEI-30	GEI-30	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-25_4-5_093014	GEI-25_7-8_093014	GEI-25_9-10_093014	GEI-26_2 - 3_093014	GEI-26_6-7_093014	GEI-27_1-2_100114	GEI-27_5-6_100114	GEI-27_9-10_100114	GEI-28_10-11_100114	GEI-28_2-3_100114	GEI-28_5-6_100114	GEI-29_2-3_093014	GEI-29_5-6_093014	GEI-29_8-9_093014	GEI-29_9-10_093014	GEI-30_3-4_093014	GEI-30_7-8_093014		
Date Sampled		09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014		
Sample Interval		4-5 ft	7-8 ft	9-10 ft	2-3 ft	6-8 ft	1-2 ft	5-6 ft	9-10 ft	10-11 ft	2-3 ft	5-6 ft	2-3 ft	5-6 ft	8-9 ft	9-10 ft	3-4 ft	7-8 ft		
Sample Horizon		Vadose	Saturated	Saturated	Vadose	Saturated	Vadose	Saturated	Saturated	Saturated	Vadose	Saturated	Vadose	Saturated	Saturated	Saturated	Vadose	Saturated		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	Vadose Zone	Saturated Zone
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Metals																				
Arsenic	mg/kg	6.0 U	6.1 U	--	**5.4**	5.8 U	--	**22**	6.6 U	**6.7**	5.9 U	5.8 U	5.5 U	**6.4**	3.6 U	6.0 U	5.4 U	5.7 U	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	**80**	**130**	**130**	**40**	**33**	**28**	**20**	--	**37**	**34**	**50**	**42**	--	--	--	**7.3**	**8.9**	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

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NE = not established

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TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	GEI-30	GEI-31	GEI-31	GEI-31	GEI-31	GEI-32	GEI-32	GEI-33	GEI-34	GEI-34	GEI-34	GEI-35	GEI-35	GEI-35	GEI-35	GEI-36	GEI-36	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-30_9-10_093014	GEI-31_1-2_100114	GEI-31_4-5_100114	GEI-31_6-7_100114	GEI-31_9-10_100114	GEI-32_1-2_100114	GEI-32_6-7_100114	GEI-33_1-2_100114	GEI-34_2.5-3.5_100114	GEI-34_6-7_100114	GEI-34_9-10_100114	GEI-35_3-4_100114	GEI-35_4-5_100114	GEI-35_8-9_100114	GEI-35_9-10_100114	GEI-36_1-2_100114	GEI-36_5-6_100114		
Date Sampled		09/30/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014		
Sample Interval		9-10 ft	1-2 ft	4-5 ft	6-7 ft	9-10 ft	1-2 ft	6-7 ft	1-2 ft	2.5-3.5 ft	6-7 ft	9-10 ft	3-4 ft	4-5 ft	8-9 ft	9-10 ft	1-2 ft	5-6 ft		
Sample Horizon		Saturated	Vadose	Vadose	Saturated	Saturated	Vadose	Saturated	Vadose	Vadose	Saturated	Saturated	Vadose	Vadose	Saturated	Saturated	Vadose	Saturated		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI		
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	Vadose Zone	Saturated Zone
Metals																				
Arsenic	mg/kg	6.0 U	**7.6**	--	--	--	5.3 U	--	5.2 U	5.3 U	--	--	6.2 U	--	--	--	**5.7**	**6.9**	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	**11**	**110**	**40**	**86**	**48**	**64**	**14**	--	--	**38**	**38**	**35**	**22**	**40**	**28**	--	**50**	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

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TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]	Units	GEI-37	GEI-37	GEI-38	GEI-38	GEI-39	GEI-39	GEI-39	GEI-40	GEI-41	GEI-41	GEI-41	GEI-41	GEI-42	GEI-42	GEI-42	GEI-43	GEI-43	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-37_1-2_100114	GEI-37_6-7_100114	GEI-38_1-2_100114	GEI-38_6-7_100114	GEI-39_1.5-2.5_100114	GEI-39_4-5_100114	GEI-39_6-7_100114	GEI-40_2-3_100114	GEI-41_1-2_100114	GEI-41_4-5_100114	GEI-41_6-7_100114	GEI-41_8-9_100114	GEI-42_1-2_100114	GEI-42_4-5_100114	GEI-42_6-7_100114	GEI-43_1-2_100114	GEI-43_6-7_100114		
Date Sampled		10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014	10/01/2014		
Sample Interval		1-2 ft	6-7 ft	1-2 ft	6-7 ft	1.5-2.5 ft	4-5 ft	6-7 ft	2-3 ft	1-2 ft	4-5 ft	6-7 ft	8-9 ft	1-2 ft	4-5 ft	6-7 ft	1-2 ft	6-7 ft		
Sample Horizon		Vadose	Saturated	Vadose	Saturated	Vadose	Vadose	Saturate	Vadose	Vadose	Vadose	Saturated	Saturated	Vadose	Vadose	Saturated	Vadose	Saturated		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	Vadose Zone	Saturated Zone
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Metals																				
Arsenic	mg/kg	5.2 U	5.7 U	5.6 U	5.8 U	6.0 U	--	6.5 U	**6.2**	6.2 U	5.8 U	--	--	**5.5**	--	6.0 U	**6.6**	--	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	**8.1**	--	--	**38**	**45**	**40**	--	**46**	--	**43**	**30**	**34**	**24**	**31**	**52**	**37**	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds																				
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons																				
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup																				
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds																				
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Sample result compared to PCUL for protection of direct contact (Appendix K) in accordance with WAC 173-340-745. Adjusted PCUL for gasoline-range hydrocarbons is 2,100 mg/kg. Adjusted PCUL for diesel/heavy oil-range hydrocarbons is 19,000 mg/kg.

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Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-1

Chemical Analytical Soil Data - Metals, Organometallic Compounds and Petroleum-Related Compounds

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]		GEI-44	GEI-44	GEI-44	GEI-45	GEI-45	GEI-45	GEI-46	GEI-46	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-44_1.5-2	GEI-44_7.5-10	GEI-44_16-17.5	GEI-45_1-3	GEI-45_9-10	GEI-45_17-20	GEI-46_13.5-15	GEI-46_7-8.5		
Date Sampled		7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018		
Sample Interval		1.5-2 ft	7.5-10 ft	16-17.5 ft	1-3 ft	9-10 ft	17-20 ft	4-5 ft	7-8.5 ft		
Sample Horizon		Vadose	Saturated	Saturated	Vadose	Saturated	Saturated	Vadose	Saturated		
Sample Study		2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	Vadose Zone	Saturated Zone
Sampled By	Units	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Metals											
Arsenic	mg/kg	**9.5**	5.6 U	5.4 U	5.3 U	5.5 U	5.6 U	6.0 U	5.7 U	20	20
Cadmium	mg/kg	--	--	--	--	--	--	--	--	3,500	3,500
Total Chromium	mg/kg	--	--	--	--	--	--	--	--	5,300,000	5,300,000
Copper	mg/kg	--	--	--	--	--	--	--	--	140,000	140,000
Lead	mg/kg	--	--	--	--	--	--	--	--	1,000	1,000
Mercury	mg/kg	--	--	--	--	--	--	--	--	1,100	1,100
Nickel	mg/kg	--	--	--	--	--	--	--	--	48	48
Silver	mg/kg	--	--	--	--	--	--	--	--	18,000	18,000
Zinc	mg/kg	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Organometallic Compounds											
Tetra-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	NE	NE
Tri-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	NE	NE
Di-n-butyltin	ug/kg	--	--	--	--	--	--	--	--	NE	NE
n-butyltin	ug/kg	--	--	--	--	--	--	--	--	NE	NE
Petroleum Hydrocarbons											
Gasoline-Range	mg/kg	--	--	--	--	--	--	--	--	100	100
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	2,000	2,000
Petroleum Hydrocarbons with Silica-Gel Cleanup											
Diesel-Range	mg/kg	--	--	--	--	--	--	--	--	2,000	2,000
Heavy Oil-Range	mg/kg	--	--	--	--	--	--	--	--	2,000	2,000
BETX Compounds											
Benzene	mg/kg	--	--	--	--	--	--	--	--	2,400	2,400
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	350,000	350,000
Toluene	mg/kg	--	--	--	--	--	--	--	--	280,000	280,000
Xylenes	mg/kg	--	--	--	--	--	--	--	--	700,000	700,000

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

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Table G-2

Chemical Analytical Soil Data - VOCs, SVOCs, Pesticides, PCBs and Dioxins and Furans

Dakota Creek Industries

Anacortes, Washington

Sample Location[1]		S-2	SS-9	SS-11	SS-14A	SS-14B	DCI-SB-UL01	DCI-SB-UL01	DCI-SB-UL01	DCI-SB-UL03	DCI-SB-UL03	S-3-EFA	S-3-EFA	S-3-EFA	S-3-EFA	S-4-EFA	S-4-EFA	Proposed Soil Cleanup Level[2]	
Sample Identification		DC-B-2A	DC-UPLD SS-9	DC-UPLD SS-11[2]	DC-UPLD SS-14A[2]	DC-UPLD SS-14B[2]	0020-LAI	0040-LAI	0070-LAI	0020-LAI	0060-LAI	S-3-EFA-0	S-3-EFA-1	S-3-EFA-2	S-3-EFA-3	S-4-EFA-0	S-4-EFA-1		
Date Sampled		07/14/97	07/30/97	07/30/97	07/30/97	07/30/97	07/17/01	07/17/01	07/17/01	07/17/01	07/17/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0-1 ft	1-4 ft	4-7 ft	10-13 ft	0-1 ft	1-4 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose		
Sample Study		1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By	Units	Otten	Otten	Otten	Otten	Otten	EPA/Weston	EPA/Weston	EPA/Weston	EPA/Weston	EPA/Weston	Landau	Landau	Landau	Landau	Landau	Landau		
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.011 U	0.0011 U	0.0012 U	5,000	5,000
1,1,1-Trichloroethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	7,000,000	7,000,000
1,1,2,2-Tetrachloroethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.120 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	660	660
1,1,2-trichloro-1,2,2-trifluoroethane (CFC113)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	110,000,000	110,000,000
1,1,2-Trichloroethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	2,300	2,300
1,1-Dichloroethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	23,000	23,000
1,1-Dichloroethene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	180,000	180,000
1,1-Dichloropropene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE
1,2,3-Trichlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	0.058 U	0.0061 U	0.011 U	0.0053 U	0.0058 U	2,800	2,800
1,2,3-Trichloropropane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.023 U	0.023 U	0.0012 U	0.0022 U	0.0021 U	0.0023 U	4.4	4.4
1,2,4-Trichlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	0.058 U	0.0061 U	0.011 U	0.0053 U	0.0058 U	4,500	4,500
1,2,4-Trimethylbenzene	mg/kg	ND	**0.233**	ND	**1.310**	ND	--	--	--	--	--	0.011 U	0.016 UJ	0.0012 U	0.0043 U	0.0011 U	0.0012 U	35,000	35,000
1,2-Dibromo-3-chloropropane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	0.058 U	0.0061 U	0.0022 U	0.0053 U	0.0058 U	160	160
1,2-Dibromoethane (EDB)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	66	66
1,2-Dichlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	320,000	320,000
1,2-Dichloroethane (EDC)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	1,400	1,400
1,2-Dichloropropane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	3,500	3,500
1,3,5-Trimethylbenzene	mg/kg	ND	**0.208**	ND	**1.030**	ND	--	--	--	--	--	**0.021 J**	0.012 U	0.0061 U	0.011 U	0.0011 U	0.0012 U	35,000	35,000
1,3-Dichlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE
1,3-Dichloropropane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	70,000	70,000
1,4-Dichlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	24,000	24,000
2,2-Dichloropropane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.011 U	0.0011 U	0.0012 U	NE	NE
2-Butanone (MEK)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	0.058 U	0.0061 U	**0.03**	0.0053 U	0.0058 U	2,100,000	2,100,000
2-Chloroethyl Vinyl Ether	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2-Chlorotoluene	mg/kg	ND	**0.731**	ND	**0.214**	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	70,000	70,000
2-Hexanone	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	0.058 U	0.0061 U	0.011 U	0.0053 U	0.0058 U	18,000	18,000
4-Chlorotoluene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE
4-Isopropyltoluene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	**0.047**	**0.21**	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	0.058 U	0.0061 U	0.011 U	0.0053 U	0.0058 U	280,000	280,000
Acetone	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	**0.15**	0.0074 U	**0.14**	0.0053 U	0.013 U	3,200,000	3,200,000
Acrolein	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.57 U	0.58 U	0.061 U	0.11 U	0.053 U	0.058 U	NE	NE
Acrylonitrile	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	0.058 U	0.0061 U	0.011 U	0.0053 U	0.0058 U	240	240
Bromobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	28,000	28,000
Bromochloromethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE
Bromoethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.023 U	0.023 U	0.0024 U	0.0043 U	0.0021 U	0.0023 U	NE	NE
Bromoform	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	17,000	17,000
Bromomethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	4,900	4,900
Carbon Disulfide	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	**0.0049**	0.0011 U	0.0012 U	350,000	350,000
Carbon Tetrachloride	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	1,900	1,900
Chlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	70,000	70,000
Chloroethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE
Chloroform	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	4,200	4,200
Chloromethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE
Cis-1,2-Dichloroethene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	7,000	7,000
Cis-1,3-Dichloropropene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE
Dibromochloromethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	1,600	1,600
Dibromomethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0043 U	0.0011 U	0.0012 U	35,000	35,000
Dichlorobromomethane	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	2,100	2,100
Dichlorodifluoromethane (CFC 12)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000
Hexachlorobutadiene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	0.058 U	0.0012 U	0.011 U	0.0053 U	0.0058 U	1,700	1,700
Isopropylbenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	**0.014**	**0.038**	0.0012 U	0.0022 U	0.0011 U	0.0012 U	350,000	350,000
Methyl Iodide	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE

Sample Location[1]		S-2	SS-9	SS-11	SS-14A	SS-14B	DCI-SB-UL01	DCI-SB-UL01	DCI-SB-UL01	DCI-SB-UL03	DCI-SB-UL03	S-3-EFA	S-3-EFA	S-3-EFA	S-3-EFA	S-4-EFA	S-4-EFA	Proposed Soil Cleanup Level[2]	
Sample Identification		DC-B-2A	DC-UPLD SS-9	DC-UPLD SS-11[2]	DC-UPLD SS-14A[2]	DC-UPLD SS-14B[2]	0020-LAI	0040-LAI	0070-LAI	0020-LAI	0060-LAI	S-3-EFA-0	S-3-EFA-1	S-3-EFA-2	S-3-EFA-3	S-4-EFA-0	S-4-EFA-1		
Date Sampled		07/14/97	07/30/97	07/30/97	07/30/97	07/30/97	07/17/01	07/17/01	07/17/01	07/17/01	07/17/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0-1 ft	1-4 ft	4-7 ft	10-13 ft	0-1 ft	1-4 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose		
Sample Study		1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By	Units	Otten	Otten	Otten	Otten	Otten	EPA/Weston	EPA/Weston	EPA/Weston	EPA/Weston	EPA/Weston	Landau	Landau	Landau	Landau	Landau	Landau		
Methyl t-Butyl Ether (MTBE)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	--			--	--	--	73,000	73,000
Methylene Chloride	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	**0.043**	**0.047**	0.0037 U	0.0065 U	0.0032 U	0.0035 U	21,000	21,000
Naphthalene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.063 U	0.33 U	0.0061 U	0.011 U	0.0053 U	0.0058 U	70,000	70,000
n-Butylbenzene	mg/kg	ND	ND	**0.294**	ND	ND	--	--	--	--	--	**0.049 J**	**0.25**	0.0024 U	0.0043 U	0.0021 U	0.0023 U	180,000	180,000
n-Propylbenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	**0.02**	**0.074**	0.0012 U	0.0022 U	0.0011 U	0.0012 U	350,000	350,000
p-Isopropyltoluene	mg/kg	ND	ND	**0.274**	ND	ND	--	--	--	--	--	--	--	--	--	--	--	NE	NE
sec-Butylbenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	**0.05**	**0.22**	0.0012 U	0.0022 U	0.0011 U	0.0012 U	350,000	350,000
Styrene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	700,000	700,000
tert-Butylbenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	350,000	350,000
Tetrachloroethene (PCE)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	21,000	21,000
Trans-1,2-Dichloroethene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	70,000	70,000
Trans-1,3-Dichloropropene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	NE	NE
Trans-1,4-Dichloro-2-butene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.037 U	0.058 U	0.0012 U	0.0022 U	0.0053 U	0.0058 U	NE	NE
Trichloroethene (TCE)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	1,800	1,800
Trichlorofluoromethane (CFC 11)	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	1,100,000	1,100,000
Vinyl Acetate	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.057 U	0.058 U	R	R	R	R	3,500,000	3,500,000
Vinyl Chloride	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.011 U	0.012 U	0.0012 U	0.0022 U	0.0011 U	0.0012 U	88	88
Semi-Volatile Organic Compounds (SVOCs)																			
1,2,4-Trichlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.062 U	4,500	4,500
1,2-Dichlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.062 U	320,000	320,000
1,3-Dichlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.062 U	NE	NE
1,4-Dichlorobenzene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.062 U	24,000	24,000
2,2'-Oxybis[1-chloropropane]	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.062 U	NE	NE
2,4,5-Trichlorophenol	mg/kg	ND	ND	ND	ND	ND	0.95 U	1.1 U	1.4 U	0.94 U	1.1 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.41 U	350,000	350,000
2,4,6-Trichlorophenol	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.082 U	3,500	3,500
2,4-Dichlorophenol	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.062 U	11,000	11,000
2,4-Dimethylphenol	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	1.4 U	0.75 U	0.8 U	1.1 U	0.71 U	0.62 U	70,000	70,000
2,4-Dinitrophenol	mg/kg	ND	ND	ND	ND	ND	0.95 U	1.1 U	1.4 U	0.94 U	1.1 U	1.4 U	0.75 U	0.8 U	1.1 U	0.71 U	0.41 U	7,000	7,000
2,4-Dinitrotoluene	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.41 U	420	420
2,6-Dinitrotoluene	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.41 U	88	88
2-Chloronaphthalene	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.062 U	280,000	280,000
2-Chlorophenol	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	1.1 U	0.71 U	0.082 U	18,000	18,000
2-Nitroaniline	mg/kg	ND	ND	ND	ND	ND	0.95 U	1.1 U	1.4 U	0.94 U	1.1 U	0.14 U	0.075 U	0.08 U	1.1 U	0.71 U	0.082 U	35,000	35,000
2-Nitrophenol	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.42 U	0.23 U	0.24 U	0.32 U	0.21 U	0.24 U	NE	NE
3,3'-Dichlorobenzidine	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.41 U	290	290
3-Nitroaniline	mg/kg	ND	ND	ND	ND	ND	0.95 U	1.1 U	1.4 U	0.94 U	1.1 U	0.84 U	0.45 U	0.48 U	0.64 U	0.42 U	0.082 U	NE	NE
4,6-Dinitro-2-methylphenol	mg/kg	ND	ND	ND	ND	ND	0.95 U	1.1 U	1.4 U	0.94 U	1.1 U	1.4 U	0.75 U	0.8 U	1.1 U	0.71 U	0.82 U	280	280
4-Bromophenyl-phenylether	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	NE	NE
4-Chloro-3-Methylphenol	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.41 U	350,000	350,000
4-Chloroaniline	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.28 U	0.15 U	0.16 U	0.21 U	0.14 U	0.16 U	660	660
4-Chlorophenyl-phenylether	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	NE	NE
4-Nitroaniline	mg/kg	ND	ND	ND	ND	ND	0.95 U	1.1 U	1.4 U	0.94 U	1.1 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.41 U	6,600	6,600
4-Nitrophenol	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.082 U	NE	NE
Acetophenone	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	--	--	--	--	--	--	NE	NE
Atrazine	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	--	--	--	--	--	--	NE	NE
Benzaldehyde	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	NE	NE
Benzoic acid	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.062 U	14,000,000	14,000,000
Benzyl alcohol	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.41 U	350,000	350,000
Biphenyl	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	--	--	--	--	--	--	NE	NE
bis(2-Chloroethoxy)methane	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.42 U	0.23 U	0.24 U	0.32 U	0.21 U	0.24 U	11,000	11,000
bis(2-chloroethyl)ether	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.28 U	0.15 U	0.16 U	0.21 U	0.14 U	0.16 U	120	120
bis(2-Ethylhexyl)phthalate	mg/kg	ND	ND	**5.5**	ND	ND	**0.2 J**	**0.47**	**0.049 J**	**0.44**	**0.068 J**	**1**	0.075 U	0.08 U	0.11 U	**0.13**	0.082 U	9,400	9,400
Butylbenzylphthalate	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	**0.12**	0.082 U	69,000	69,000
Caprolactam	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	--	--	--	--	--	--	NE	NE
Carbazole	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	NE	NE
Dibenzofuran	mg/kg	ND	ND	ND	ND	ND	**0.0019 J**	**0.0028 J**	0.56 U	0.38 U	0.42 U	0.14 U	**0.15**	0.08 U	0.11 U	0.071 U	0.82 U	3,500	3,500
Diethylphthalate	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	2,800,000	2,800,000
Dimethylphthalate	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	NE	NE
Di-n-butylphthalate	mg/kg	ND	ND	ND	ND	ND	0.38 U	**0.01 J**	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	350,000	350,000

Sample Location[1]		S-2	SS-9	SS-11	SS-14A	SS-14B	DCI-SB-UL01	DCI-SB-UL01	DCI-SB-UL01	DCI-SB-UL03	DCI-SB-UL03	S-3-EFA	S-3-EFA	S-3-EFA	S-3-EFA	S-4-EFA	S-4-EFA	Proposed Soil Cleanup Level[2]	
Sample Identification		DC-B-2A	DC-UPLD SS-9	DC-UPLD SS-11[2]	DC-UPLD SS-14A[2]	DC-UPLD SS-14B[2]	0020-LAI	0040-LAI	0070-LAI	0020-LAI	0060-LAI	S-3-EFA-0	S-3-EFA-1	S-3-EFA-2	S-3-EFA-3	S-4-EFA-0	S-4-EFA-1		
Date Sampled		07/14/97	07/30/97	07/30/97	07/30/97	07/30/97	07/17/01	07/17/01	07/17/01	07/17/01	07/17/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0-1 ft	1-4 ft	4-7 ft	10-13 ft	0-1 ft	1-4 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose		
Sample Study		1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By	Units	Otten	Otten	Otten	Otten	Otten	EPA/Weston	EPA/Weston	EPA/Weston	EPA/Weston	EPA/Weston	Landau	Landau	Landau	Landau	Landau	Landau		
Di-n-octylphthalate	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	--	--	--	--	--	--	35,000	35,000
Hexachlorobenzene	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	82	82
Hexachlorobutadiene	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.28 U	0.15 U	0.16 U	0.21 U	0.14 U	0.082 U	1,700	1,700
Hexachlorocyclopentadiene	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.14 U	21,000	21,000
Hexachloroethane	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.21 U	0.071 U	0.082 U	2,500	2,500
Isophorone	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.14 U	140,000	140,000
Nitrobenzene	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	7,000	7,000
n-Nitroso-di-n-propylamine	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.28 U	0.15 U	0.16 U	0.21 U	0.14 U	0.16 U	19	19
n-Nitrosodiphenylamine	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	27,000	27,000
o-Cresol (2-Methylphenol)	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	180,000	180,000
p-Cresol (4-Methylphenol)	mg/kg	ND	ND	ND	ND	ND	0.95 U	1.1 U	1.4 U	0.94 U	1.1 U	0.28 U	0.15 U	0.16 U	0.21 U	0.14 U	0.16 U	350,000	350,000
Pentachlorophenol	mg/kg	ND	ND	ND	ND	ND	0.95 U	1.1 U	1.4 U	0.94 U	1.1 U	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.41 U	330	330
Phenol	mg/kg	ND	ND	ND	ND	ND	**0.0053 J**	**0.0044 J**	0.56 U	0.38 U	0.42 U	0.28 U	0.15 U	0.16 U	0.21 U	0.14 U	0.16 U	1,100,000	1,100,000
Non-carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)																			
1-Methylnaphthalene	mg/kg	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	4,500	4,500
2-Methylnaphthalene	mg/kg	ND	ND	**5.1**	ND	ND	**0.0019 J**	**0.0069 J**	0.56 U	0.38 U	**0.0029 J**	0.7 U	0.38 U	0.4 U	0.53 U	0.35 U	0.41 U	14,000	14,000
Acenaphthene	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	210,000	210,000
Acenaphthylene	mg/kg	ND	ND	ND	ND	ND	0.38 U	**0.0061 J**	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.49 U	NE	NE
Anthracene	mg/kg	ND	ND	**11**	ND	ND	**0.003 J**	**0.013 J**	**0.0039 J**	0.36 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	1,100,000	1,100,000
Benzo[g,h,i]perylene	mg/kg	ND	ND	ND	ND	ND	0.38 U	**0.078 J**	0.56 U	0.38 U	0.42 U	**0.2**	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	NE	NE
Fluoranthene	mg/kg	ND	ND	ND	ND	ND	**0.016 J**	**0.15 J**	**0.013 J**	**0.014 J**	**0.0046 J**	**0.38**	**0.14**	0.08 U	0.11 U	**0.12**	0.082 U	140,000	140,000
Fluorene	mg/kg	ND	ND	ND	ND	ND	0.38 U	**0.004 J**	0.56 U	0.36 U	0.42 U	**0.15**	**0.25**	0.08 U	0.11 U	0.071 U	0.082 U	140,000	140,000
Naphthalene	mg/kg	ND	ND	ND	ND	ND	0.38 U	**0.016 J**	0.56 U	0.38 U	0.42 U	0.42 U	0.23 U	0.24 U	0.32 U	0.21 U	0.16 U	70,000	70,000
Phenanthrene	mg/kg	ND	**6.9 J**	ND	ND	ND	**0.025 J**	**0.079 J**	**0.033 J**	**0.014 J**	**0.0058 J**	**0.34**	**0.62**	0.08 U	0.11 U	**0.083**	0.082 U	NE	NE
Pyrene	mg/kg	ND	ND	**2.7**	ND	**5.1 J**	**0.017 J**	**0.17 J**	**0.011 J**	**0.015 J**	**0.0054 J**	**0.36**	**0.1**	0.08 U	0.11 U	**0.1**	0.082 U	110,000	110,000
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)																			
Benzo[a]anthracene	mg/kg	ND	ND	ND	ND	ND	**0.0069 J**	**0.078 J**	0.56 U	0.38 U	0.42 U	**0.18**	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U	see cPAH TEQ	see cPAH TEQ
Benzo[a]pyrene	mg/kg	ND	ND	ND	ND	ND	0.38 U	**0.081 J**	0.58 U	0.38 U	0.42 U	**0.19**	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U		
Benzo[b]fluoranthene	mg/kg	ND	ND	ND	ND	ND	0.38 U	**0.067 J**	0.56 U	0.38 U	0.42 U	**0.21**	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U		
Benzo[k]fluoranthene	mg/kg	ND	ND	ND	ND	ND	0.38 U	**0.071 J**	0.58 U	0.38 U	0.42 U	**0.26**	0.075 U	0.08 U	0.11 U	**0.071**	0.082 U		
Chrysene	mg/kg	ND	ND	ND	ND	ND	**0.011 J**	**0.097 J**	0.56 U	**0.0075 J**	**0.0025 J**	**0.27**	0.075 U	0.08 U	0.11 U	**0.077**	0.082 U		
Dibenz[a,h]anthracene	mg/kg	ND	ND	ND	ND	ND	0.38 U	0.41 U	0.56 U	0.38 U	0.42 U	0.14 U	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U		
Indeno[1,2,3-c,d]pyrene	mg/kg	ND	ND	ND	ND	ND	0.38 U	**0.070 J**	0.56 U	0.38 U	0.42 U	**0.2**	0.075 U	0.08 U	0.11 U	0.071 U	0.082 U		
cPAHs TEQ (ND = 0.5RL)	mg/kg	ND	ND	ND	ND	ND	**0.266 J**	**0.131 J**	0.44 U	**0.285 J**	**0.315 J**	**0.28**	0.056 U	0.06 U	0.08 U	**0.061**	0.061 U	2.0	0.1
Pesticides (ug/kg)																			
4,4'-DDD	ug/kg	ND	ND	ND	ND	ND	**0.05 J**	**0.4 J**	5.6 U	3.7 U	4.1 U	--	--	--	--	--	--	110	110
4,4'-DDE	ug/kg	ND	ND	ND	ND	ND	3.8 U	**0.16 J**	5.6 U	3.7 U	4.1 U	--	--	--	--	--	--	390	390
4,4'-DDT	ug/kg	ND	ND	ND	ND	ND	**0.048 J**	**0.11 J**	**0.099 J**	3.7 U	4.1 U	--	--	--	--	--	--	4	4
Aldrin	ug/kg	ND	ND	ND	ND	ND	1.9 U	2.1 U	**0.12 J**	1.9 U	2.1 U	--	--	--	--	--	--	7.7	7.7
alpha-BHC	ug/kg	ND	ND	ND	ND	ND	1.9 U	2.1 U	2.9 U	1.9 U	2.1 U	--	--	--	--	--	--	21	21
alpha-Chlordane	ug/kg	ND	ND	ND	ND	ND	**0.034 J**	2.1 U	2.9 U	1.9 U	2.1 U	--	--	--	--	--	--	NE	NE
beta-BHC	ug/kg	ND	ND	ND	ND	**17**	1.9 U	2.1 U	2.9 U	1.9 U	2.1 U	--	--	--	--	--	--	73	73
delta-BHC	ug/kg	ND	ND	ND	ND	ND	1.9 U	2.1 U	2.9 U	1.9 U	2.1 U	--	--	--	--	--	--	NE	NE
Dieldrin	ug/kg	ND	ND	ND	ND	ND	**0.21 J**	4 U	5.6 U	3.7 U	4.1 U	--	--	--	--	--	--	8.2	8.2
Endosulfan	ug/kg	ND	ND	ND	ND	ND	1.9 U	**1 J**	**0.11 J**	1.9 U	2.1 U	--	--	--	--	--	--	NE	NE
Endosulfan II	ug/kg	ND	ND	ND	ND	ND	3.8 U	4 U	5.6 U	3.7 U	4.1 U	--	--	--	--	--	--	NE	NE
Endosulfan Sulfate	ug/kg	ND	ND	ND	ND	ND	3.8 U	4 U	5.6 U	3.7 U	4.1 U	--	--	--	--	--	--	21,000	21,000
Endrin	ug/kg	ND	**15**	ND	ND	ND	3.8 U	4 U	5.6 U	3.7 U	4.1 U	--	--	--	--	--	--	1100	1100
Endrin aldehyde	ug/kg	**113**	ND	ND	ND	ND	3.8 U	4 U	5.6 U	3.7 U	4.1 U	--	--	--	--	--	--	NE	NE
Endrin Ketone	ug/kg	ND	ND	ND	ND	ND	3.8 U	4 U	5.6 U	3.7 U	4.1 U	--	--	--	--	--	--	NE	NE
gamma-Chlordane	ug/kg	ND	ND	ND	ND	ND	**0.2 J**	**0.21 J**	2.9 U	0.05 U	2.1 U	--	--	--	--	--	--	NE	NE
Heptachlor	ug/kg	ND	ND	ND	ND	ND	**0.094 J**	**0.14 J**	2.9 U	**0.042 J**	2.1 U	--	--	--	--	--	--	29	29
Heptachlor Epoxide	ug/kg	ND	ND	ND	ND	ND	**0.038 J**	**0.058 J**	2.9 U	1.9 U	2.1 U	--	--	--	--	--	--	14	14
Lindane (Gamma-BHC)	ug/kg	ND	ND	ND	ND	ND	1.9 U	2.1 U	2.9 U	1.9 U	2.1 U	--	--	--	--	--	--	0.01	0.01
Methoxychlor	ug/kg	ND	ND	ND	ND	ND	19 U	21 U	29 U	19 U	21 U	--	--	--	--	--	--	18,000	18,000
Toxaphene	ug/kg	ND	ND	ND	ND	ND	190 U	210 U	290 U	190 U	210 U	--	--	--	--	--	--	120	120
Polychlorinated Biphenyls (PCBs)																			
Total PCBs (sum of Aroclors or Congeners)	mg/kg	ND	**0.107**	**0.073**	**0.067**	ND	0.077 U	0.081 U	0.110 U	0.076 U	0.084 U	--	--	--	--	--	--	10	10

Sample Location[1]		S-2	SS-9	SS-11	SS-14A	SS-14B	DCI-SB-UL01	DCI-SB-UL01	DCI-SB-UL01	DCI-SB-UL03	DCI-SB-UL03	S-3-EFA	S-3-EFA	S-3-EFA	S-3-EFA	S-4-EFA	S-4-EFA	Proposed Soil Cleanup Level[2]	
Sample Identification		DC-B-2A	DC-UPLD SS-9	DC-UPLD SS-11[2]	DC-UPLD SS-14A[2]	DC-UPLD SS-14B[2]	0020-LAI	0040-LAI	0070-LAI	0020-LAI	0060-LAI	S-3-EFA-0	S-3-EFA-1	S-3-EFA-2	S-3-EFA-3	S-4-EFA-0	S-4-EFA-1		
Date Sampled		07/14/97	07/30/97	07/30/97	07/30/97	07/30/97	07/17/01	07/17/01	07/17/01	07/17/01	07/17/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0-1 ft	1-4 ft	4-7 ft	10-13 ft	0-1 ft	1-4 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose		
Sample Study		1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	1997 Site Assessment	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 Site Inspection	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By	Units	Otten	Otten	Otten	Otten	Otten	EPA/Weston	EPA/Weston	EPA/Weston	EPA/Weston	EPA/Weston	Landau	Landau	Landau	Landau	Landau	Landau		
Dioxins and Furans																			
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Total Dioxins/Furans - Human Health TEQ	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,700	1,700

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[5] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

ng/kg = Nanogram per kilogram

-- = not analyzed

NE = not established

ND = Non-detect

RL = Reporting limit

TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-2

Chemical Analytical Soil Data - VOCs, SVOCs, Pesticides, PCBs and Dioxins and Furans

Dakota Creek Industries
Anacortes, Washington

Sample Location[1]	Units	S-4-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-6-UST	S-6-UST	S-6-UST	S-6-UST	S-7-UST	S-7-UST	S-7-UST	S-7-UST	S-9-CPH	S-9-CPH	S-9-CPH	Proposed Soil Cleanup Level[2]	
Sample Identification		S-4-EFA-2	S-5-EFA-0	S-5-EFA-1	S-5-EFA-2	S-5-EFA-3	S-5-EFA-4	S-6-TPH-0	S-6-TPH-1	Dup (S-6-TPH-1)	S-6-TPH-2	S-7-TPH-0[2]	S-7-TPH-1[2]	S-7-TPH-2[2]	S-7-TPH-3[2]	S-9-CPH-0	Dup (S-9-CPH-0)	S-9-CPH-1		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	10-13 ft	0-1 ft	1-4 ft	1-4 ft	4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	0-1 ft	0-1 ft	1-4 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Volatile Organic Compounds (VOCs)																				
1,1,1,2-Tetrachloroethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	5,000	5,000
1,1,1-Trichloroethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	7,000,000	7,000,000
1,1,2,2-Tetrachloroethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	660	660
1,1,2-trichloro-1,2,2-trifluoroethane (CFC113)	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	110,000,000	110,000,000
1,1,2-Trichloroethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	2,300	2,300
1,1-Dichloroethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	23,000	23,000
1,1-Dichloroethene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	180,000	180,000
1,1-Dichloropropene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
1,2,3-Trichlorobenzene	mg/kg	0.0064 U	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	2,800	2,800
1,2,3-Trichloropropane	mg/kg	0.0026 U	0.0022 U	0.0024 U	0.0028 U	0.0027 U	0.0023 U	--	--	--	--	--	--	--	--	0.0021 U	0.0021 U	0.0021 U	4.4	4.4
1,2,4-Trichlorobenzene	mg/kg	0.0064 U	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	4,500	4,500
1,2,4-Trimethylbenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	35,000	35,000
1,2-Dibromo-3-chloropropane	mg/kg	0.0064 U	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	160	160
1,2-Dibromoethane (EDB)	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	66	66
1,2-Dichlorobenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	320,000	320,000
1,2-Dichloroethane (EDC)	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	1,400	1,400
1,2-Dichloropropane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	3,500	3,500
1,3,5-Trimethylbenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	35,000	35,000
1,3-Dichlorobenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
1,3-Dichloropropane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	70,000	70,000
1,4-Dichlorobenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	24,000	24,000
2,2-Dichloropropane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
2-Butanone (MEK)	mg/kg	0.0064 U	0.0056 U	0.0061 U	**0.032**	**0.018**	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	2,100,000	2,100,000
2-Chloroethyl Vinyl Ether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2-Chlorotoluene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	70,000	70,000
2-Hexanone	mg/kg	0.0064 U	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	18,000	18,000
4-Chlorotoluene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
4-Isopropyltoluene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	0.0064 U	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	280,000	280,000
Acetone	mg/kg	0.038 U	0.0056 U	0.0061 U	**0.22**	**0.1**	**0.027**	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	3,200,000	3,200,000
Acrolein	mg/kg	0.064 U	0.056 U	0.061 U	0.069 U	0.066 U	0.057 U	--	--	--	--	--	--	--	--	0.053 U	0.054 U	0.056 U	NE	NE
Acrylonitrile	mg/kg	0.0064 U	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	240	240
Bromobenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	28,000	28,000
Bromochloromethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
Bromoethane	mg/kg	0.0026 U	0.0022 U	0.0024 U	0.0028 U	0.0027 U	0.0023 U	--	--	--	--	--	--	--	--	0.0021 U	0.0021 U	0.0021 U	NE	NE
Bromoform	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	17,000	17,000
Bromomethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	4,900	4,900
Carbon Disulfide	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	350,000	350,000
Carbon Tetrachloride	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	1,900	1,900
Chlorobenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	70,000	70,000
Chloroethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
Chloroform	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	4,200	4,200
Chloromethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
Cis-1,2-Dichloroethene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	7,000	7,000
Cis-1,3-Dichloropropene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
Dibromochloromethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	1,600	1,600
Dibromomethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	35,000	35,000
Dichlorobromomethane	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	2,100	2,100
Dichlorodifluoromethane (CFC 12)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000
Hexachlorobutadiene	mg/kg	0.0064 U	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	1,700	1,700
Isopropylbenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	350,000	350,000
Methyl Iodide	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE

Sample Location[1]		S-4-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-6-UST	S-6-UST	S-6-UST	S-6-UST	S-7-UST	S-7-UST	S-7-UST	S-7-UST	S-9-CPH	S-9-CPH	S-9-CPH	Proposed Soil Cleanup Level[2]	
Sample Identification		S-4-EFA-2	S-5-EFA-0	S-5-EFA-1	S-5-EFA-2	S-5-EFA-3	S-5-EFA-4	S-6-TPH-0	S-6-TPH-1	Dup (S-6-TPH-1)	S-6-TPH-2	S-7-TPH-0[2]	S-7-TPH-1[2]	S-7-TPH-2[2]	S-7-TPH-3[2]	S-9-CPH-0	Dup (S-9-CPH-0)	S-9-CPH-1		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	10-13 ft	0-1 ft	1-4 ft	1-4 ft	4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	0-1 ft	0-1 ft	1-4 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By	Units	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Methyl t-Butyl Ether (MTBE)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73,000	73,000
Methylene Chloride	mg/kg	0.0039 U	0.0034 U	0.0037 U	0.0041 U	**0.0045**	0.0034 U	--	--	--	--	--	--	--	--	0.0032 U	0.0081 U	0.0034 U	21,000	21,000
Naphthalene	mg/kg	0.0064 U	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	70,000	70,000
n-Butylbenzene	mg/kg	0.0028 U	0.0022 U	0.0024 U	0.0028 U	0.0027 U	0.0023 U	--	--	--	--	--	--	--	--	0.0021 U	0.0021 U	0.0021 U	180,000	180,000
n-Propylbenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	350,000	350,000
p-Isopropyltoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
sec-Butylbenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	350,000	350,000
Styrene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	700,000	700,000
tert-Butylbenzene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	350,000	350,000
Tetrachloroethene (PCE)	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	21,000	21,000
Trans-1,2-Dichloroethene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	70,000	70,000
Trans-1,3-Dichloropropene	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	NE	NE
Trans-1,4-Dichloro-2-butene	mg/kg	0.0013 U	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	NE	NE
Trichloroethene (TCE)	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	1,800	1,800
Trichlorofluoromethane (CFC 11)	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	1,100,000	1,100,000
Vinyl Acetate	mg/kg	R	0.0056 U	0.0061 U	0.0069 U	0.0066 U	0.0057 U	--	--	--	--	--	--	--	--	0.0053 U	0.0054 U	0.0056 U	3,500,000	3,500,000
Vinyl Chloride	mg/kg	0.0013 U	0.0011 U	0.0012 U	0.0014 U	0.0013 U	0.0011 U	--	--	--	--	--	--	--	--	0.0011 U	0.0011 U	0.0011 U	88	88
Semi-Volatile Organic Compounds (SVOCs)																				
1,2,4-Trichlorobenzene	mg/kg	0.062 U	0.007 U	0.062 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	4,500	4,500
1,2-Dichlorobenzene	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	320,000	320,000
1,3-Dichlorobenzene	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,4-Dichlorobenzene	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	24,000	24,000
2,2'-Oxybis[1-chloropropane]	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,4,5-Trichlorophenol	mg/kg	0.41 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
2,4,6-Trichlorophenol	mg/kg	0.082 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
2,4-Dichlorophenol	mg/kg	0.062 U	0.007 U	0.062 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	11,000	11,000
2,4-Dimethylphenol	mg/kg	0.82 U	0.007 U	0.82 U	0.96 U	0.99 U	0.8 U	--	--	--	--	--	--	--	--	--	--	--	70,000	70,000
2,4-Dinitrophenol	mg/kg	0.41 U	0.007 U	0.82 U	0.96 U	0.99 U	0.8 U	--	--	--	--	--	--	--	--	--	--	--	7,000	7,000
2,4-Dinitrotoluene	mg/kg	0.41 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	420	420
2,6-Dinitrotoluene	mg/kg	0.41 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	88	88
2-Chloronaphthalene	mg/kg	0.062 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
2-Chlorophenol	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
2-Nitroaniline	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	35,000	35,000
2-Nitrophenol	mg/kg	0.24 U	0.21 U	0.24 U	0.29 U	0.3 U	0.24 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
3,3'-Dichlorobenzidine	mg/kg	0.41 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	290	290
3-Nitroaniline	mg/kg	0.082 U	0.42 U	0.49 U	0.58 U	0.5 U	0.48 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4,6-Dinitro-2-methylphenol	mg/kg	0.82 U	0.7 U	0.82 U	0.96 U	0.99 U	0.8 U	--	--	--	--	--	--	--	--	--	--	--	280	280
4-Bromophenyl-phenylether	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Chloro-3-Methylphenol	mg/kg	0.41 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
4-Chloroaniline	mg/kg	0.16 U	0.14 U	0.16 U	0.19 U	0.2 U	0.16 U	--	--	--	--	--	--	--	--	--	--	--	660	660
4-Chlorophenyl-phenylether	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Nitroaniline	mg/kg	0.41 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	6,600	6,600
4-Nitrophenol	mg/kg	0.082 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Acetophenone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Atrazine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Benzaldehyde	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Benzoic acid	mg/kg	0.062 U	0.007 U	0.062 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	14,000,000	14,000,000
Benzyl alcohol	mg/kg	0.41 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Biphenyl	mg/kg	--	--	--	--			--	--	--	--	--	--	--	--	--	--	--	NE	NE
bis(2-Chloroethoxy)methane	mg/kg	0.25 U	0.21 U	0.24 U	0.29 U	0.099 U	0.24 U	--	--	--	--	--	--	--	--	--	--	--	11,000	11,000
bis(2-chloroethyl)ether	mg/kg	0.16 U	0.14 U	0.16 U	0.19 U	0.2 U	0.16 U	--	--	--	--	--	--	--	--	--	--	--	120	120
bis(2-Ethylhexyl)phthalate	mg/kg	**0.15**	**4.3**	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	9,400	9,400
Butylbenzylphthalate	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	69,000	69,000
Caprolactam	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Carbazole	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Dibenzofuran	mg/kg	0.82 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	0.036 U	0.0081 U	0.008 U	**0.011**	0.0076 U	0.220 U	**0.081**	0.0083 U	--	--	--	3,500	3,500
Diethylphthalate	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	2,800,000	2,800,000
Dimethylphthalate	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butylphthalate	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000

Sample Location[1]		S-4-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-6-UST	S-6-UST	S-6-UST	S-6-UST	S-7-UST	S-7-UST	S-7-UST	S-7-UST	S-9-CPH	S-9-CPH	S-9-CPH	Proposed Soil Cleanup Level[2]	
Sample Identification		S-4-EFA-2	S-5-EFA-0	S-5-EFA-1	S-5-EFA-2	S-5-EFA-3	S-5-EFA-4	S-6-TPH-0	S-6-TPH-1	Dup (S-6-TPH-1)	S-6-TPH-2	S-7-TPH-0[2]	S-7-TPH-1[2]	S-7-TPH-2[2]	S-7-TPH-3[2]	S-9-CPH-0	Dup (S-9-CPH-0)	S-9-CPH-1		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	10-13 ft	0-1 ft	1-4 ft	1-4 ft	4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	0-1 ft	0-1 ft	1-4 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By	Units	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Di-n-octylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35,000	35,000
Hexachlorobenzene	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	82	82
Hexachlorobutadiene	mg/kg	0.082 U	0.14 U	0.16 U	0.19 U	0.2 U	0.16 U	--	--	--	--	--	--	--	--	--	--	--	1,700	1,700
Hexachlorocyclopentadiene	mg/kg	0.14 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Hexachloroethane	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	2,500	2,500
Isophorone	mg/kg	0.14 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Nitrobenzene	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	7,000	7,000
n-Nitroso-di-n-propylamine	mg/kg	0.16 U	0.14 U	0.16 U	0.19 U	0.2 U	0.16 U	--	--	--	--	--	--	--	--	--	--	--	19	19
n-Nitrosodiphenylamine	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	27,000	27,000
o-Cresol (2-Methylphenol)	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	--	--	--	--	--	--	--	--	--	--	--	180,000	180,000
p-Cresol (4-Methylphenol)	mg/kg	0.16 U	0.14 U	0.16 U	0.19 U	0.2 U	0.16 U	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Pentachlorophenol	mg/kg	0.41 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	--	--	--	--	--	--	--	--	--	--	--	330	330
Phenol	mg/kg	0.16 U	0.14 U	0.16 U	0.19 U	0.2 U	0.16 U	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Non-carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)																				
1-Methylnaphthalene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4,500	4,500
2-Methylnaphthalene	mg/kg	0.41 U	0.35 U	0.41 U	0.48 U	0.5 U	0.4 U	0.036 U	0.0081 U	**0.053 J**	**0.0098**	**0.0099**	0.22 U	**1.3**	**0.11**	--	--	--	14,000	14,000
Acenaphthene	mg/kg	0.82 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	0.036 U	0.0081 U	0.012 UJ	**0.011**	0.0076 U	0.22 U	0.095 UJ	0.0091 UJ	--	--	--	210,000	210,000
Acenaphthylene	mg/kg	0.49 U	0.007 U	0.082 U	0.96 U	0.59 U	0.08 U	0.036 U	0.0081 U	0.008 U	**0.12**	0.0084 UJ	0.22 U	0.11 U	0.0083 U	--	--	--	NE	NE
Anthracene	mg/kg	**0.12**	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	0.036 U	0.0081 U	0.008 U	0.110 UJ	0.018 UJ	0.22 U	0.054 U	0.0083 U	--	--	--	1,100,000	1,100,000
Benzo[g,h,i]perylene	mg/kg	**0.56**	**0.22**	0.082 U	0.096 U	0.099 U	0.08 U	**0.094**	0.0081 U	**0.008**	**0.32**	**0.12**	0.22 U	**0.077**	0.0083 U	--	--	--	NE	NE
Fluoranthene	mg/kg	**2**	**0.33**	0.082 U	**0.19**	0.099 U	0.08 U	**0.26**	**0.01**	**0.022**	**1.2**	**0.2**	0.22 U	0.068 UJ	0.0083 U	--	--	--	140,000	140,000
Fluorene	mg/kg	0.082 U	0.007 U	0.082 U	0.096 U	0.099 U	0.08 U	0.036 U	0.0081 U	**0.043 J**	**0.037**	0.0076 U	0.22 U	**0.49**	**0.041**	--	--	--	140,000	140,000
Naphthalene	mg/kg	0.16 U	0.21 U	0.24 U	0.29 U	0.3 U	0.24 U	0.036 U	0.0081 U	**0.014**	**0.012**	0.0076 U	0.22 U	**0.12**	0.0083 U	--	--	--	70,000	70,000
Phenanthrene	mg/kg	**0.45**	**0.12**	0.082 U	0.096 U	0.099 U	0.08 U	**0.1**	**0.011 J**	**0.059 J**	**0.37**	**0.084**	**0.3**	**0.82**	**0.054**	--	--	--	NE	NE
Pyrene	mg/kg	**1.8 J**	**0.25**	0.082 U	**0.2**	0.099 U	0.08 U	**0.25**	**0.013 J**	**0.030 J**	**1.1**	**0.18**	0.22 U	**0.16**	0.0083 U	--	--	--	110,000	110,000
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)																				
Benzo[a]anthracene	mg/kg	**0.94**	**0.15**	0.082 U	0.096 U	0.099 U	0.08 U	**0.13**	0.0081 U	**0.008**	**0.67**	**0.089**	0.22 U	**0.05**	0.0083 U	--	--	--	see cPAH TEQ	see cPAH TEQ
Benzo[a]pyrene	mg/kg	**1.0**	**0.18**	0.082 U	**0.099**	0.099 U	0.08 U	**0.15**	0.0081 U	0.008 U	**0.57**	**0.11**	0.22 U	**0.07**	0.0083 U	--	--	--		
Benzo[b]fluoranthene	mg/kg	**0.92**	**0.19**	0.082 U	0.096 U	0.099 U	0.08 U	**0.16**	0.0081 U	**0.0088**	**0.51**	**0.16**	0.22 U	**0.06**	0.0083 U	--	--	--		
Benzo[k]fluoranthene	mg/kg	**1.1**	**0.24**	0.082 U	0.096 U	0.099 U	0.08 U	0.15 UJ	0.0081 U	0.008 U	**0.47**	**0.12**	0.22 U	**0.06**	0.0083 U	--	--	--		
Chrysene	mg/kg	**1.1**	**0.19**	0.082 U	0.096 U	0.099 U	0.08 U	**0.18**	0.0081 U	0.011 UJ	**0.60**	**0.15**	0.22 U	0.090 UJ	0.0083 U	--	--	--		
Dibenz[a,h]anthracene	mg/kg	**0.13**	0.070 U	0.082 U	0.096 U	0.099 U	0.08 U	0.036 U	0.0081 U	0.008 U	**0.08**	**0.027**	0.22 U	0.045 U	0.0083 U	--	--	--		
Indeno[1,2,3-c,d]pyrene	mg/kg	**0.64**	**0.21**	0.082 U	0.096 U	0.099 U	0.08 U	**0.094**	0.0081 U	0.008 U	**0.39**	**0.13**	0.22 U	**0.08**	0.0083 U	--	--	--		
cPAHs TEQ (ND = 0.5RL)	mg/kg	**1.38**	**0.26**	0.061 U	**0.12**	0.075 U	0.05 U	**0.2**	0.005 U	**0.0069**	**0.79**	**0.16**	0.17 U	**0.10**	0.0061 U	--	--	--	2.0	0.1
Pesticides (ug/kg)																				
4,4'-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	110
4,4'-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	390	390
4,4'-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	4
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.7	7.7
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21	21
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73	73
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.2	8.2
Endosulfan	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Endosulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Endosulfan Sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1100	1100
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Endrin Ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	29	29
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	14
Lindane (Gamma-BHC)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	0.01
Methoxychlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120	120
Polychlorinated Biphenyls (PCBs)																				
Total PCBs (sum of Aroclors or Congeners)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10	10

Sample Location[1]	Units	S-4-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-5-EFA	S-6-UST	S-6-UST	S-6-UST	S-6-UST	S-7-UST	S-7-UST	S-7-UST	S-7-UST	S-9-CPH	S-9-CPH	S-9-CPH	Proposed Soil Cleanup Level[2]	
Sample Identification		S-4-EFA-2	S-5-EFA-0	S-5-EFA-1	S-5-EFA-2	S-5-EFA-3	S-5-EFA-4	S-6-TPH-0	S-6-TPH-1	Dup (S-6-TPH-1)	S-6-TPH-2	S-7-TPH-0[2]	S-7-TPH-1[2]	S-7-TPH-2[2]	S-7-TPH-3[2]	S-9-CPH-0	Dup (S-9-CPH-0)	S-9-CPH-1		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01		
Sample Interval		4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	10-13 ft	0-1 ft	1-4 ft	1-4 ft	4-7 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	0-1 ft	0-1 ft	1-4 ft		
Sample Horizon		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	Vadose Zone	Saturated Zone
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau		
Dioxins and Furans																				
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Total Dioxins/Furans - Human Health TEQ	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,700	1,700

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[5] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

ng/kg = Nanogram per kilogram

-- = not analyzed

NE = not established

ND = Non-detect

RL = Reporting limit

TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-2

Chemical Analytical Soil Data - VOCs, SVOCs, Pesticides, PCBs and Dioxins and Furans

Dakota Creek Industries
Anacortes, Washington

Sample Location[1]	Units	S-9-CPH	S-9-CPH	S-9-CPH	S-10-MR	S-10-MR	S-10-MR	S-10-MR	CS-30	CS-33	MW-5	MW-5	SB-4	SB-4	SB-5	SB-5	SB-7	SB-7	Proposed Soil Cleanup Level[2]	
Sample Identification		S-9-CPH-2	S-9-CPH-3	S-9-CPH-3A	S-10-MR-0	S-10-MR-1	S-10-MR-2	S-10-MR-3	CS-30 8-20	CS-33 8-20	MW-5-5.0	MW-5-10.0	SB-4-3.0	SB-4-9.0	SB-5-3.0	SB-5-9.0	SB-7-3.0	SB-7-9.0		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/20/02	08/20/02	05/27/08	05/27/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08		
Sample Interval		4-7 ft	7-9 ft	9-10 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	N/A	N/A	5-6.5 ft	10-11.5 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft		
Sample Horizon		Saturated	Saturated	Saturated	Vadose	Vadose	Vadose	Saturated	N/A	N/A	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2002 Cleanup Action	2002 Cleanup Action	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	Vadose Zone	Saturated Zone
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Volatile Organic Compounds (VOCs)																				
1,1,1,2-Tetrachloroethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	5,000	5,000
1,1,1-Trichloroethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	7,000,000	7,000,000
1,1,2,2-Tetrachloroethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	660	660
1,1,2-trichloro-1,2,2-trifluoroethane (CFC113)	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	110,000,000	110,000,000
1,1,2-Trichloroethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	2,300	2,300
1,1-Dichloroethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	23,000	23,000
1,1-Dichloroethene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	180,000	180,000
1,1-Dichloropropene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3-Trichlorobenzene	mg/kg	0.0058 U	0.081 U	0.0072 U	0.0052 U	0.0058 U	0.0062 U	0.028 U	--	--	--	--	--	--	--	--	--	--	2,800	2,800
1,2,3-Trichloropropane	mg/kg	0.0023 U	0.032 U	0.0029 U	0.0021 U	0.0023 U	0.0025 U	0.011 U	--	--	--	--	--	--	--	--	--	--	4.4	4.4
1,2,4-Trichlorobenzene	mg/kg	0.0058 U	0.081 U	0.0072 U	0.0052 U	0.0058 U	0.0062 U	0.028 U	--	--	--	--	--	--	--	--	--	--	4,500	4,500
1,2,4-Trimethylbenzene	mg/kg	0.0012 U	**0.43**	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	35,000	35,000
1,2-Dibromo-3-chloropropane	mg/kg	0.0058 U	0.081 U	0.0072 U	0.0052 U	0.0058 U	0.0062 U	0.028 U	--	--	--	--	--	--	--	--	--	--	160	160
1,2-Dibromoethane (EDB)	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	0.005 U	0.005 U	0.005 U	--	0.005 U	--	0.005 U	--	66	66
1,2-Dichlorobenzene	mg/kg	0.0012 U	**0.11**	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	320,000	320,000
1,2-Dichloroethane (EDC)	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	0.010 U	0.010 U	0.010 U	--	0.010 U	--	0.010 U	--	1,400	1,400
1,2-Dichloropropane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	3,500	3,500
1,3,5-Trimethylbenzene	mg/kg	0.0012 U	**0.13**	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	35,000	35,000
1,3-Dichlorobenzene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE
1,3-Dichloropropane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	70,000	70,000
1,4-Dichlorobenzene	mg/kg	0.0012 U	0.038 UJ	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	24,000	24,000
2,2-Dichloropropane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE
2-Butanone (MEK)	mg/kg	0.0058 U	0.081 U	0.0072 U	0.0052 U	0.0058 U	0.0062 U	0.028 U	--	--	--	--	--	--	--	--	--	--	2,100,000	2,100,000
2-Chloroethyl Vinyl Ether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2-Chlorotoluene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	70,000	70,000
2-Hexanone	mg/kg	0.0058 U	0.081 U	0.0072 U	0.0052 U	0.0058 U	0.0062 U	0.028 U	--	--	--	--	--	--	--	--	--	--	18,000	18,000
4-Chlorotoluene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Isopropyltoluene	mg/kg	0.0012 U	**0.11**	**0.0022**	0.001 U	0.0012 U	0.0012 U	**0.85**	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	0.0012 U	0.016 U	0.0072 U	0.0052 U	0.0058 U	0.0062 U	0.028 U	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Acetone	mg/kg	0.0074 U	0.32 U	0.02 U	0.0052 U	0.0058 U	0.01 U	**0.32**	--	--	--	--	--	--	--	--	--	--	3,200,000	3,200,000
Acrolein	mg/kg	0.058 U	0.81 U	0.072 U	0.052 U	0.058 U	0.062 U	0.28 U	--	--	--	--	--	--	--	--	--	--	NE	NE
Acrylonitrile	mg/kg	0.0058 U	0.81 U	0.072 U	0.052 U	0.058 U	0.062 U	0.28 U	--	--	--	--	--	--	--	--	--	--	240	240
Bromobenzene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	28,000	28,000
Bromochloromethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE
Bromoethane	mg/kg	0.0023 U	0.32 U	0.02 U	0.0052 U	0.0058 U	0.01 U	0.011 U	--	--	--	--	--	--	--	--	--	--	NE	NE
Bromoform	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	17,000	17,000
Bromomethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	4,900	4,900
Carbon Disulfide	mg/kg	0.0012 U	**0.07**	**0.0058**	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Carbon Tetrachloride	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	1,900	1,900
Chlorobenzene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	70,000	70,000
Chloroethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE
Chloroform	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	4,200	4,200
Chloromethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE
Cis-1,2-Dichloroethene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	7,000	7,000
Cis-1,3-Dichloropropene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE
Dibromochloromethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	1,600	1,600
Dibromomethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	35,000	35,000
Dichlorobromomethane	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	2,100	2,100
Dichlorodifluoromethane (CFC 12)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000
Hexachlorobutadiene	mg/kg	0.0058 U	0.81 U	0.072 U	0.052 U	0.058 U	0.062 U	0.28 U	--	--	--	--	--	--	--	--	--	--	1,700	1,700
Isopropylbenzene	mg/kg	0.0012 U	**0.022**	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Methyl Iodide	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE

Sample Location[1]		S-9-CPH	S-9-CPH	S-9-CPH	S-10-MR	S-10-MR	S-10-MR	S-10-MR	CS-30	CS-33	MW-5	MW-5	SB-4	SB-4	SB-5	SB-5	SB-7	SB-7	Proposed Soil Cleanup Level[2]	
Sample Identification		S-9-CPH-2	S-9-CPH-3	S-9-CPH-3A	S-10-MR-0	S-10-MR-1	S-10-MR-2	S-10-MR-3	CS-30 8-20	CS-33 8-20	MW-5-5.0	MW-5-10.0	SB-4-3.0	SB-4-9.0	SB-5-3.0	SB-5-9.0	SB-7-3.0	SB-7-9.0		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/20/02	08/20/02	05/27/08	05/27/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08		
Sample Interval		4-7 ft	7-9 ft	9-10 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	N/A	N/A	5-6.5 ft	10-11.5 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft		
Sample Horizon		Saturated	Saturated	Saturated	Vadose	Vadose	Vadose	Saturated	N/A	N/A	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2002 Cleanup Action	2002 Cleanup Action	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	Vadose Zone	Saturated Zone
Sampled By	Units	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Methyl t-Butyl Ether (MTBE)	mg/kg	--	--	--	--	--	--	--	--	--	0.1 U	0.1 U	0.010 U	--	0.010 U	--	0.010 U	--	73,000	73,000
Methylene Chloride	mg/kg	0.0035 U	0.056 U	0.0043 U	0.0031 U	0.0035 U	0.037 U	0.017 U	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Naphthalene	mg/kg	0.0058 U	**1.8**	0.072 U	0.052 U	0.058 U	0.062 U	0.28 U	--	--	--	--	--	--	--	--	--	--	70,000	70,000
n-Butylbenzene	mg/kg	0.0023 U	0.09 UJ	0.0029 U	0.0021 U	0.0023 U	0.0025 U	0.011 U	--	--	--	--	--	--	--	--	--	--	180,000	180,000
n-Propylbenzene	mg/kg	0.0012 U	0.03 UJ	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	350,000	350,000
p-Isopropyltoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
sec-Butylbenzene	mg/kg	0.0012 U	0.031 UJ	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Styrene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	700,000	700,000
tert-Butylbenzene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Tetrachloroethene (PCE)	mg/kg	0.0058 U	0.81 U	0.072 U	0.052 U	0.058 U	0.062 U	0.28 U	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Trans-1,2-Dichloroethene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	70,000	70,000
Trans-1,3-Dichloropropene	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	NE	NE
Trans-1,4-Dichloro-2-butene	mg/kg	0.0058 U	0.81 U	0.072 U	0.052 U	0.058 U	0.062 U	0.28 U	--	--	--	--	--	--	--	--	--	--	NE	NE
Trichloroethene (TCE)	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	1,800	1,800
Trichlorofluoromethane (CFC 11)	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Vinyl Acetate	mg/kg	0.0058 U	0.81 U	0.072 U	0.052 U	0.058 U	0.062 U	0.28 U	--	--	--	--	--	--	--	--	--	--	3,500,000	3,500,000
Vinyl Chloride	mg/kg	0.0012 U	0.016 U	0.0014 U	0.001 U	0.0012 U	0.0012 U	0.0056 U	--	--	--	--	--	--	--	--	--	--	88	88
Semi-Volatile Organic Compounds (SVOCs)																				
1,2,4-Trichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4,500	4,500
1,2-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	320,000	320,000
1,3-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,4-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	24,000	24,000
2,2'-Oxybis[1-chloropropane]	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,4,5-Trichlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
2,4,6-Trichlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
2,4-Dichlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11,000	11,000
2,4-Dimethylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70,000	70,000
2,4-Dinitrophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7,000	7,000
2,4-Dinitrotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	420	420
2,6-Dinitrotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	88	88
2-Chloronaphthalene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
2-Chlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
2-Nitroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35,000	35,000
2-Nitrophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
3,3'-Dichlorobenzidine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	290
3-Nitroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4,6-Dinitro-2-methylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280	280
4-Bromophenyl-phenylether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Chloro-3-Methylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
4-Chloroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	660	660
4-Chlorophenyl-phenylether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Nitroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6,600	6,600
4-Nitrophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Acetophenone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Atrazine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Benzaldehyde	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Benzoic acid	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14,000,000	14,000,000
Benzyl alcohol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Biphenyl	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
bis(2-Chloroethoxy)methane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11,000	11,000
bis(2-chloroethyl)ether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120	120
bis(2-Ethylhexyl)phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9,400	9,400
Butylbenzylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	69,000	69,000
Caprolactam	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Carbazole	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Dibenzofuran	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Diethylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,800,000	2,800,000
Dimethylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000

Sample Location[1]		S-9-CPH	S-9-CPH	S-9-CPH	S-10-MR	S-10-MR	S-10-MR	S-10-MR	CS-30	CS-33	MW-5	MW-5	SB-4	SB-4	SB-5	SB-5	SB-7	SB-7	Proposed Soil Cleanup Level[2]	
Sample Identification		S-9-CPH-2	S-9-CPH-3	S-9-CPH-3A	S-10-MR-0	S-10-MR-1	S-10-MR-2	S-10-MR-3	CS-30 8-20	CS-33 8-20	MW-5-5.0	MW-5-10.0	SB-4-3.0	SB-4-9.0	SB-5-3.0	SB-5-9.0	SB-7-3.0	SB-7-9.0		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/20/02	08/20/02	05/27/08	05/27/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08		
Sample Interval		4-7 ft	7-9 ft	9-10 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	N/A	N/A	5-6.5 ft	10-11.5 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft		
Sample Horizon		Saturated	Saturated	Saturated	Vadose	Vadose	Vadose	Saturated	N/A	N/A	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2002 Cleanup Action	2002 Cleanup Action	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	Vadose Zone	Saturated Zone
Sampled By	Units	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Di-n-octylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35,000	35,000
Hexachlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	82	82
Hexachlorobutadiene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,700	1,700
Hexachlorocyclopentadiene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Hexachloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,500	2,500
Isophorone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Nitrobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7,000	7,000
n-Nitroso-di-n-propylamine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19	19
n-Nitrosodiphenylamine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	27,000	27,000
o-Cresol (2-Methylphenol)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180,000	180,000
p-Cresol (4-Methylphenol)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Pentachlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330	330
Phenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Non-carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)																				
1-Methylnaphthalene	mg/kg	--	--	--	--	--	--	--	--	--	**0.03**	0.02 U	0.02 U	--	0.02 U	--	**0.03**	--	4,500	4,500
2-Methylnaphthalene	mg/kg	--	--	--	--	--	--	--	--	--	**0.05**	0.02 U	0.02 U	--	0.02 U	--	**0.05**	--	14,000	14,000
Acenaphthene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	0.02 U	--	210,000	210,000
Acenaphthylene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.04**	0.02 U	0.02 U	--	0.02 U	--	0.02 U	--	NE	NE
Anthracene	mg/kg	--	--	--	--	--	--	--	0.10 U	**0.56**	**0.07**	**0.04**	0.02 U	--	0.02 U	--	0.02 U	--	1,100,000	1,100,000
Benzo[g,h,i]perylene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.17**	**0.11**	0.02 U	--	**0.06**	--	**0.04**	--	NE	NE
Fluoranthene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.29**	**0.29**	0.02 U	--	**0.1**	--	**0.05**	--	140,000	140,000
Fluorene	mg/kg	--	--	--	--	--	--	--	0.10 U	**0.3**	**0.05**	0.02 U	0.02 U	--	0.02 U	--	**0.02**	--	140,000	140,000
Naphthalene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.02**	0.02 U	0.02 U	--	0.02 U	--	**0.03**	--	70,000	70,000
Phenanthrene	mg/kg	--	--	--	--	--	--	--	0.10 U	**0.54**	**0.19**	**0.16**	0.02 U	--	**0.04**	--	**0.05**	--	NE	NE
Pyrene	mg/kg	--	--	--	--	--	--	--	0.10 U	**0.09**	**0.29**	**0.27**	0.02 U	--	**0.1**	--	**0.08**	--	110,000	110,000
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)																				
Benzo[a]anthracene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.13**	**0.13**	0.02 U	--	**0.04**	--	**0.02**	--	see cPAH TEQ	see cPAH TEQ
Benzo[a]pyrene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.13**	**0.13**	0.02 U	--	**0.05**	--	**0.03**	--		
Benzo[b]fluoranthene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.13**	**0.12**	0.02 U	--	**0.05**	--	**0.02**	--		
Benzo[k]fluoranthene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.11**	**0.12**	0.02 U	--	**0.04**	--	0.02 U	--		
Chrysene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.17**	**0.15**	0.02 U	--	**0.06**	--	**0.03**	--		
Dibenz[a,h]anthracene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.05**	**0.04**	0.02 U	--	0.02 U	--	0.02 U	--		
Indeno[1,2,3-c,d]pyrene	mg/kg	--	--	--	--	--	--	--	0.10 U	0.10 U	**0.13**	**0.09**	0.02 U	--	**0.04**	--	**0.02**	--		
cPAHs TEQ (ND = 0.5RL)	mg/kg	--	--	--	--	--	--	--	0.08 U	0.08 U	**0.19**	**0.18**	0.016 U	--	**0.07**	--	**0.038**	--	2.0	0.1
Pesticides (ug/kg)																				
4,4'-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	110
4,4'-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	390	390
4,4'-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	4
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.7	7.7
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21	21
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73	73
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.2	8.2
Endosulfan	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Endosulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Endosulfan Sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1100	1100
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Endrin Ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	29	29
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	14
Lindane (Gamma-BHC)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	0.01
Methoxychlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120	120
Polychlorinated Biphenyls (PCBs)																				
Total PCBs (sum of Aroclors or Congeners)	mg/kg	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	10	10

Sample Location[1]	Units	S-9-CPH	S-9-CPH	S-9-CPH	S-10-MR	S-10-MR	S-10-MR	S-10-MR	CS-30	CS-33	MW-5	MW-5	SB-4	SB-4	SB-5	SB-5	SB-7	SB-7	Proposed Soil Cleanup Level[2]	
Sample Identification		S-9-CPH-2	S-9-CPH-3	S-9-CPH-3A	S-10-MR-0	S-10-MR-1	S-10-MR-2	S-10-MR-3	CS-30 8-20	CS-33 8-20	MW-5-5.0	MW-5-10.0	SB-4-3.0	SB-4-9.0	SB-5-3.0	SB-5-9.0	SB-7-3.0	SB-7-9.0		
Date Sampled		08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/22/01	08/20/02	08/20/02	05/27/08	05/27/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08	06/16/08		
Sample Interval		4-7 ft	7-9 ft	9-10 ft	0-1 ft	1-4 ft	4-7 ft	7-10 ft	N/A	N/A	5-6.5 ft	10-11.5 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft	3-4 ft	9-10 ft		
Sample Horizon		Saturated	Saturated	Saturated	Vadose	Vadose	Vadose	Saturated	N/A	N/A	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated		
Sample Study		2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2001 RI	2002 Cleanup Action	2002 Cleanup Action	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	2008 RI	Vadose Zone	Saturated Zone
Sampled By		Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Dioxins and Furans																				
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	**1.90**	0.076 U	**0.630**	0.06 U	**0.080**	0.049 U	NE	NE
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.2 UJ	0.078 U	**0.54 J**	0.11 UJ	0.12 UJ	**0.076 J**	NE	NE
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.14 UJ	0.088 UJ	**0.37 J**	0.066 UJ	0.044 U	0.05 UJ	NE	NE
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.25 UJ	0.092 U	**0.72 J**	**0.071 J**	0.066 U	0.055 UJ	NE	NE
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.25 UJ	0.092 U	**0.49 J**	0.082 UJ	0.064 U	**0.088 J**	NE	NE
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	**2.40**	0.43 UJ	**5.3 J**	0.31 UJ	0.47 UJ	0.54 UJ	NE	NE
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	**20 J**	**2.5 J**	**30 J**	0.97 UJ	**4.6J**	**4.2 J**	NE	NE
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.27 UJ	0.056U	**2.2 J**	0.077 UJ	0.08 UJ	0.095 UJ	NE	NE
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.15 UJ	**0.068 J**	**1.3 J**	**0.071 J**	0.053 U	**0.07 J**	NE	NE
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	**0.57 J**	**0.086 J**	**6.3 J**	0.047 U	0.092 UJ	0.068 J	NE	NE
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.17 UJ	**0.072 J**	**1.1 J**	**0.06 J**	**0.058 J**	0.046 UJ	NE	NE
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.21 UJ	**0.1 J**	**3.4 J**	0.072 UJ	**0.077 J**	**0.047 J**	NE	NE
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	**0.14 J**	**0.11 J**	**0.5 J**	**0.054**	**0.053 J**	**0.043 J**	NE	NE
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.34 UJ	0.19 UJ	**3.3 J**	0.16 UJ	0.083 UJ	**0.051 J**	NE	NE
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	**1.4 J**	0.47 UJ	**3 J**	0.34 UJ	**0.17 J**	0.22 UJ	NE	NE
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	**0.11 J**	**0.15 J**	0.44 UJ	0.11 UJ	0.092 U	0.12 UJ	NE	NE
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	**1.5 J**	**0.46 J**	**2.8 J**	0.37 UJ	**0.23 J**	0.31 UJ	NE	NE
Total Dioxins/Furans - Human Health TEQ	ng/kg	--	--	--	--	--	--	--	--	--	--	--	**2.42 J**	**0.184 J**	**4.27 J**	**0.22 J**	**0.281**	**0.18 J**	1,700	1,700

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[5] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

ng/kg = Nanogram per kilogram

-- = not analyzed

NE = not established

ND = Non-detect

RL = Reporting limit

TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

Table G-2

Chemical Analytical Soil Data - VOCs, SVOCs, Pesticides, PCBs and Dioxins and Furans

Dakota Creek Industries
Anacortes, Washington

Sample Location[1]	Units	GEI-15	GEI-20	GEI-21	GEI-21	GEI-23	GEI-28	GEI-44	GEI-44	GEI-44	GEI-45	GEI-45	GEI-45	GEI-46	GEI-46	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-15_5.5-6.5_093014	GEI-20_6-7_093014	GEI-21_5-6_093014	GEI-21_7.5-8.5_093014	GEI-23_7.5-8.5_093014	GEI-28_5-6_100114	GEI-44_1.5-2	GEI-44_7.5-10	GEI-44_16-17.5	GEI-45_1-3	GEI-45_9-10	GEI-45_17-20	GEI-46_13.5-15	GEI-46_7-8.5		
Date Sampled		09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	10/01/2014	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018		
Sample Interval		5.5-6.5 ft	6-7 ft	5-6 ft	7.5-8.5 ft	7.5-8.5 ft	5-6 ft	1.5-2 ft	7.5-10 ft	16-17.5 ft	1-3 ft	9-10 ft	17-20 ft	4-5 ft	7-8.5 ft		
Sample Horizon		Vadose	Saturated	Vadose	Saturated	Saturated	Saturated	Vadose	Saturated	Saturated	Vadose	Saturated	Saturated	Vadose	Saturated		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI		
Sampled By		GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	Vadose Zone	Saturated Zone
Volatile Organic Compounds (VOCs)																	
1,1,1,2-Tetrachloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,000	5,000
1,1,1-Trichloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7,000,000	7,000,000
1,1,2,2-Tetrachloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	660	660
1,1,2-trichloro-1,2,2-trifluoroethane (CFC113)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110,000,000	110,000,000
1,1,2-Trichloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,300	2,300
1,1-Dichloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23,000	23,000
1,1-Dichloroethene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180,000	180,000
1,1-Dichloropropene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3-Trichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,800	2,800
1,2,3-Trichloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.4	4.4
1,2,4-Trichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4,500	4,500
1,2,4-Trimethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35,000	35,000
1,2-Dibromo-3-chloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	160	160
1,2-Dibromoethane (EDB)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	66	66
1,2-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	320,000	320,000
1,2-Dichloroethane (EDC)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,400	1,400
1,2-Dichloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
1,3,5-Trimethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35,000	35,000
1,3-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,3-Dichloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70,000	70,000
1,4-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	24,000	24,000
2,2-Dichloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2-Butanone (MEK)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,100,000	2,100,000
2-Chloroethyl Vinyl Ether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2-Chlorotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70,000	70,000
2-Hexanone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
4-Chlorotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Isopropyltoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
Acetone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,200,000	3,200,000
Acrolein	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Acrylonitrile	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240	240
Bromobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	28,000	28,000
Bromochloromethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Bromoethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Bromoform	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17,000	17,000
Bromomethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4,900	4,900
Carbon Disulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Carbon Tetrachloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,900	1,900
Chlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70,000	70,000
Chloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Chloroform	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4,200	4,200
Chloromethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Cis-1,2-Dichloroethene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7,000	7,000
Cis-1,3-Dichloropropene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Dibromochloromethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,600	1,600
Dibromomethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35,000	35,000
Dichlorobromomethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,100	2,100
Dichlorodifluoromethane (CFC 12)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000
Hexachlorobutadiene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,700	1,700
Isopropylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Methyl Iodide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE

Sample Location[1]		GEI-15	GEI-20	GEI-21	GEI-21	GEI-23	GEI-28	GEI-44	GEI-44	GEI-44	GEI-45	GEI-45	GEI-45	GEI-46	GEI-46	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-15_5.5-6.5_093014	GEI-20_6-7_093014	GEI-21_5-6_093014	GEI-21_7.5-8.5_093014	GEI-23_7.5-8.5_093014	GEI-28_5-6_100114	GEI-44_1.5-2	GEI-44_7.5-10	GEI-44_16-17.5	GEI-45_1-3	GEI-45_9-10	GEI-45_17-20	GEI-46_13.5-15	GEI-46_7-8.5		
Date Sampled		09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	10/01/2014	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018		
Sample Interval		5.5-6.5 ft	6-7 ft	5-6 ft	7.5-8.5 ft	7.5-8.5 ft	5-6 ft	1.5-2 ft	7.5-10 ft	16-17.5 ft	1-3 ft	9-10 ft	17-20 ft	4-5 ft	7-8.5 ft		
Sample Horizon		Vadose	Saturated	Vadose	Saturated	Saturated	Saturated	Vadose	Saturated	Saturated	Vadose	Saturated	Saturated	Vadose	Saturated		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	Vadose Zone	Saturated Zone
Sampled By	Units	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Methyl t-Butyl Ether (MTBE)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73,000	73,000
Methylene Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Naphthalene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70,000	70,000
n-Butylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180,000	180,000
n-Propylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
p-Isopropyltoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
sec-Butylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Styrene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700,000	700,000
tert-Butylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Tetrachloroethene (PCE)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Trans-1,2-Dichloroethene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70,000	70,000
Trans-1,3-Dichloropropene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Trans-1,4-Dichloro-2-butene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Trichloroethene (TCE)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,800	1,800
Trichlorofluoromethane (CFC 11)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Vinyl Acetate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500,000	3,500,000
Vinyl Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	88	88
Semi-Volatile Organic Compounds (SVOCs)																	
1,2,4-Trichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4,500	4,500
1,2-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	320,000	320,000
1,3-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,4-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	24,000	24,000
2,2'-Oxybis[1-chloropropane]	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,4,5-Trichlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
2,4,6-Trichlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
2,4-Dichlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11,000	11,000
2,4-Dimethylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70,000	70,000
2,4-Dinitrophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7,000	7,000
2,4-Dinitrotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	420	420
2,6-Dinitrotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	88	88
2-Chloronaphthalene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280,000	280,000
2-Chlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
2-Nitroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35,000	35,000
2-Nitrophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
3,3'-Dichlorobenzidine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	290
3-Nitroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4,6-Dinitro-2-methylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280	280
4-Bromophenyl-phenylether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Chloro-3-Methylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
4-Chloroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	660	660
4-Chlorophenyl-phenylether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
4-Nitroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6,600	6,600
4-Nitrophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Acetophenone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Atrazine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Benzaldehyde	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Benzoic acid	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14,000,000	14,000,000
Benzyl alcohol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Biphenyl	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
bis(2-Chloroethoxy)methane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11,000	11,000
bis(2-chloroethyl)ether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120	120
bis(2-Ethylhexyl)phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9,400	9,400
Butylbenzylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	69,000	69,000
Caprolactam	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Carbazole	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Dibenzofuran	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	3,500
Diethylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,800,000	2,800,000
Dimethylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Di-n-butylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000

Sample Location[1]		GEI-15	GEI-20	GEI-21	GEI-21	GEI-23	GEI-28	GEI-44	GEI-44	GEI-44	GEI-45	GEI-45	GEI-45	GEI-46	GEI-46	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-15_5.5-6.5_093014	GEI-20_6-7_093014	GEI-21_5-6_093014	GEI-21_7.5-8.5_093014	GEI-23_7.5-8.5_093014	GEI-28_5-6_100114	GEI-44_1.5-2	GEI-44_7.5-10	GEI-44_16-17.5	GEI-45_1-3	GEI-45_9-10	GEI-45_17-20	GEI-46_13.5-15	GEI-46_7-8.5		
Date Sampled		09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	10/01/2014	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018		
Sample Interval		5.5-6.5 ft	6-7 ft	5-6 ft	7.5-8.5 ft	7.5-8.5 ft	5-6 ft	1.5-2 ft	7.5-10 ft	16-17.5 ft	1-3 ft	9-10 ft	17-20 ft	4-5 ft	7-8.5 ft		
Sample Horizon		Vadose	Saturated	Vadose	Saturated	Saturated	Saturated	Vadose	Saturated	Saturated	Vadose	Saturated	Saturated	Vadose	Saturated		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	Vadose Zone	Saturated Zone
Sampled By	Units	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Di-n-octylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35,000	35,000
Hexachlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	82	82
Hexachlorobutadiene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,700	1,700
Hexachlorocyclopentadiene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Hexachloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,500	2,500
Isophorone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000	140,000
Nitrobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7,000	7,000
n-Nitroso-di-n-propylamine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19	19
n-Nitrosodiphenylamine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	27,000	27,000
o-Cresol (2-Methylphenol)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180,000	180,000
p-Cresol (4-Methylphenol)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350,000	350,000
Pentachlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330	330
Phenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Non-carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)																	
1-Methylnaphthalene	mg/kg	**0.060**	**0.280**	0.0079 U	**0.041**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	4,500	4,500
2-Methylnaphthalene	mg/kg	**0.026**	**0.031**	0.0079 U	**0.031**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	14,000	14,000
Acenaphthene	mg/kg	**0.015**	**0.041**	0.0079 U	**0.02**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	210,000	210,000
Acenaphthylene	mg/kg	0.0081 U	**0.02**	0.0079 U	0.011 U	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	NE	NE
Anthracene	mg/kg	**0.012**	**0.033**	0.0079 U	**0.018**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	1,100,000	1,100,000
Benzo[g,h,i]perylene	mg/kg	0.0081 U	**0.025**	**0.01**	**0.012**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	NE	NE
Fluoranthene	mg/kg	**0.012**	**0.074**	**0.019**	**0.048**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	140,000	140,000
Fluorene	mg/kg	**0.027**	**0.066**	0.0079 U	**0.019**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	140,000	140,000
Naphthalene	mg/kg	**0.036**	**0.032**	0.0079 U	**0.079**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	70,000	70,000
Phenanthrene	mg/kg	**0.066**	**0.21**	**0.015**	**0.066**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	NE	NE
Pyrene	mg/kg	**0.018**	**0.12**	**0.022**	**0.047**	0.0081 U	0.0077 U	--	--	--	--	--	--	--	--	110,000	110,000
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)																	
Benzo[a]anthracene	mg/kg	0.0081 U	**0.063**	**0.011**	**0.018**	0.0081 U	0.0077 U	**0.027**	0.0075 U	0.0072 U	0.007 U	0.0074 U	0.0074 U	0.0074 U	0.0075 U	see cPAH TEQ	see cPAH TEQ
Benzo[a]pyrene	mg/kg	0.0081 U	**0.044**	**0.011**	**0.018**	0.0081 U	0.0077 U	**0.037**	0.0075 U	0.0072 U	0.007 U	0.0074 U	0.0074 U	0.0074 U	0.0075 U		
Benzo[b]fluoranthene	mg/kg	0.0081 U	**0.037**	**0.012**	**0.015**	0.0081 U	0.0077 U	**0.042**	0.0075 U	0.0072 U	0.007 U	0.0074 U	0.0074 U	0.0074 U	0.0075 U		
Benzo[k]fluoranthene	mg/kg	0.0081 U	**0.02**	**0.0084**	**0.011**	0.0081 U	0.0077 U	**0.014**	0.0075 U	0.0072 U	0.007 U	0.0074 U	0.0074 U	0.0074 U	0.0075 U		
Chrysene	mg/kg	0.0081 U	**0.065**	**0.015**	**0.018**	0.0081 U	0.0077 U	**0.032**	0.0075 U	0.0072 U	0.007 U	0.0074 U	0.0074 U	0.0074 U	0.0075 U		
Dibenz[a,h]anthracene	mg/kg	0.0081 U	**0.0082**	0.0079 U	0.011 U	0.0081 U	0.0077 U	0.0072 U	0.0075 U	0.0072 U	0.007 U	0.0074 U	0.0074 U	0.0074 U	0.0075 U		
Indeno[1,2,3-c,d]pyrene	mg/kg	0.0081 U	**0.021**	0.0079 U	0.011 U	0.0081 U	0.0077 U	**0.031**	0.0075 U	0.0072 U	0.007 U	0.0074 U	0.0074 U	0.0074 U	0.0075 U		
cPAHs TEQ (ND = 0.5RL)	mg/kg	0.0061 U	**0.06**	**0.015**	**0.024**	0.0061 U	0.0058 U	**0.049**	0.006 U	0.006 U	0.005 U	0.006 U	0.006 U	0.006 U	0.006 U	2.0	0.1
Pesticides (ug/kg)																	
4,4'-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	110
4,4'-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	390	390
4,4'-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	4
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.7	7.7
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21	21
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73	73
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.2	8.2
Endosulfan	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Endosulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Endosulfan Sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21,000	21,000
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1100	1100
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Endrin Ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	29	29
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	14
Lindane (Gamma-BHC)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	0.01
Methoxychlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18,000	18,000
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120	120
Polychlorinated Biphenyls (PCBs)																	
Total PCBs (sum of Aroclors or Congeners)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10	10

Sample Location[1]		GEI-15	GEI-20	GEI-21	GEI-21	GEI-23	GEI-28	GEI-44	GEI-44	GEI-44	GEI-45	GEI-45	GEI-45	GEI-46	GEI-46	Proposed Soil Cleanup Level[2]	
Sample Identification		GEI-15_5.5-6.5_093014	GEI-20_6-7_093014	GEI-21_5-6_093014	GEI-21_7.5-8.5_093014	GEI-23_7.5-8.5_093014	GEI-28_5-6_100114	GEI-44_1.5-2	GEI-44_7.5-10	GEI-44_16-17.5	GEI-45_1-3	GEI-45_9-10	GEI-45_17-20	GEI-46_13.5-15	GEI-46_7-8.5		
Date Sampled		09/30/2014	09/30/2014	09/30/2014	09/30/2014	09/30/2014	10/01/2014	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018		
Sample Interval		5.5-6.5 ft	6-7 ft	5-6 ft	7.5-8.5 ft	7.5-8.5 ft	5-6 ft	1.5-2 ft	7.5-10 ft	16-17.5 ft	1-3 ft	9-10 ft	17-20 ft	4-5 ft	7-8.5 ft		
Sample Horizon		Vadose	Saturated	Vadose	Saturated	Saturated	Saturated	Vadose	Saturated	Saturated	Vadose	Saturated	Saturated	Vadose	Saturated		
Sample Study		2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2014 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	2018 RI	Vadose Zone	Saturated Zone
Sampled By	Units	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers		
Dioxins and Furans																	
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	NE
Total Dioxins/Furans - Human Health TEQ	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,700	1,700

Notes:

[1] Soil sampling locations are shown on Figure 14.

[2] Soil represented by this sample was subsequently excavated and removed from the Upland Area.

[3] Proposed soil cleanup levels are referenced from Table 4.

[4] Total cPAH Toxic Equivalency Quotients (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) values referenced from MTCA Table 708.2 (WAC 173-340-900).

[5] Total dioxin and furan TEQs were calculated using United States Environmental Protection Agency (USEPA) TEF values for human health (EPA, 2003).

MTCA = Washington State Model Toxics Control Act

mg/kg = Milligrams per kilogram

ng/kg = Nanogram per kilogram

-- = not analyzed

NE = not established

ND = Non-detect

RL = Reporting limit

TEQ = toxic equivalent concentration.

R = Rejected Result

U = The analyte was not detected at a concentration greater than the value identified.

J = The analyte was detected and the detected concentration is considered an estimate.

Bold font type indicates the analyte was detected at the reported concentration.

Yellow shading indicates that the identified concentration is greater than the proposed soil cleanup level.

Blue shading indicates that the practical quantitation limit (PQL) is above screening level.

APPENDIX H
Field Program

APPENDIX H
FIELD PROGRAM

General

GeoEngineers, Inc. (GeoEngineers) staff and subcontractors conducted the Remedial Investigation (RI) field investigations in accordance with the Washington State Department of Ecology (Ecology)-approved Remedial Investigation/Feasibility Study (RI/FS) Work Plan to define the nature and extent of Site contamination. New environmental data was obtained to fill the identified data gaps in the existing data set and to complete the characterization of the Site for the purposes of the RI/FS. The scope of work included sediment, groundwater and soil investigations. These field activities are described below.

Sediment Investigation

Sediment sampling was performed by GeoEngineers to characterize sediment conditions in the Marine Area of the Site. Sediment samples were collected from seven locations for chemical analysis in March 2008. Sediment sample locations are shown on Figure 13. Laboratory analysis for sediment samples collected during the sediment investigation are summarized in Table 5. Sediment sample results are presented in Table C-1 and C-2 (Appendix C). Procedures for sediment sample collection are described below.

Vibracore Explorations

Vibracore sampling methods were used to collect the sediment cores at locations G-1, G-2 and G-7. The vibracore sampler was deployed from a research vessel owned and operated by Research Support Services (RSS) during high tide to access the proposed sample areas. Vibracore samplers were advanced into the sediment using an approximate 5-inch-diameter lexan liner with a core catcher at the head of the sample barrel. Cores were driven into the native material or until refusal. Upon collection, a portion of the sediment sample removed from the sampler was placed in a plastic bag for field screening while the remaining portion of the sample was placed into laboratory-supplied containers, lightly packed and capped with a plastic lid.

Observations of sediment field screening results for each exploration was recorded on a sediment exploration log (Figures H-2 through H-8). Sediment sample collection and handling, and field screening methods are discussed below.

Direct Push Explorations

Direct push explorations were completed by Cascade Drilling, PL (Cascade) of Woodinville, Washington using a limited access mobile B-90 rig to depths of approximately 5 feet below ground surface (bgs) during low tide conditions in the Marine Area. The direct push explorations were advanced for the collection of sediment samples G-3 through G-6. Sediment samples were collected from the surface (upper 10 to 20 cm) sediment and from each 1-foot interval to approximately 5 feet below the sediment surface. Upon collection, a portion of the soil sample removed from the sampler was placed in a plastic bag for field screening while the remaining portion of the sample was placed into laboratory-supplied containers, lightly packed, and capped with a plastic lid.

Observations of sediment field screening results for each exploration was recorded on a sediment exploration log (Figures H-2 through H-8). Sediment sample collection and handling, and field screening methods are discussed below.

Groundwater Investigation

Groundwater sampling was performed to further characterize groundwater conditions at the Site. Groundwater samples were collected from monitoring wells MW-1, MW-2A, MW-2B, MW-3, MW-3A, MW-4, MW-5, MW-6, MW-7, and/or MW-8 for chemical analysis. Monitoring wells with the suffix "A" or "B" indicate where a replacement well was installed in place of the original well. Procedures for monitoring well installation, well development, water level measurement and groundwater sample collection are described below.

Monitoring Well Construction

Drilling and construction of monitoring wells MW-2A, MW-2B, MW-3A, MW-5, MW-6, MW-7 and MW-8 were conducted by Cascade (Washington State licensed driller) in accordance with the Minimum Standards for Construction and Maintenance of Wells (Chapter 173-160 Washington Administrative Code [WAC]; Ecology 2006). Installation of the monitoring wells was observed by a GeoEngineers representative, who maintained a detailed log of the materials and depths of the wells (Figures H-9 through H-16).

Wells were constructed with 2-inch-diameter, flush-threaded Schedule 40 polyvinyl chloride (PVC) casing with machine-slotted PVC screen (0.010-inch). The top of the well screens in monitoring wells MW-2A, MW-2B, MW-3A, MW-5, MW-6, MW-7 and MW-8 were positioned approximately five feet above the observed groundwater level, or within 2 feet of the ground surface, whichever was deeper. Screened intervals within the monitoring wells ranged between approximately 5 and 15 feet in length.

Following placement of the well screen and casing in the borehole, a filter pack was installed around the well screen. The filter pack extended from the bottom of the well to a minimum of 1 foot above the top of the screen. The filter pack material consisted of commercially prepared 10-20 silica sand. A bentonite seal at least 1 foot thick was placed above the sand pack to about 1.5 feet bgs. The surface of each well was then completed with a concrete seal and surface pad extending from the top of the bentonite seal to slightly above the ground surface. Locking steel flush-mount monuments were cemented in place from the surface to a depth of about 1.5 feet bgs.

A summary of monitoring well construction details is provided in well construction logs presented on Figures H-9 through H-16.

Monitoring Well Development

Monitoring wells were developed to remove water introduced into the well during drilling, stabilize the filter pack and formation materials surrounding the well screen, and restore the hydraulic connection between the well screen and the surrounding soil. The well screen was gently surged with a decontaminated stainless-steel bailer several times after installation. Development continued until a minimum of five casing volumes of water had been removed and turbidity of the discharged water is relatively low. The goal of well development was to reduce the turbidity content of the water to approximately 25 nephelometric turbidity units (NTUs). Up to 10 well volumes of water was removed from the wells to attain the 25 NTU goal.

Water that was removed from the well during well development activities was stored in labeled and sealed 55-gallon drums, and ultimately sent off Site for permitted disposal.

Survey

A GeoEngineers representative surveyed the location, casing rim elevation and ground surface elevation for new monitoring wells measured relative to an existing surveyed monitoring well (MW-1 or MW-4) using a laser level, which has an accuracy of ±0.01 feet. Monitoring wells MW-1 and MW-4 were surveyed by Leonard, Boudinot, Skodje Inc. in November 2006 referencing the following controls:

- Horizontal Control: Monument at intersection of "R" avenue and 4th street and the monument at the intersection of "T" avenue and 4th street.
- Vertical Control: Standard 2-inch brass disk stamped "5 1922" set vertically in the east end of the North Face of concrete foundation of Great Northern Railway station on East side of "R" avenue at 7th street. The published elevation for this monument is 16.98 feet North American Vertical Datum 1988 (NAVD-88).

Ground surface elevations, top of casing elevations and monitoring well coordinate are provided in Table H-1.

Water Level Measurement

Water level measurements were obtained for each monitoring well prior to purging and sample collection. All water levels were measured using an electronic water level indicator and the measurements were made to the nearest 0.01 foot. Measurements were taken from the top north portion of the well casing. Depth to water measurements obtained prior to sample collection for each groundwater monitoring event are provided in Table F-1.

Groundwater Sampling

Groundwater samples were obtained using low-flow/low-turbidity sampling techniques to minimize the suspension of sediment in the samples. Groundwater samples were obtained from monitoring wells using a peristaltic pump and disposable polyethylene tubing at a rate of approximately 0.5 liter per minute or less within the central portion of the screened interval when saturated and approximately ½ the saturated screen length when the water level was below the top of the well screen. A Horiba U-20/50 series or YSI Multi-Probe Field Meter (or similar) with a flow-through cell and/or Hach Turbidimeter were used to monitor water quality parameters during purging, including: electrical conductivity, dissolved oxygen, pH, salinity, total dissolved solids, turbidity, oxidation-reduction potential and temperature. Water samples were obtained once these parameters vary by less than 10 percent on three consecutive measurements. If water quality parameters did not stabilize, samples were collected after purging approximately three well-volumes. Water quality measurements obtained at the time of sample collection for each quarterly groundwater monitoring event are provided in Table F-1.

Following well purging, groundwater samples were placed in laboratory-prepared containers. Following collection, the samples were placed into a cooler with ice pending transport to the analytical laboratory. Chain-of-custody procedures were followed in transporting the samples to the testing laboratory. Groundwater samples obtained by GeoEngineers were submitted to an Ecology-certified laboratory for chemical analysis.

Purge water removed from the monitoring wells and decontamination water generated during all sampling activities was stored in labeled and sealed 55-gallon drums and ultimately sent off Site for permitted disposal.

Aquifer Slug Tests

Hydraulic conductivity for the unconfined and confined aquifer units were estimated using slug tests following the completion of the 72-hour tidal study in monitoring wells MW-1 through MW-5. The slug tests were performed in the selected monitoring wells to identify the range of hydraulic conductivities present. The slug tests were performed using a PVC slug rod, a down-hole pressure transducer, and a water level indicator in general accordance with ASTM International (ASTM) D 4044-99.

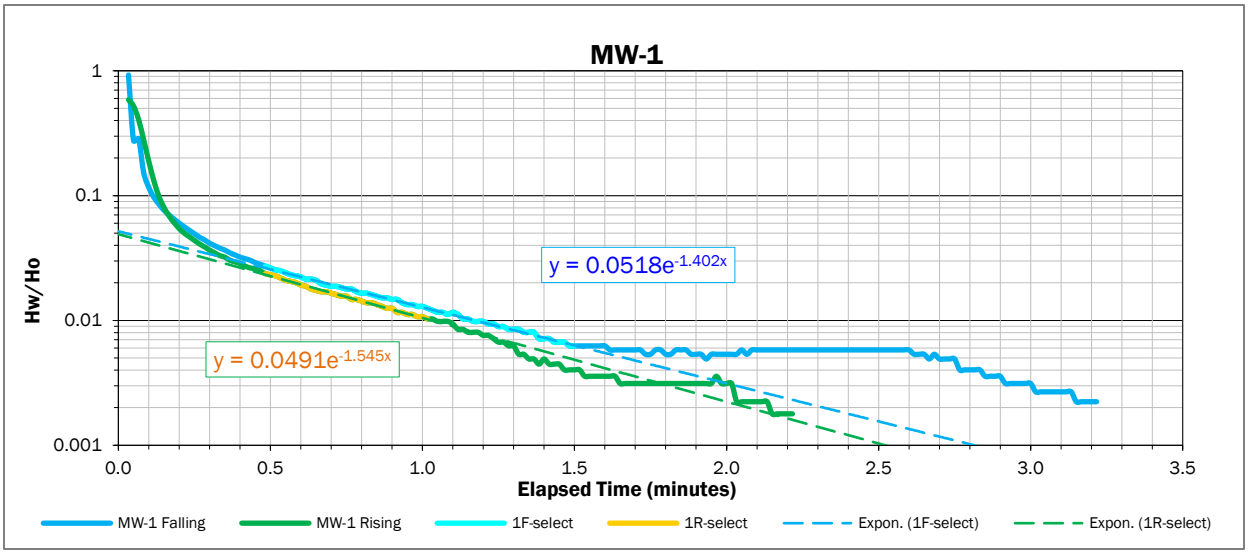
Each slug test was performed in two stages; a falling head stage followed by a rising head stage. For each test, the water level in the well was measured and recorded at 1- to 15-second intervals using a decontaminated, submerged water-level sensor consisting of a piezoelectric pressure transducer and automated datalogger (transducer/datalogger) programmed to record water pressure (head) above the sensor. The water level was also measured using a decontaminated electronic water level indicator ("e-tape") as a check on the transducer/data logger.

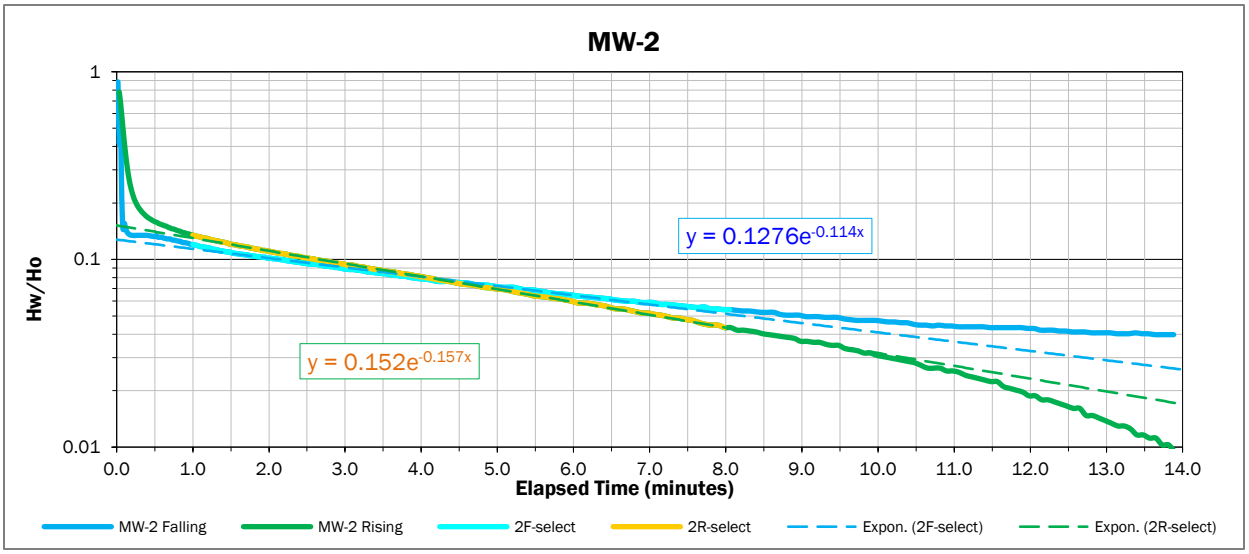
Prior to slug testing, the pre-test static water level was measured in each well from a surveyed reference mark on top of the well casing. For the falling head stage, a slug (weighted 5-foot length of sealed PVC casing) of known volume was rapidly lowered into the well, causing displacement of the water, which rose rapidly above its initial water level. The water level in the well was then monitored until it returned (fell) to the approximate pre-test water level. For the rising-head stage, the slug was rapidly removed from the well, causing the water level to drop below its pre-test static water level, and the water level in the well was monitored until it returned (rose) to the approximate pre-test static water level.

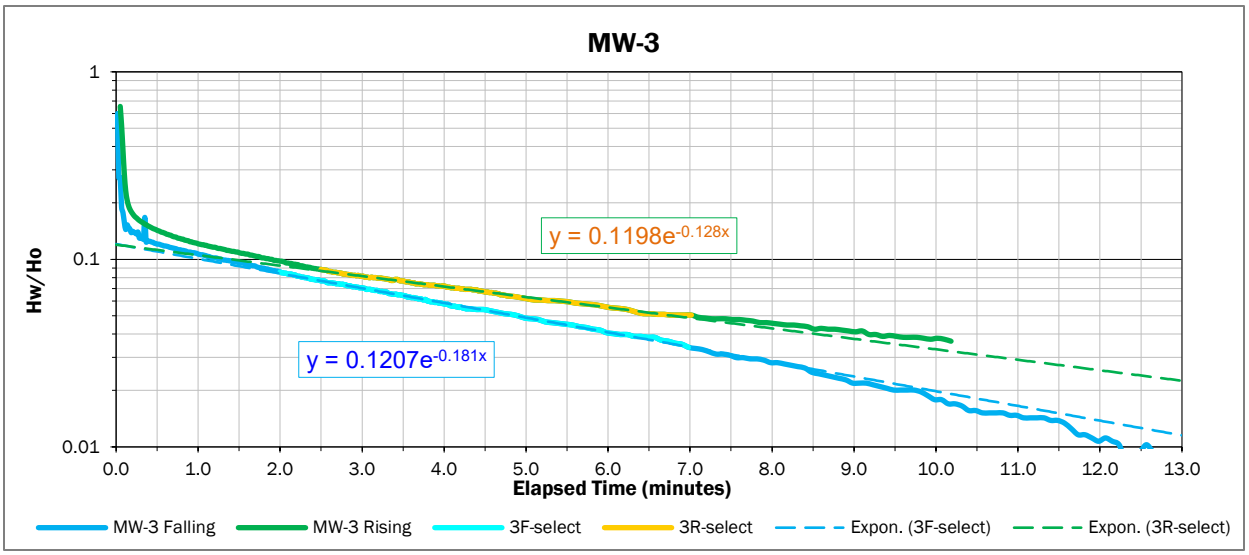
The general procedure for conducting the slug tests included:

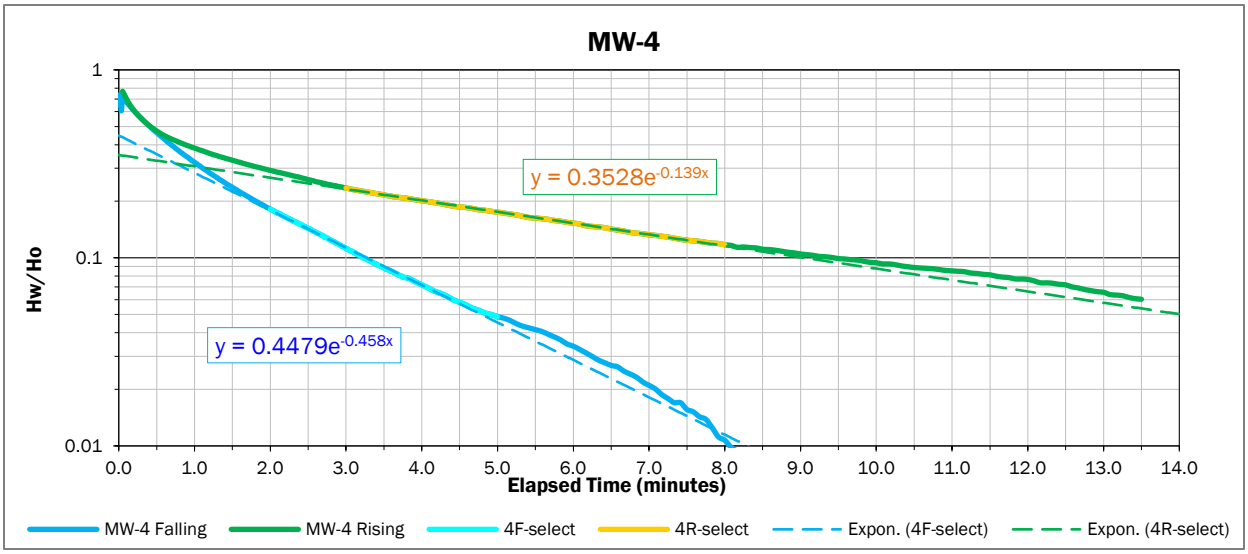
- Measuring the static depth of groundwater prior to placing the pressure transducer near the bottom of the well.
- After confirmation of the stabilized water level (from the displacement of the transducer), the slug rod was quickly lowered into the well until it was submerged in the water column.
- The recovery of the perturbed water level was monitored until it has returned to within 95 percent of the initial head indicated by the transducer prior to the introduction of the slug rod.
- After the water level re-equilibrated, the slug rod was quickly removed from the water column and the groundwater level monitored for recovery.
- Following recovery of the water level within a tolerance of 95 percent, a manual measurement of the depth to groundwater was recorded, the transducer removed and the well secured.

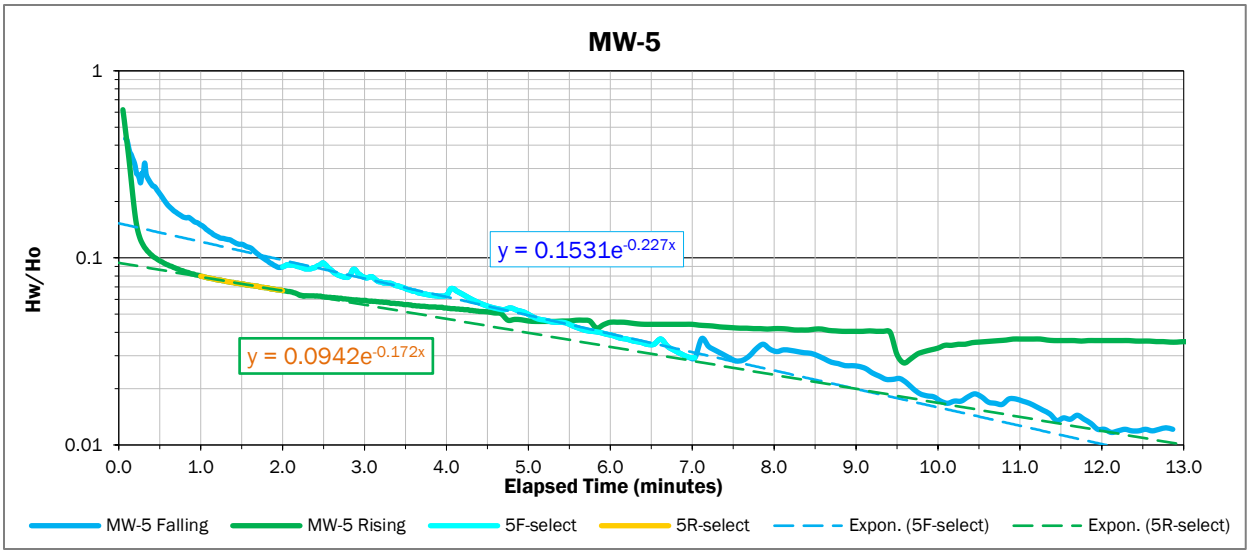
The data from all slug tests were downloaded from the transducer/datalogger, processed using spreadsheet software, and then plotted to identify the type of hydraulic response. The Bouwer-Rice method, as presented by Kruseman and deRidder (1990), was used with the aquifer slug test data to estimate the horizontal hydraulic conductivity. Graphs showing the water level recovery during each aquifer slug test are shown below. The position and slope of the selected straight line used in the Bouwer-Rice analysis of each aquifer slug test also is indicated in the graphs.


MW-1
Hw/Ho
1
0.1
0.01
0.001
y = 0.0518e-1.402x
y = 0.0491e-1.545x
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Elapsed Time (minutes)
MW-1 Falling
MW-1 Rising
1F-select
1R-select
Expon. (1F-select)
Expon. (1R-select)


MW-2
Hw/Ho
1
0.1
0.01
y = 0.1276e-0.114x
y = 0.152e-0.157x
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
Elapsed Time (minutes)
MW-2 Falling
MW-2 Rising
2F-select
2R-select
Expon. (2F-select)
Expon. (2R-select)


MW-3
Hw/Ho
1
0.1
0.01
y = 0.1198e-0.128x
y = 0.1207e-0.181x
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
Elapsed Time (minutes)
MW-3 Falling
MW-3 Rising
3F-select
3R-select
Expon. (3F-select)
Expon. (3R-select)





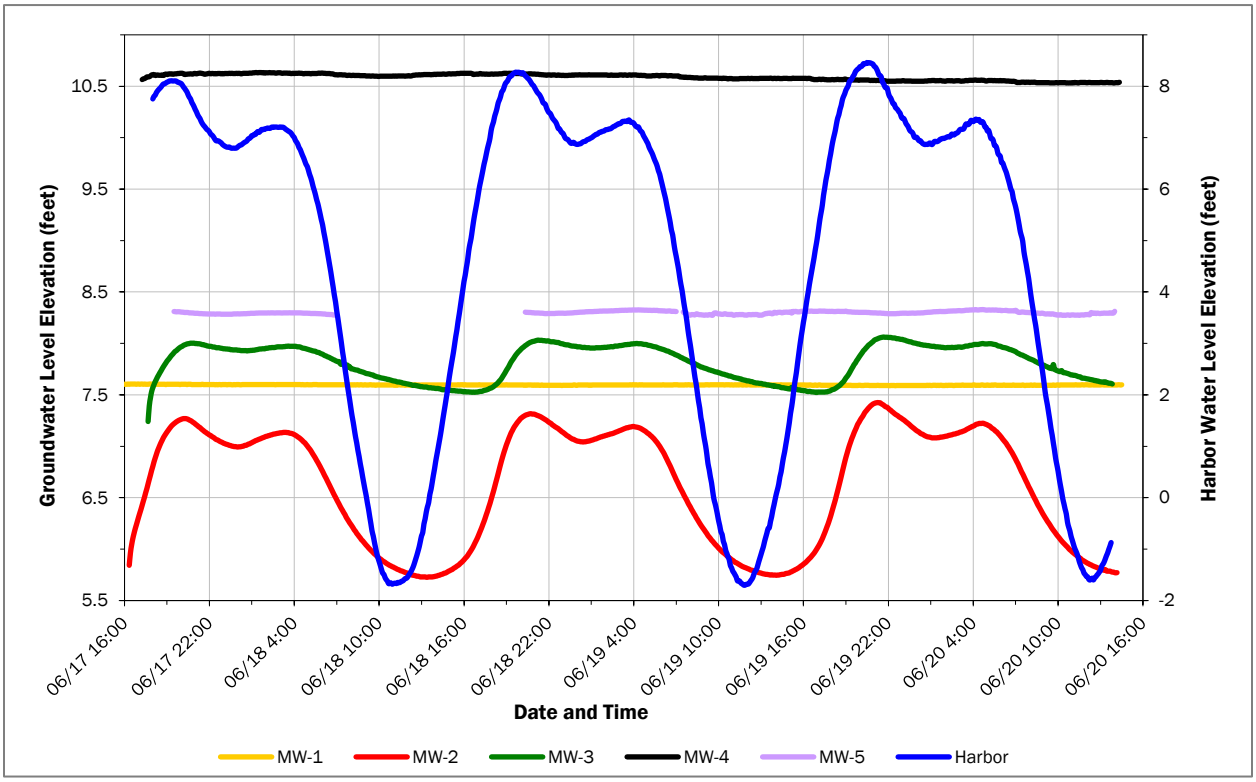
The Bouwer-Rice method, as applied for this project, is based on the following assumptions:

- The aquifer is homogeneous, isotropic and fully penetrated by the monitoring wells.
- The aquifer and initial water table (piezometric surface) are horizontal and extend infinitely in the radial direction.
- Groundwater density and viscosity are constant.
- Groundwater flow can be described by Darcy's Law.
- A slug of known volume is inserted or extracted instantaneously from the well at the start of each test.
- Head losses through the well screen and filter material are negligible.
- The aquifer is incompressible.
- Changes in the piezometric surface are small compared to the saturated aquifer thickness.

Based on the results of the slug testing, the estimated hydraulic conductivity values range from 5.2 x 10-4 centimeters per second (cm/s) at MW-2 to 5.4 x 10-3 cm/s at MW-1 (Table H-2). The (geometric) mean value from the five tested wells is 9.1 x 10-4 cm/s. These values of hydraulic conductivity are consistent with the stratified soil types observed at the monitoring wells (sand and silt with variable gravel content).

Tidal Study

A 3-day tidal study was conducted from June 17 to 20, 2008 to characterize the response of groundwater levels in monitoring wells MW-1 through MW-5 to tidal fluctuations in the harbor. A graph of the measured water levels is presented below.



Aquifers that are hydraulically connected to tidal surface waters typically show a progressively attenuated and delayed tidal response with increasing distance from the shoreline. In order to evaluate tidal-groundwater hydraulic connection at the Site, monitoring wells MW-1 through MW-5 were evaluated for tidal response relative to changing water levels in Guemes Channel. Each of the tidal study wells was equipped with a water level sensor consisting of a piezoelectric pressure transducer and automated data logger (transducer/data logger) programmed to record water pressure (head) above the sensor every 5 minutes for the duration of the study.

The following data collection field procedures were followed for the tidal study:

- Prior to installation, the transducer/data logger was pre-programmed to record pressure head at every minute from 11:20 am on June 17, 2008 until 2:30 pm on June 20, 2008 (3 days). Programming was performed using one computer only and time-synced to the clock on that computer.

- As a check on the transducer/data logger, and to account for instrument drift, the water level was measured at the beginning and end of the tidal study using a decontaminated electronic water level indicator ("e-tape"). All measurements were made from a surveyed reference mark on the top of each well casing.
- One transducer/data logger was installed as a tidal gauge and secured to the "East" Dock (now removed) to directly measure the water level of the Puget Sound/Guemes Channel and one transducer/data logger was positioned in the upland area in a secure location to record the barometric pressure.
- All materials were decontaminated in general accordance with the RI/FS Work Plan (GeoEngineers 2008).

At the conclusion of the study, all transducers/data loggers were returned to GeoEngineers for data processing.

Erratic measurements recorded by the pressure sensor at MW-5 on June 18, 2008 (see graphic above) were not used for the tidal study. It is suspected that electrical and/or mechanical interference/disturbance in the vicinity of MW-5 during the monitoring period may have caused these erratic measurements.

Data from the tidal study indicate that the influence of tidal fluctuations in the harbor on groundwater levels is dissipated relatively quickly with increasing distance from the harbor. The average fluctuation between the daily maximum and minimum tides was 10.0 feet during the 3-day study period. The corresponding average groundwater fluctuations at MW-2 and MW-3 were 1.6 feet and 0.5 feet, respectively. Groundwater fluctuations at MW-5 and MW-4 were less than 0.1 feet, and there was no significant fluctuation at MW-1 (less than 0.02 feet). The tidal efficiency, which is the ratio of groundwater level amplitude to tidal amplitude, diminishes very quickly from 16 percent at MW-2 and 5 percent at MW-3, to less than 1 percent at MW-5, MW-4 and MW-1. Tidal efficiencies are summarized in Table H-2.

Soil Investigation

Soil borings and test pit explorations were completed to characterize lithology in the Upland Area of the Site and to collect soil samples for chemical analyses. The soil investigation consisted of obtaining soil samples from test pit, hollow stem auger and direct push explorations. Prior to the completion of any soil exploration, an underground utility locate (public and private) was conducted in the area of the proposed exploration location to identify any subsurface utilities and/or potential underground physical hazards.

Soil conditions were evaluated during soil exploration activities using either a tracked excavator, truck mounted drill rig, limited access drill rig or excavator. The explorations were completed to depths ranging from approximately 3 feet to 30 feet bgs. A GeoEngineers representative selected the exploration locations, examined and classified the soils encountered and prepared a detailed log of each exploration. Soils encountered were visually classified in general accordance with ASTM D 2488-94. Exploration logs are presented in Figures H-17 through H-87.

Test Pit Explorations

Test pit explorations and trenches were completed using an excavator to depths ranging between 5 and 10 feet bgs. Soil samples either were obtained directly from the test pit exploration using a new nitrile glove or from the bucket of the excavator. Samples obtained from excavator bucket were from the center of the

bucket or from an area of soil that the surface of the bucket had not touched. Upon collection, a portion of the soil sample was placed in a plastic bag for field screening while the remaining portion of the sample was placed into laboratory-supplied containers, lightly packed, and capped with a plastic lid. Observations of soil and groundwater conditions and soil field screening results for each exploration was recorded on a soil exploration log. Soil sample collection and handling, and field screening methods are discussed below.

Soil generated during each test pit exploration was temporarily stockpiled adjacent to the exploration. Following the completion of each test pit, stockpiled soil was returned, compacted and topped with crushed surface base coarse aggregate.

Hollow Stem Auger Explorations

Hollow stem auger explorations were completed by Cascade Drilling, PL (Cascade) of Woodinville, Washington using a truck mounted B-61 drill rig, CME-75 rig, a CME-850 track rig, and limited access mobile B-90 rig to depths ranging between 15 and 20 feet bgs. The HSA explorations were advanced for the collection of soil samples and installation of groundwater monitoring wells. Continuous soil samples were obtained from the HSA explorations using a 2.5-inch diameter Dames & Moore (D&M) split-barrel sampler. The sampler was driven a maximum of 18 inches by a 300-pound weight falling a vertical distance of approximately 30 inches. The number of blows needed to advance the sampler the final 12 inches is indicated to the left of the corresponding sample notation on the exploration logs. Upon collection, a portion of the soil sample removed from the sampler was placed in a plastic bag for field screening while the remaining portion of the sample was placed into laboratory-supplied containers, lightly packed, and capped with a plastic lid (with the exception of sample aliquots for VOCs analysis, which were collected using U.S. Environmental Protection Agency [EPA] Method 5035A). Observations of soil and groundwater conditions and soil field screening results for each exploration was recorded on a soil exploration log. Soil sample collection and handling, and field screening methods are discussed below.

Direct-Push Explorations

Direct-push explorations were completed by Cascade using a truck mounted GeoProbe 6800, limited access Geoprobe 7822 or limited access 7730 drill rig to depths ranging between 6 and 30 feet bgs. Continuous soil samples were obtained from the DP explorations using a 3.5-inch diameter sample barrel with an acetate liner. The Sampler was driven a maximum of 60-inches using a pneumatic hammer. Upon collection, a portion of the soil sample removed from the sampler was placed in a plastic bag for field screening while the remaining portion of the sample was placed into laboratory-supplied containers, lightly packed, and capped with a plastic lid. Observations of soil and groundwater conditions and soil field screening results for each exploration was recorded on a soil exploration log. Soil sample collection and handling, and field screening methods are discussed below.

Soil Collection and Handling

Soil samples obtained from the explorations for chemical analysis were transferred to laboratory-prepared sample jars. Sample containers were filled to minimize headspace. The samples were placed in a cooler with ice pending transport to the analytical laboratory. Chain-of-custody procedures were followed in transporting the samples to the testing laboratory. Soil samples obtained by GeoEngineers were submitted to an Ecology-certified laboratory, OnSite Environmental, Inc. (OnSite) of Redmond, Washington for chemical analysis.

Samples that were submitted for chemical analysis are denoted in the exploration logs with "CA." Chemical analytical results for these samples are summarized in Table 7. Copies of the analytical reports are presented in Appendix I. Validation reports presenting the quality and usability of the data are presented in Appendix J.

Decontamination Procedures

Soil samples were collected using coring/drilling equipment (i.e., hollow stem auger and/or direct push), excavation equipment (i.e., backhoe or excavator), and/or hand tools including stainless steel spoons and stainless-steel mixing bowls. Groundwater samples were collected from monitoring wells using submersible or peristaltic pumps and low-flow sampling procedures.

Reusable sampling equipment that came into contact with soil or groundwater was decontaminated before each use. Decontamination procedures for this equipment consist of the following:

3. Washing with a brush and non-phosphate detergent solution (e.g., Liqui-Nox and distilled water);
4. Rinsing with distilled water; and
5. Wrapping or covering the decontaminated equipment with aluminum foil when not in use. Field personnel to the extent practical limited cross-contamination by changing gloves between sampling locations.

Drilling equipment which came into contact with soil was decontaminated before each use. Decontamination procedures for this equipment consisted of the following:

1. Washing with pressurized hot-water;
2. Wash with brush and non-phosphate detergent solution; and
3. Rinse with potable water.

Wash water used to decontaminate the reusable sampling equipment was collected and stored at the Site in 55-gallon drums during the investigation and then disposed along with the purge water.

Investigation Derived Waste

Soil cuttings from explorations completed during the RI and wash water used to decontaminate the reusable sampling equipment was placed in separate labeled and sealed 55-gallon drums. The drums were stored temporarily at a secure location at the Site pending receipt of analytical results and were shipped offsite for disposal at a permitted facility.

Incidental waste generated during sampling activities included items such as gloves, plastic sheeting, sample tubing, paper towels and similar expended and discarded field supplies. These materials were considered *"de minimis"* and were transferred from the Site for landfill disposal via dumpster or trash receptacle at GeoEngineers' Seattle or Redmond offices.

Field Screening

Samples obtained from the Site were evaluated for the potential presence of petroleum contamination using field screening techniques. Field screening results were used as a general guideline to delineate

areas of potential petroleum-related contamination. In addition, screening results was often used as a basis for selecting soil samples for chemical analysis. The methods employed for the soil investigation included visual, water sheen and headspace vapor screening. The methods employed for the groundwater investigation included water sheen screening. Field screening methods are described below.

Visual Screening

Visual screening consisted of observing the soil for stains indicative of petroleum-related contamination. Visual screening is generally more effective when contamination is related to heavy petroleum hydrocarbons such as motor oil, or when hydrocarbon concentrations are high. Sheen screening is a more sensitive screening method that can be effective in detecting petroleum-based products in concentrations lower than regulatory cleanup guidelines.

Water Sheen Screening

Water sheen screening involved placing a portion of the soil sample in a pan containing distilled water, and observing the water surface for signs of sheen or observing purge water generated during groundwater sampling activities for signs of sheen. This is a relatively sensitive, qualitative field screening method that can help identify the presence or absence of petroleum hydrocarbons and other contaminants, sometimes at concentrations lower than regulatory cleanup guidelines. The following sheen classifications were used:

Classification	Identifier	Description
No Sheen	(NS)	No visible sheen on the water surface.
Slight Sheen	(SS)	Light, colorless, dull sheen; spotty to globular; spread is irregular, not rapid; sheen dissipates rapidly; areas of no sheen remain.
Moderate Sheen	(MS)	Light to heavy sheen; may have some color/iridescence; globular to stringy; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on the water surface.
Heavy Sheen	(HS)	Heavy sheen with color/iridescence; stringy; spread is rapid; entire water surface may be covered with sheen; sheen flows off the sample.

Headspace Vapor Screening

This is a semi-quantitative field screening method that can help identify the presence or absence of volatile organic compounds (VOCs) in samples. During the soil and catch basin solids investigations, a portion of the collected sample was placed in a resealable plastic bag. The bag was then sealed capturing air in the bag, gently shaken to expose the sample to the air trapped in the bag and then allowed to stand at ambient temperature before measuring the headspace vapors. Vapors present within the sample bag's headspace was measured by inserting the probe of a photoionization detector (PID) through a small opening in the bag, taking care not to clog the probe with the sample. The maximum PID reading (in parts per million [ppm]) was then recorded on the field log for each sample. Prior to use, the PID was calibrated to 100 ppm isobutylene in accordance with the manufacturer's recommendations.

The PID is designed to quantify photoionizable gases and vapors up to 2,000 ppm. A lower threshold of significance of 1 ppm is used in this PID application. No soil sample used for headspace screening was submitted to the laboratory for chemical analysis.

Table H-1

Monitoring Well Completion Details

Dakota Creek Industries

Anacortes, Washington

Monitoring Well[1]	Date Installed	Installed By	Ecology Well Id	Ground Elevation (feet)	Top of Casing Elevation (feet)	Bottom of Casing Elevation (feet)	Total Well Depth (feet bgs)	Screen Interval (feet bgs)	Well Casing and Screen Specifications
MW-2A[2]	05/10/12	GeoEngineers	BHL-198	15.47	15.07	-4.53	20	5 to 20	2-inch Diameter Schedule 40 PVC Well Casing and Screen with 0.010-inch slot width
MW-2B	08/15/16	GeoEngineers	BJY-162	15.08	14.73	-4.92	20	5 to 20	2-inch Diameter Schedule 40 PVC Well Casing and Screen with 0.010-inch slot width
MW-3A	05/10/12	GeoEngineers	BHL-199	15.22	14.83	-4.78	20	5 to 20	2-inch Diameter Schedule 40 PVC Well Casing and Screen with 0.010-inch slot width
MW-5	05/27/08	GeoEngineers	N/A	13.09	12.74	-6.26	19	4 to 19	2-inch Diameter Schedule 40 PVC Well Casing and Screen with 0.010-inch slot width
MW-6	05/10/12	GeoEngineers	BHL-200	13.5	12.46	-6.50	20	5 to 20	2-inch Diameter Schedule 40 PVC Well Casing and Screen with 0.010-inch slot width
MW-7	05/10/12	GeoEngineers	BHL-197	13.89	13.36	-1.11	15	5 to 15	2-inch Diameter Schedule 40 PVC Well Casing and Screen with 0.010-inch slot width
MW-8	11/04/15	GeoEngineers	BIX-153	14.39	13.8	-5.61	20	5 to 20	2-inch Diameter Schedule 40 PVC Well Casing and Screen with 0.010-inch slot width

Notes:

[1]Monitoring well locations are shown on Figure 14.

[2]Monitoring well MW-2A was decomissioned by Cascade Drilling on August 15, 2016 in accordance with WAC 173-160-460.

Borings were installed using hollow-stem auger (HAS) drilling methods.

Elevations referenced to Mean Lower Low Water (MLLW).

bgs = below ground surface

N/A = not available

PVC = polyvinyl chloride

Table H-2

Hydraulic Conductivity and Tidal Study Evaluation

Dakota Creek Industries

Anacortes, Washington

Monitoring Well[1]	Soil Type[2]	Aquifer Slug Test Type	Estimated Hydraulic Conductivity (cm/s)		Tidal Study Results		
			Individual Test	Geometric Mean	Mean Groundwater Elevation (feet MLLW)	Stage Ratio[3]	Lag Time (Hours)
MW-1	SP	Falling-Head	5.2E-03	5.4E-03	7.60	0.0%	Intermediate[4]
		Rising-Head	5.7E-03				
MW-2	SP,SM,ML	Falling-Head	4.4E-04	5.2E-04	7.25	16%	1.7
		Rising-Head	6.1E-04				
MW-3	GP,ML	Falling-Head	9.1E-04	7.7E-04	7.91	5.1%	3.4
		Rising-Head	6.5E-04				
MW-4	SM,ML	Falling-Head	4.2E-04	5.4E-04	10.60	0.37%	Intermediate[4]
		Rising-Head	7.0E-04				
MW-5	SP,SM,ML	Falling-Head	6.2E-04	5.4E-04	8.30	0.59%	Intermediate[4]
		Rising-Head	4.7E-04				

Notes:

[1] Monitoring well locations are shown in Figures 14.

[2] Soil types observed within the saturated portion of the monitoring well. Soil types are described on Figures H-9 through H-16).

[3] Tidal efficiency is defined as the ratio of groundwater level amplitude to tidal amplitude.

[4] Time lag is considered indeterminate when the Stage Ratio is below the selected threshold of significance of 3%..

cm/s = centimeters per second

SP = Poorly sorted sands

SM = Silty Sands

ML = Silt

Table H-3

Groundwater Velocity Evaluation

Dakota Creek Industries

Anacortes, Washington

Monitoring Well 1		Monitoring Well 2		Distance Between Well Pairs (Feet)	General Soil Type[1]	Effective Porosity by Soil Type[2] (n_e)	Hydraulic Conductivity[3] (feet/day)	Groundwater Gradient[4] (i)	Average Linear Groundwater Velocity[5,6] (feet/day)
Upgradient Well	Groundwater Elevation (ft MLLW)	Downgradient Well	Groundwater Elevation (ft MLLW)						
MW-4	10.62	MW-2	7.2	255	Sand, Silt and Clay	0.33	1.50	0.0134	0.06
MW-4	10.62	MW-3	7.89	225	Sand, Silt and Clay	0.33	1.83	0.0121	0.07

Notes:

[1] Soil type based on visual classification during well installation.

[2] Average effective porosity (n_e) values by soil type from Argonne National Laboratory Environmental Science Division website, U.S. Department of Energy.

[3] Average hydraulic conductivity for the well pair.

[4] Hydraulic gradient calculated from mean groundwater elevation observed during the tidal study between the identified well pair.

[5] Horizontal groundwater velocity calculation: $v = K/n_e * i$.

[6] Groundwater velocities are based on literature values for effective porosity by soil type and hydraulic gradients are calculated from a limited set of data points. Groundwater velocities should therefore be considered estimates.

MLLW = Mean Lower Low Water

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	CC	Cement Concrete
	AC	Asphalt Concrete
	CR	Crushed Rock/ Quarry Spalls
	TS	Topsoil/ Forest Duff/Sod

Measured groundwater level in exploration, well, or piezometer

Groundwater observed at time of exploration

Perched water observed at time of exploration

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Material Description Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

Laboratory / Field Tests

%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO EXPLORATION LOGS

GeoEngineers

FIGURE H-1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	3/13/2008	3/13/2008	7	PSD	VRE	Research Support Services	Vibracore

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
-4.8 MLLW	Vibracore	Research Vessel

Easting (X) / Northing (Y)	System Datum	Surface Water Date Measured	Depth to Mudline (ft)	Water Elevation (ft)
1210152.59 / 560066.05	Washington State Plans North NAD83 (feet)	3/13/2008	11.9	7.1

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	REMARKS
0					G1(S)			ML	Gray silt with wood debris and occasional shell fragments			
					G1(1-2)					NS	<1	
					G1(2-3)			ML	Gray silt with wood debris	NS	<1	
					G1(3-4)					NS	<1	
					G1(4-5)				Wood debris with gray silt and occasional shell fragments	SS	<1	
5					G1(5-6)					SS	<1	
										SS	<1	

Notes: See Figure H-1 for explanation of symbols.

Log of Boring G-1

GeoEngineers

Project: Port of Anacortes Dakota Creek
Project Location: Anacortes, WA
Project Number: 5147-006-00

Figure H-2
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	3/13/2008	3/13/2008	4	PSD	VRE	Research Support Services	Vibracore

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
-0.5 MLLW	Vibracore	Research Vessel

Easting (X) / Northing (Y)	System Datum	Surface Water Date Measured	Depth to Mudline (ft)	Water Elevation (ft)
1210147.95 / 559935.01	Washington State Plans North NAD83 (feet)	3/13/2008	7.7	7.2

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	REMARKS
0					G2(S)			SM	Dark brown silty sand with wood debris and silty gravel	NS	<1	
					G2(1-2)				Increased wood debris	NS	<1	
					G2(2-3)					NS	<1	
					G2(3-4					NS	<1	
								SM	Gray silty sand			

Notes: See Figure H-1 for explanation of symbols.

Log of Boring G-2

GeoEngineers

Project: Port of Anacortes Dakota Creek
Project Location: Anacortes, WA
Project Number: 5147-006-00

Figure H-3
Sheet 1 of 1

Drilled	Start 3/13/2008	End 3/13/2008	Total Depth (ft) 5	Logged By RST / Checked By VRE	Driller Cascade Drilling	Drilling Method Direct Push
Surface Elevation (ft) 7.8 / Vertical Datum MLLW			Hammer Data Vibracore		Drilling Equipment B-90 Limited Access Drill Rig	
Easting (X) 1209997.24 / Northing (Y) 559657.54			System Datum Washington State Plans North NAD83 (feet)		Ground Water: Date Measured N/A; Depth to Water (ft) N/A; Water Elevation (ft) N/A	
Notes:						

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	REMARKS
0					G-3-0-1			SP	Brown medium to coarse sand with occasional gravel	NS	<1	
1					G-3-1-2			ML	Gray silt with occasional wood debris	SS	<1	
								SP	Black fine to coarse sand with occasional gravel and wood debris			
2					G-3-2-3					SS	<1	
3					G-3-3-4					SS	<1	Slight kreosote odor
4					G-3-4-5			ML	Gray silt with occasional wood debris	SS	<1	
								SP	Black fine to coarse sand with occasional gravel and wood debris			
5												

Notes: See Figure H-1 for explanation of symbols.

Log of Boring G-3

GeoEngineers

Project: Port of Anacortes Dakota Creek
Project Location: Anacortes, WA
Project Number: 5147-006-00

Figure H-4
Sheet 1 of 1

Drilled Start 3/13/2008 End 3/13/2008	Total Depth (ft) 5	Logged By RST Checked By VRE	Driller Cascade Drilling	Drilling Method Direct Push	
Surface Elevation (ft) 4.5 Vertical Datum MLLW		Hammer Data Vibracore		Drilling Equipment B-90 Limited Access Drill Rig	
Easting (X) 1209955.74 Northing (Y) 559728.80		System Datum Washington State Plans North NAD83 (feet)		Ground Water Date Measured N/A	Depth to Water (ft) N/A / Water Elevation (ft) N/A
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	REMARKS
	0					G-4-0-1			SP	Black fine to coarse sand with occasional gravel and wood debris	MS	<1	
	1					G-4-1-2					MS	<1	
	2					G-4-2-33			Rock	Rock layer	SS	<1	
									SP	Black fine to coarse sand with occasional gravel and wood debris			
	3					G-4-3-4					SS	<1	
	4					G-4-4-5			SM	Gray silty sand with occasional shell fragments	SS	<1	
	5												

Notes: See Figure H-1 for explanation of symbols.

Log of Boring G-4

GeoEngineers

Project: Port of Anacortes Dakota Creek
Project Location: Anacortes, WA
Project Number: 5147-006-00

Figure H-5
Sheet 1 of 1

Drilled Start 3/13/2008 End 3/13/2008	Total Depth (ft) 5	Logged By RST Checked By VRE	Driller Cascade Drilling	Drilling Method Direct Push	
Surface Elevation (ft) 5.25 Vertical Datum MLLW		Hammer Data Vibracore		Drilling Equipment B-90 Limited Access Drill Rig	
Easting (X) 1209887.81 Northing (Y) 559681.61		System Datum Washington State Plans North NAD83 (feet)		Ground Water Date Measured N/A	Depth to Water (ft) N/A / Water Elevation (ft) N/A
Notes:					

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	REMARKS
0					G-5-0-1			SM/GM	Gray brown medium to coarse sand with occasional fine gravel	NS	<1	
1					G-5-1-2			SM/GM	Brown medium to coarse sand with occasional fine gravel and iron staining	NS	<1	
								SP	Black fine to coarse sand with wood debris			
2					G-5-2-3					NS	<1	
3					G-5-3-4					NS	<1	
4					G-5-4-5			SM	Gray silty sand with occasional fine gravel and shell fragments	NS	<1	
5												

Notes: See Figure H-1 for explanation of symbols.

Log of Boring G-5

GeoEngineers

Project: Port of Anacortes Dakota Creek
Project Location: Anacortes, WA
Project Number: 5147-006-00

Figure H-6
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	3/13/2008	3/13/2008	5	RST	VRE	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
9.4 MLLW	Vibracore	B-90 Limited Access Drill Rig

Easting (X) / Northing (Y)	System Datum	Ground Water Date Measured	Depth to Water (ft)	Water Elevation (ft)
1209853.64 / 559749.58	Washington State Plans North NAD83 (feet)	N/A	N/A	N/A

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	REMARKS
0					G-6-0-1			SP	Black fine to coarse sand with occasional gravel and shell fragments and wood debris	SS	<1	
1					G-6-1-2					SS	<1	
2					G-6-2-3					NS	<1	
3					G-6-3-4					NS	<1	
								SM	Gray silty sand with occasional fine gravel and shell fragments			
4					G-6-4-5					NS	<1	
5												

Notes: See Figure H-1 for explanation of symbols.

Log of Boring G-6

GeoEngineers

Project: Port of Anacortes Dakota Creek
Project Location: Anacortes, WA
Project Number: 5147-006-00

Figure H-7
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	3/13/2008	3/13/2008	7	RST	VRE	Research Support Services	Vibracore

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
-30.8 MLLW	Vibracore	Research Vessel

Easting (X) / Northing (Y)	System Datum	Groundwater	Depth to Water (ft)	Water Elevation (ft)
1209728.98 / 560151.17	Washington State Plans North NAD83 (feet)	Date Measured: 3/13/2008	37.7	6.9

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	REMARKS
	0					G7(S)			SM	Gray silty sand with gravel and shells	NS	<1	
						G7(1-2)					NS	<1	
									GP	Gray gravelly sand with silt and shells			
						G7(2-3)			SM	Brown silty sand with shell fragments and occasional gravel	NS	<1	
									MC	Brown silt with occasional fine sand and shell fragments			
						G7(3-4)					NS	<1	
						G7(4-5)					NS	<1	
	5										NS	<1	
											NS	<1	

Notes: See Figure H-1 for explanation of symbols.

Log of Boring G-7

GeoEngineers

Project: Port of Anacortes Dakota Creek
Project Location: Anacortes, WA
Project Number: 5147-006-00

Figure H-8
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	5/10/2012	5/10/2012	20	ARJ	ARJ	Cascade Drilling, LP	Hollow-stem Auger

Auger Data	4¼-inch I.D.; 8¼-inch O.D.	Drilling Equipment	CME 75
Surface (ft) Elevation	15.47	Top of Casing Elevation (ft)	15.07
Latitude Longitude	48° 31' 15.0139" N 122° 36' 37.3762" W	Vertical Datum	Mean Lower Low Water (MLLW)

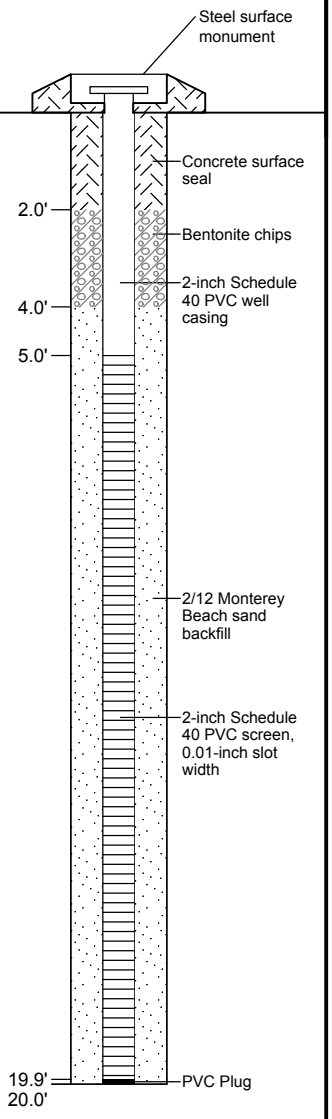
DOE Well I.D.: BHL-198
A 2 (in) well was installed on 5/10/2012 to a depth of 20 (ft).

Groundwater Measurement Date	Depth to Water (ft)	Elevation (ft)

Notes: Material description and field screening data (sheen and headspace vapor) noted below are of soil cuttings.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
15	0							GP	Brown poorly graded gravel with silt and sand (dry)	SS	<1
10	5									SS	<1
5								GM	Brown silty gravel with sand (moist)	NS	<1
0	10								Water observed during drilling	NS	<1
	15									NS	<1
								CL	Gray lean clay with occasional gravel (wet)	NS	<1
	20									NS	<1

WELL LOG



Note: See Figure H-1 for explanation of symbols.

Log of Monitoring Well MW-2A

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-08

Figure H-9
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	8/11/2016	8/11/2016	20.5	NRS	RST	Cascade Drilling, LP	Hollow-Stem Auger

Hammer Data	300 (lbs) / 30 (in) Drop	Drilling Equipment	Mobile B-90
Surface Elevation (ft) Vertical Datum	15.08 MLLW	Top of Casing Elevation (ft)	14.7
Latitude Longitude	48.520904 -122.61031	Horizontal Datum	Geographic NAD83

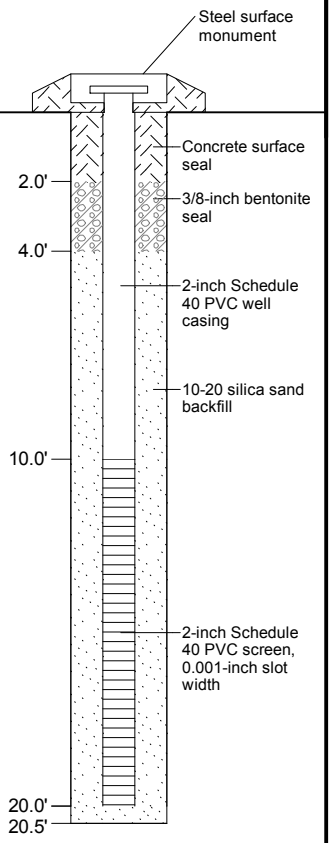
DOE Well I.D.: BJY 162
A 2 (in) well was installed on 8/11/2016 to a depth of 20.5 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
8/11/2016	10.3	4.5

Notes:

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot (N_{60})	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0								AC	20 inches asphalt concrete		
									GP	Gray fine to medium sand with gravel		
10	5	5	16	31		MW-2B-S-1					SS	<1
5	10	5	0	8		MW-2B-S-2	▼			(Rock in sampler shoe; no recovery)		
0	15	5	16	28		MW-2B-S-3			SP-SM	Gray coarse sand with silt and gravel (loose, wet)	NS	<1
-5	20	5	18	21		MW-2B-S-4			SM	Gray silty fine sand with occasional organics (dense, wet) (native)	NS	<1

WELL LOG



Note: See Figure H-1 for explanation of symbols.

Log of Monitoring Well MW-2B

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-11

Figure H-10
Sheet 1 of 1

Seattle: Date:12/6/17 Path:W:\PROJECTS\5147006\GINT\5147006.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	5/10/2012	5/10/2012	20	ARJ	ARJ	Cascade Drilling, LP	Hollow-stem Auger

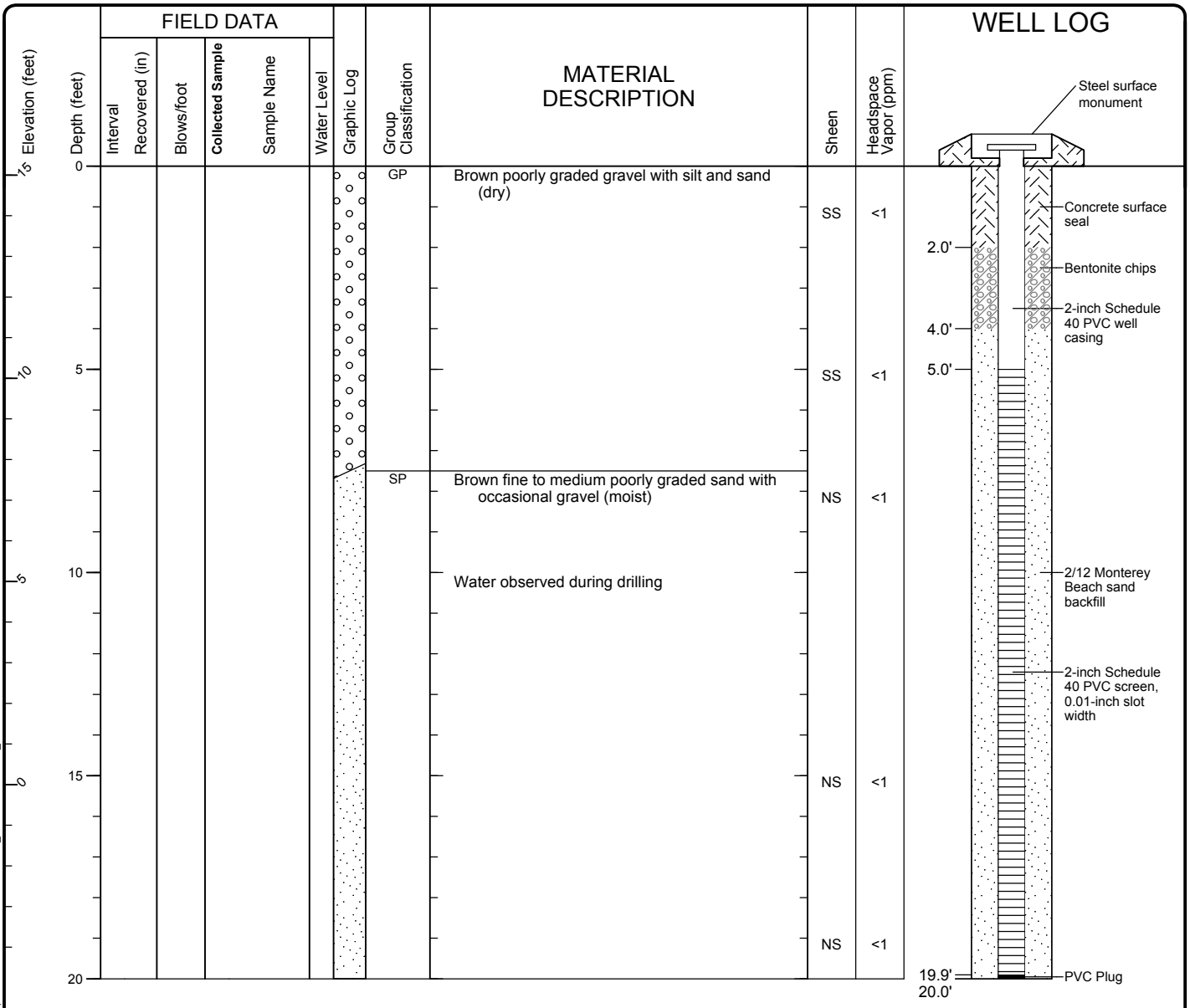
Auger Data	4¼-inch I.D.; 8¼-inch O.D.	Drilling Equipment	CME 75
Surface (ft) Elevation	15.22	Top of Casing Elevation (ft)	14.83
Latitude Longitude	48° 31' 15.0124" N 122° 36' 35.3293" W	Vertical Datum	Mean Lower Low Water (MLLW)

DOE Well I.D.: BHL-199
A 2 (in) well was installed on 5/10/2012 to a depth of 20 (ft).

Groundwater

Measurement Date	Depth to Water (ft)	Elevation (ft)

Notes: Material description and field screening data (sheen and headspace vapor) noted below are of soil cuttings.



Note: See Figure H-1 for explanation of symbols.

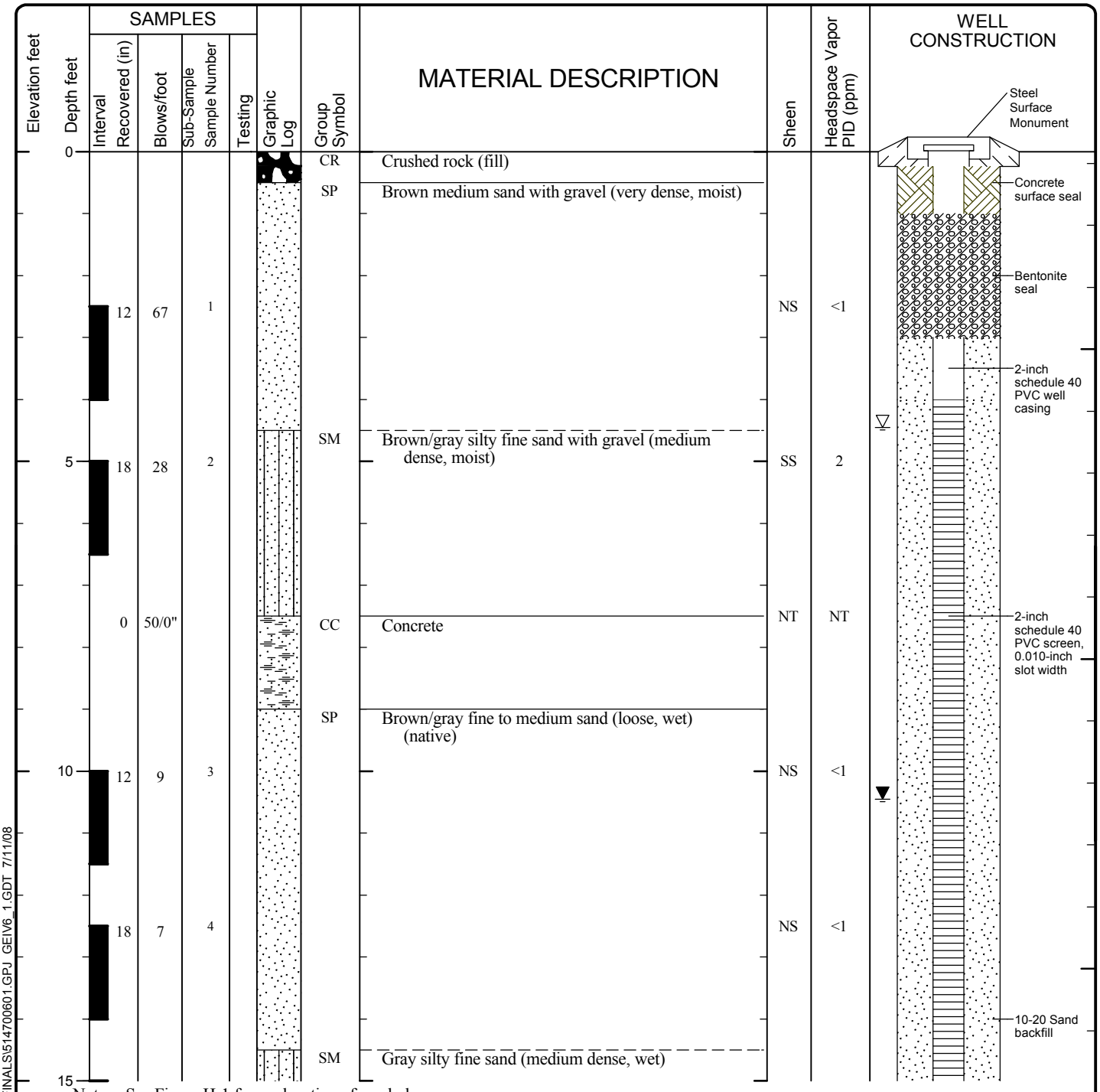
Log of Monitoring Well MW-3A

GeoEngineers

Project:	Dakota Creek Industries
Project Location:	Anacortes, Washington
Project Number:	5147-006-08

Figure H-11
Sheet 1 of 1

Date(s) Drilled	5/27/08	Logged By	SHL	Checked By	RST
Drilling Contractor	Cascade Drilling	Drilling Method	Hollow Stem Auger	Sampling Methods	D&M
Auger Data	4-inch ID	Hammer Data	300 lb hammer/30 in drop automatic	Drilling Equipment	Truck-Mounted B-61
Total Well Depth (ft)	19	Top of Casing Elevation (ft)	12.74	Groundwater Elevation (ft)	8.74
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209768.52 559426.59



Notes: See Figure H-1 for explanation of symbols.

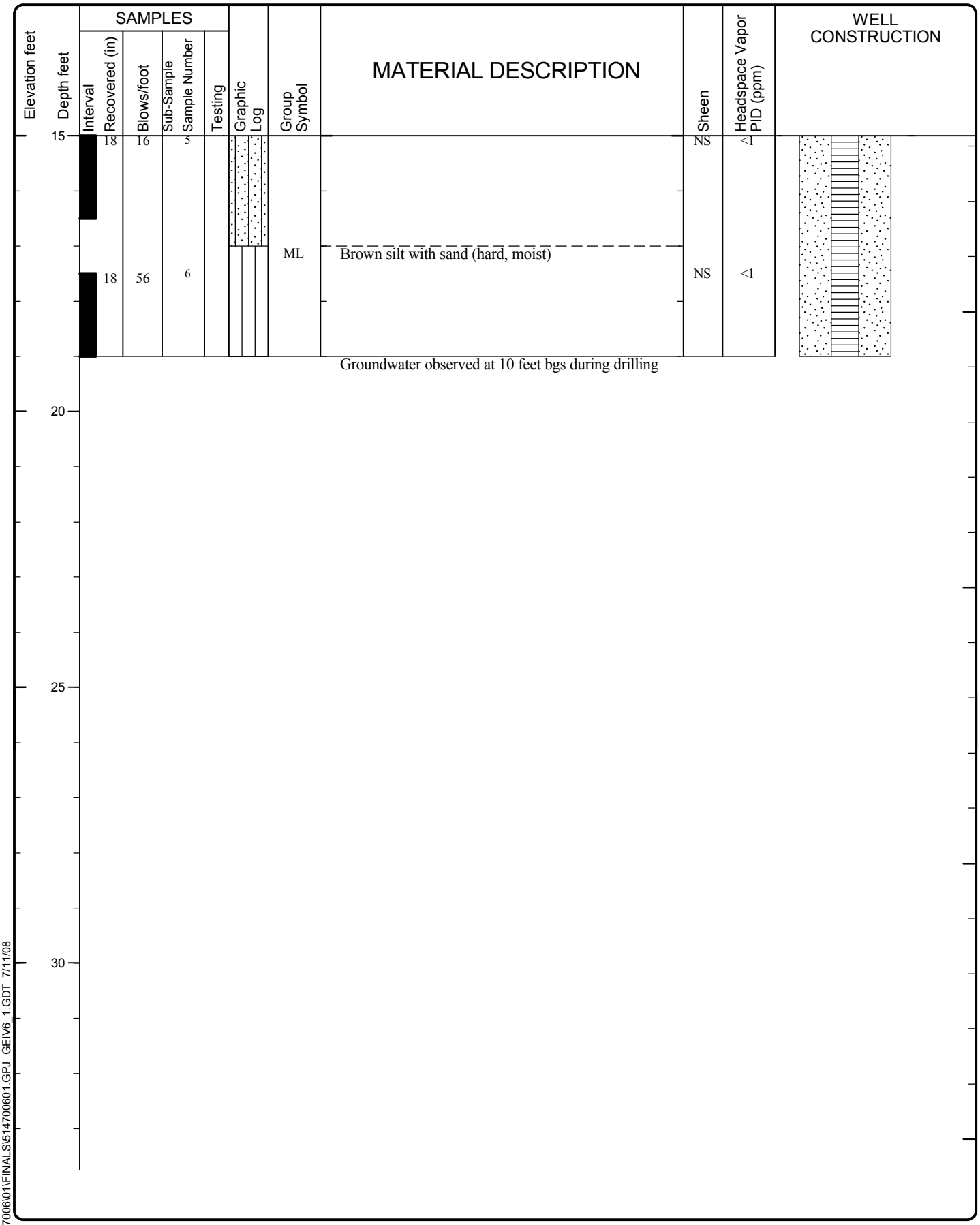
LOG OF MONITORING WELL MW-5

GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-12
Sheet 1 of 2

V6_ENVWELL P:\5\5147006\01FINALS\5147006O1.GPJ GEIV6_1.GDT 7/11/08



V6_ENVWELL P:\5\5147006\01\FINALS\5147006O1.GPJ GEIV6_1.GDT 7/11/08

LOG OF MONITORING WELL MW-5 (continued)

GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-13
Sheet 2 of 2

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	5/10/2012	5/10/2012	20	ARJ	ARJ	Cascade Drilling, LP	Hollow-stem Auger

Auger Data	4¼-inch I.D.; 8¼-inch O.D.	Drilling Equipment	CME 75
Surface (ft) Elevation	13.5	Top of Casing Elevation (ft)	12.46
Latitude Longitude	48° 31' 14.9508" N 122° 36' 33.8851" W	Vertical Datum	Mean Lower Low Water (MLLW)

DOE Well I.D.: BHL-200
A 2 (in) well was installed on 5/10/2012 to a depth of 20 (ft).

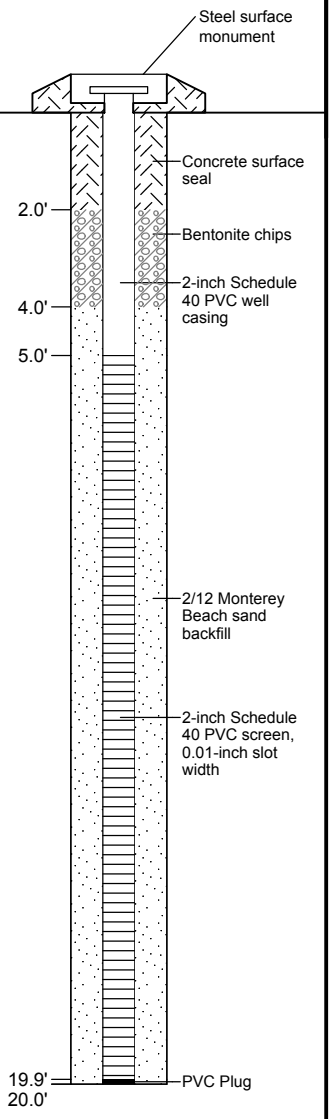
Groundwater

Measurement Date	Depth to Water (ft)	Elevation (ft)

Notes: Material description and field screening data (sheen and headspace vapor) noted below are of soil cuttings.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample	FIELD DATA: Sample Name	FIELD DATA: Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0							GP	Brown poorly graded gravel with silt and sand (dry)	SS	<1
	5								Becomes moist	NS	<1
	10								Water observed during drilling Becomes wet	NS	<1
	15									NS	<1
								CL	Brownish-gray lean clay with occasional gravel (wet)	NS	<1
	20										

WELL LOG



Note: See Figure H-1 for explanation of symbols.

Log of Monitoring Well MW-6

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-08

Figure H-14
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	5/10/2012	5/10/2012	15	ARJ	ARJ	Cascade Drilling, LP	Hollow-stem Auger

Auger Data	4¼-inch I.D.; 8¼-inch O.D.	Drilling Equipment	CME 75
Surface (ft) Elevation	13.89	Top of Casing Elevation (ft)	13.36
Latitude Longitude	48° 31' 12.9220" N 122° 36' 33.8745" W	Vertical Datum	Mean Lower Low Water (MLLW)

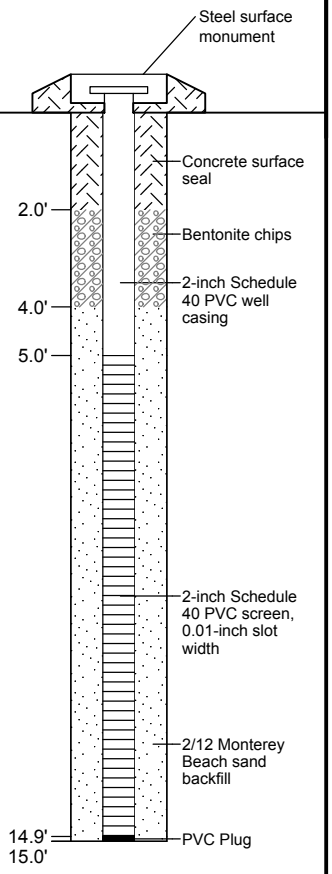
DOE Well I.D.: BHL-197
A 2 (in) well was installed on 5/10/2012 to a depth of 15 (ft).

Groundwater Measurement Date	Depth to Water (ft)	Elevation (ft)

Notes: Material description and field screening data (sheen and headspace vapor) noted below are of soil cuttings.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample	FIELD DATA: Sample Name	FIELD DATA: Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0							GP	Brown poorly graded gravel with silt and sand (dry)		
								SM	Brown silty fine to medium sand with gravel (dry)	NS	<1
	5							SP	Gray fine to medium poorly graded sand with silt (moist)	NS	<1
	10								Water observed during drilling		
										NS	<1
								CL	Gray lean clay with occasional gravel (wet)		
	15									NS	<1

WELL LOG



Note: See Figure H-1 for explanation of symbols.

Log of Monitoring Well MW-7

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-08

Figure H-15
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	11/4/2015	11/4/2015	20	CVD	RST	Cascade Drilling, LP	Hollow-Stem Auger

Hammer Data	300 (lbs) / 30 (in) Drop	Drilling Equipment	CME-850 Track Rig
Surface Elevation (ft) Vertical Datum	14.39 MLLW	Top of Casing Elevation (ft)	13.8
Latitude Longitude	48.52025611 -122.60916667	Horizontal Datum	Geographic NAD83

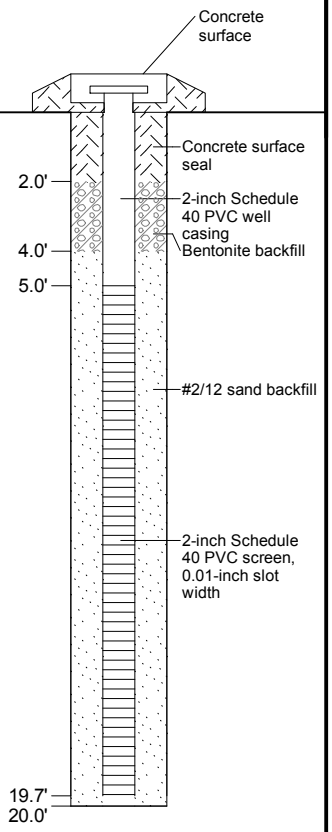
DOE Well I.D.: BIX 153
A 2 (in) well was installed on 11/4/2015 to a depth of 20 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
11/4/2015	8.0	5.8

Notes: Air knife from 0 to 6 feet below ground surface

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot (N_{60})	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm) PID
	0							CC	Approximately 6 inches concrete cement		
								SP	Brown silty fine to coarse sand, occasional gravel (moist) (fill)		
10	5	6			DCI-S-MW-8_5					NS	0.0
		6	50/6"		DCI-S-MW-8_7.5	▼				NS	0.0
5		6	50/6"		DCI-S-MW-8_10					NS	0.0
	10							SP-SM	Brown silty fine to medium sand with gravel (very dense, wet) (fill)		
		10	50/6"		DCI-S-MW-8_12.5					NS	0.0
0		10	50/6"		DCI-S-MW-8_15					NS	0.0
	15										
		6	50/6"		DCI-S-MW-8_17.5			SP	Brown/gray fine to coarse sand with gravel (very dense, wet)	NS	0.0
-5		6	50/6"		DCI-S-MW-8_20					NS	0.0
	20							SP	Gray fine to coarse sand with gravel (very dense, wet)		

WELL LOG



Note: See Figure H-1 for explanation of symbols.

Log of Monitoring Well MW-8

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-11

Figure H-16
Sheet 1 of 1

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	8	Surface Elevation (ft)	13.9	Groundwater Level (ft. bgs)	4
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209768.52 559426.59

Depth feet	SAMPLES: Interval Recovered (in)	SAMPLES: Blows/foot	SAMPLES: Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
0						CR	Approximately 4 inches crushed rock			
			1			SM	Brown silty fine to medium sand with fine gravel (moist) (fill)	NS	<1	
						CC	Concrete			
						CL	Dark brown clay (moist) (native)			
			2					NS	<1	
						SP	Dark brown fine to medium sand (moist)			
			3	▼				NS	<1	
5						SP	Dark brown fine to medium sand with gravel (moist)			
			4					NS	<1	
						SM	Dark brown silty fine to medium sand with occasional gravel (moist)			
							Groundwater observed at 4 feet bgs during drilling			
10										
15										

Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-1

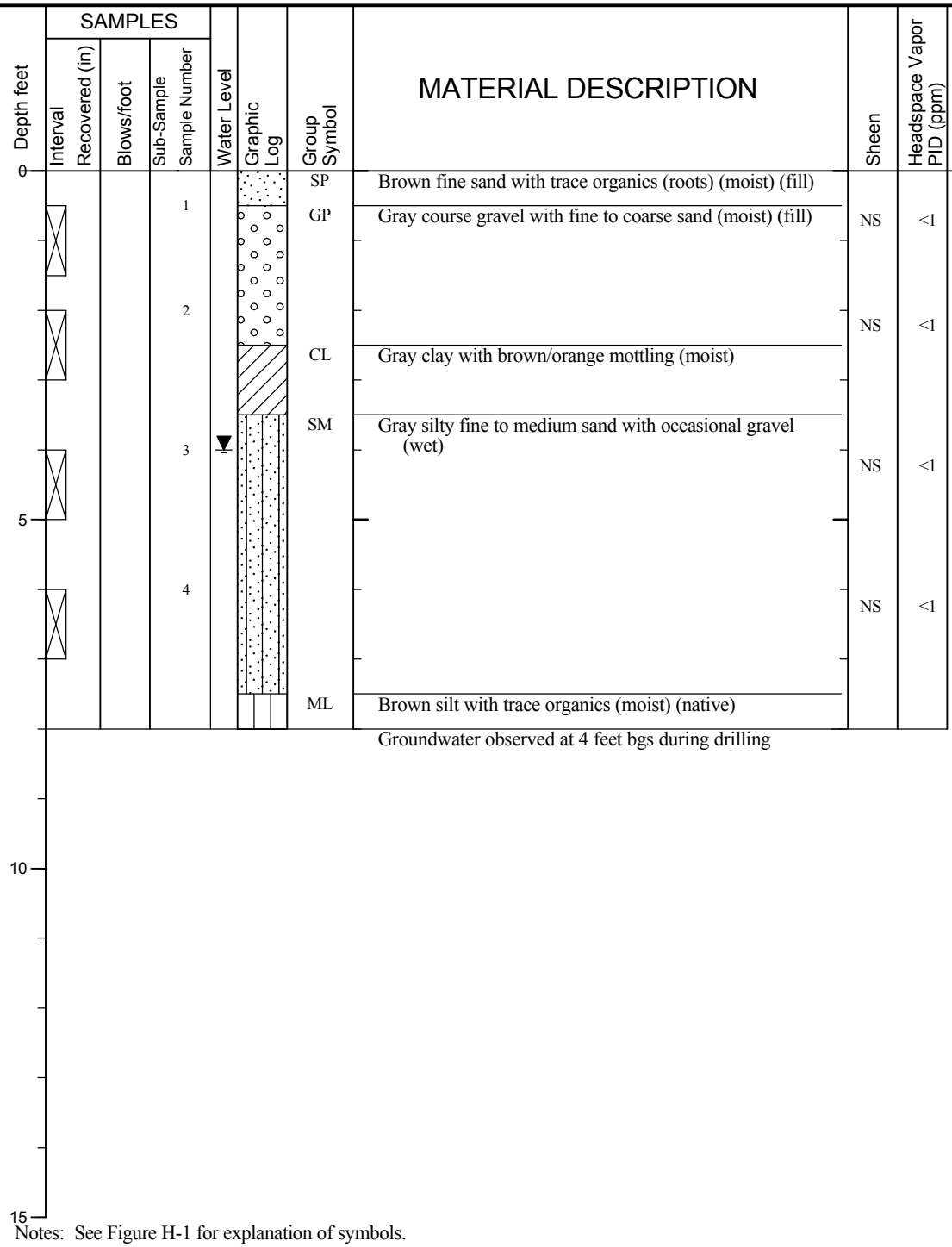
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-17
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	8	Surface Elevation (ft)	13.9	Groundwater Level (ft. bgs)	4
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209744.21 559427.14



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-2

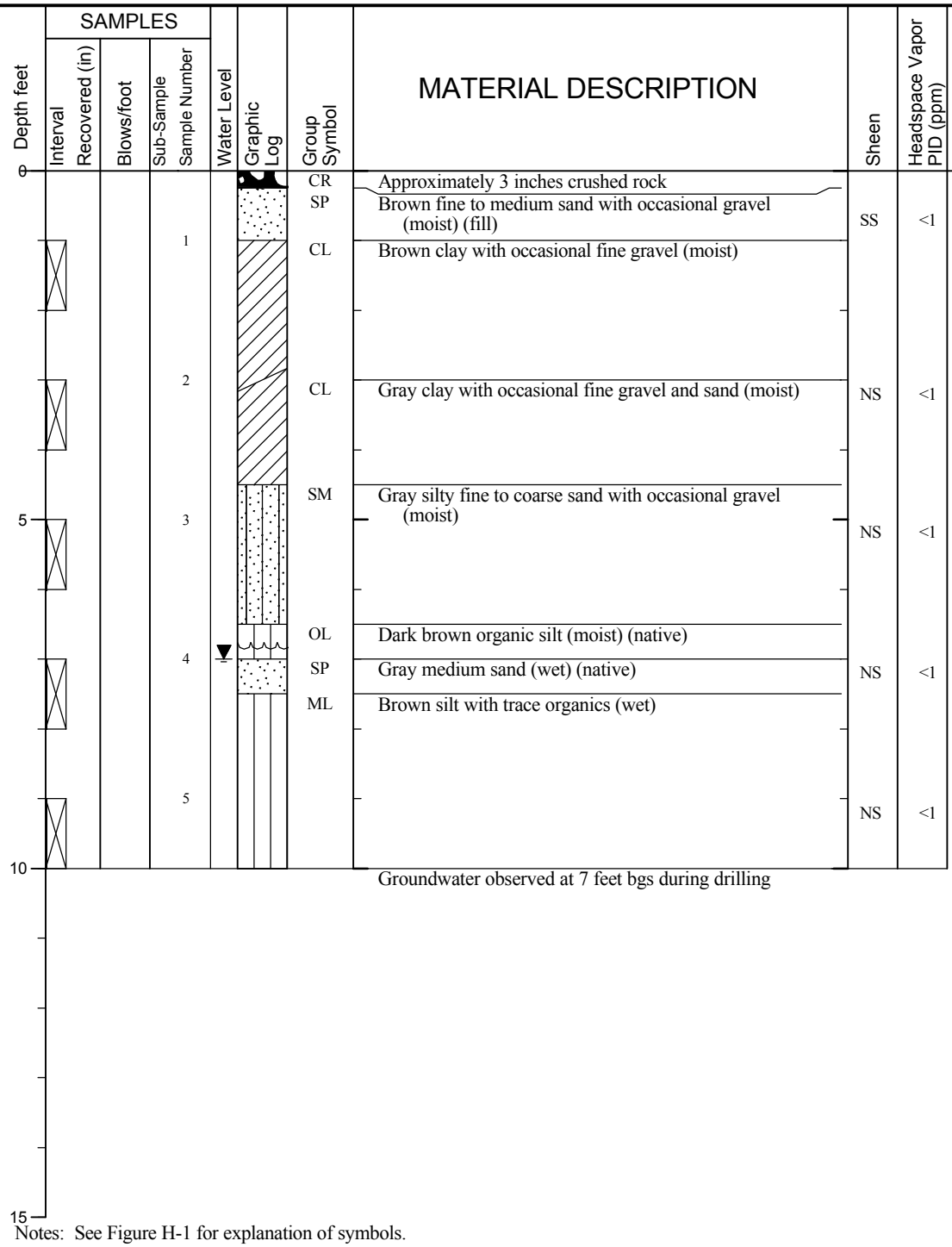
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-18
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	10	Surface Elevation (ft)	13.0	Groundwater Level (ft. bgs)	7
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209551.58 559628.24



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-3

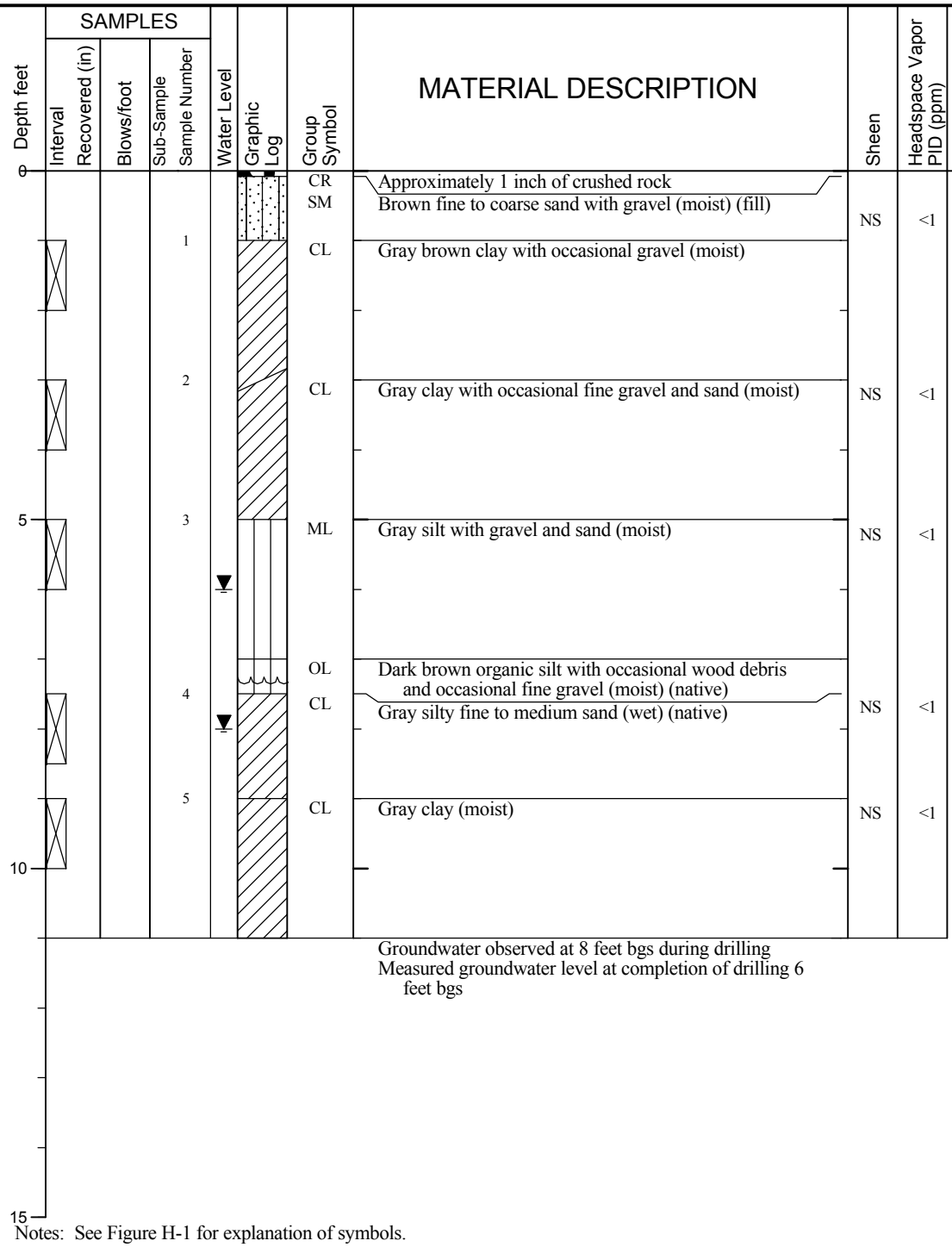
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-19
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	11	Surface Elevation (ft)	13.2	Groundwater Level (ft. bgs)	6
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209497.84 559559.71



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-4

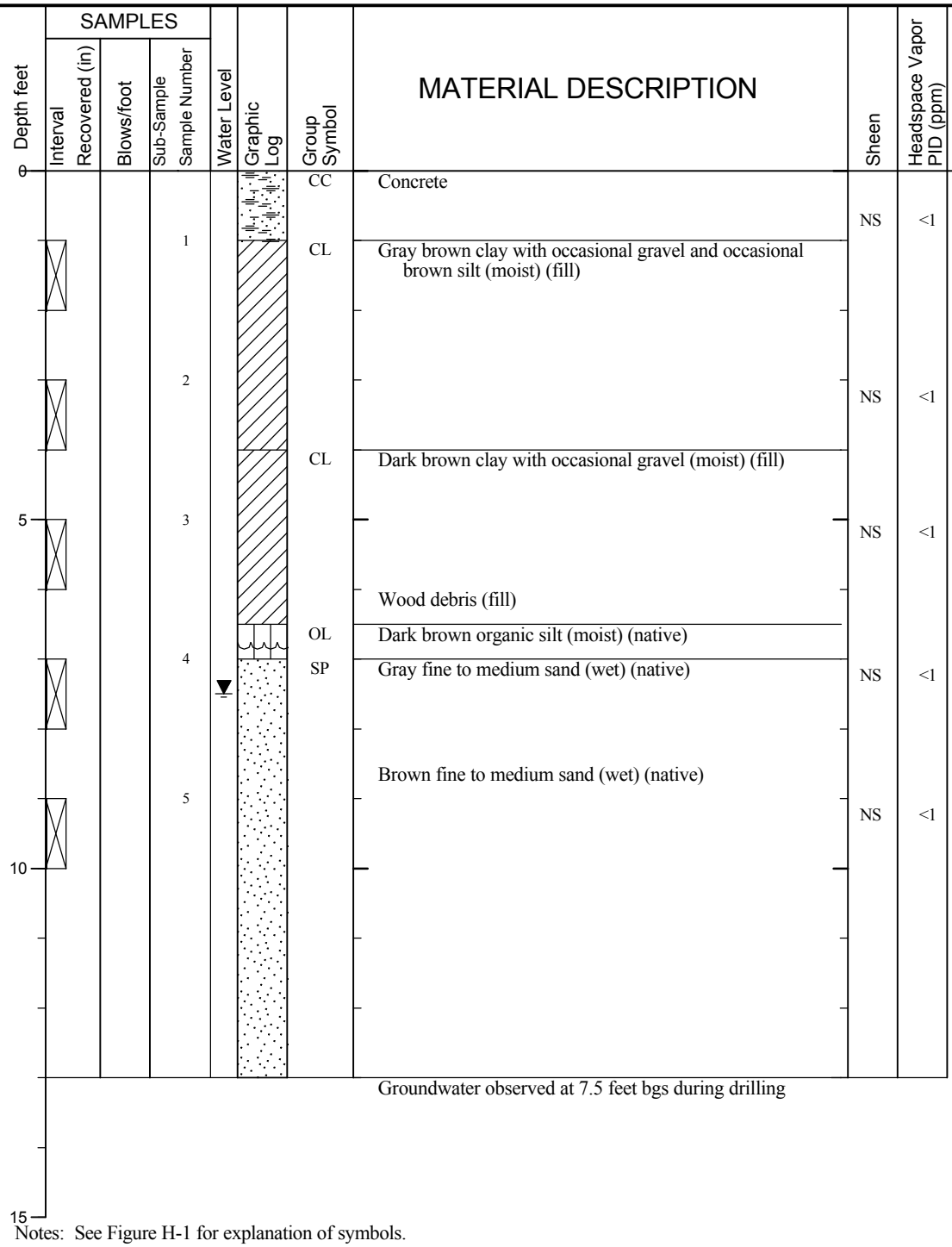
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-20
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	13	Surface Elevation (ft)	13.5	Groundwater Level (ft. bgs)	7.5
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209442.87 559492.78



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-5

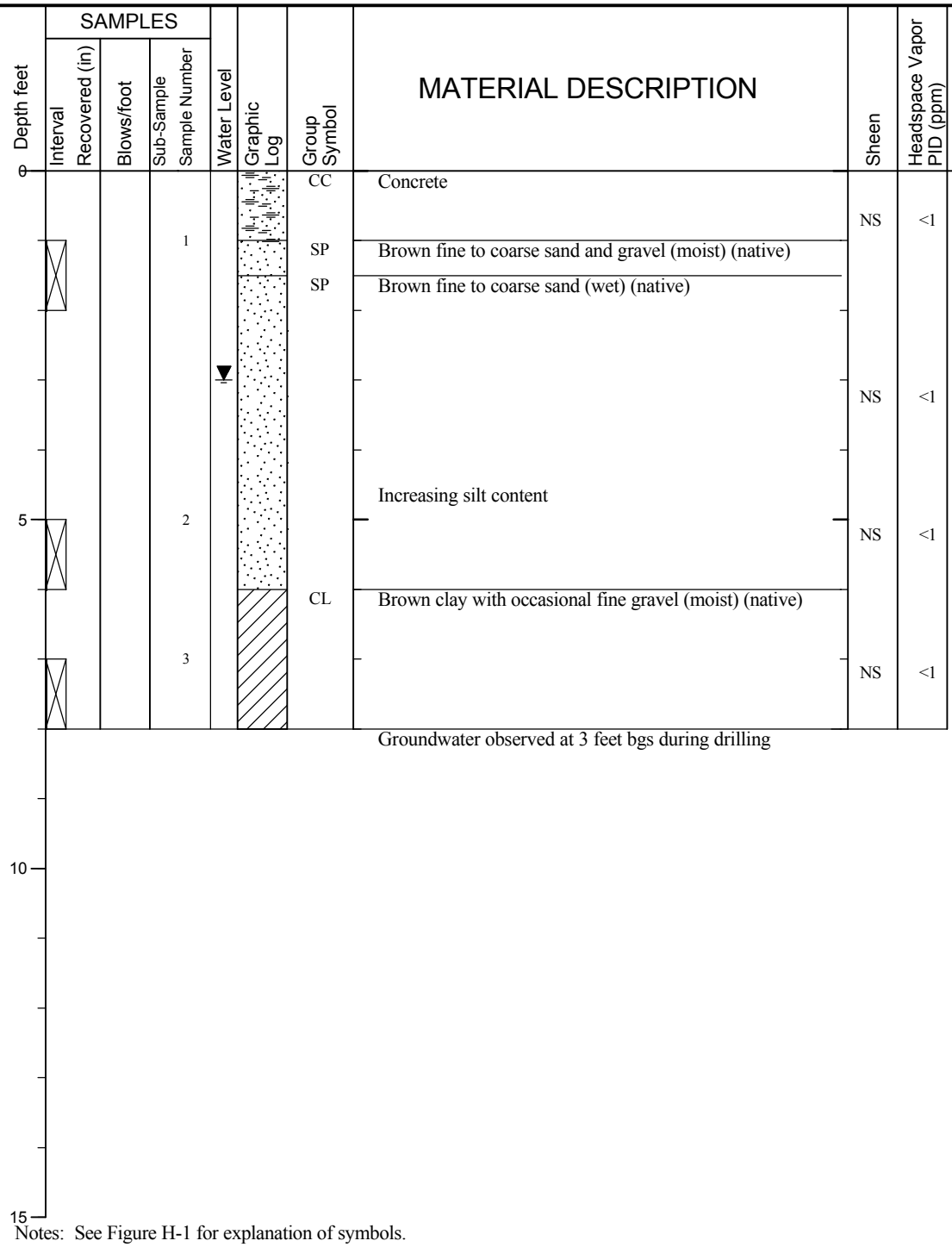
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-21
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	8	Surface Elevation (ft)	13.5	Groundwater Level (ft. bgs)	3
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209418.13 559439.44



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-6

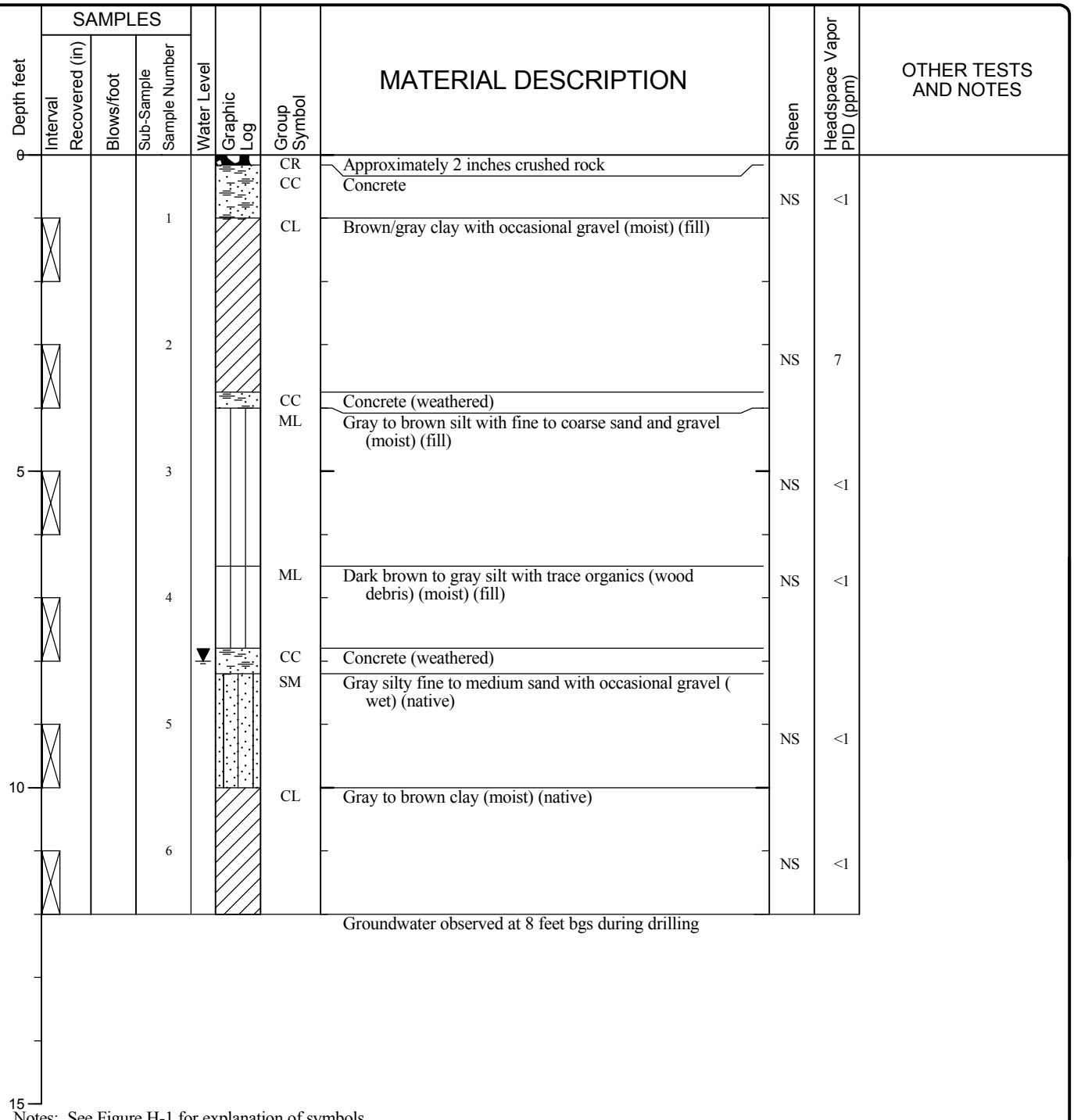
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-22
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	12	Surface Elevation (ft)	13.5	Groundwater Level (ft. bgs)	8
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209538.80 559492.27



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-7

GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-23
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/17/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Hand Auger	Sampling Methods	Grab
Auger Data	3-inch ID	Hammer Data	N/A	Drilling Equipment	N/A
Total Depth (ft)	5	Surface Elevation (ft)	13.5	Groundwater Level (ft. bgs)	4.5
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209349.61 559558.17

Depth feet	SAMPLES: Interval Recovered (in)	SAMPLES: Blows/foot	SAMPLES: Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
0						CR	Approximately 6 inches of crushed rock			
			1			SP	Brown medium to coarse sand (dry) (fill)	NS	<1	
						CL	Gray clay with gravel (moist) (fill)			
						SM	Glass and tile debris			
			2				Dark brown silty fine to medium sand with gravel (moist) (fill)	NS	<1	
						SM	Dark brown silty fine to medium sand with gravel and silt with dark shell fragments and rocks (wet) (native)			
			3	▼				NS	<1	
5							Groundwater observed at 4.5 feet bgs during drilling			
10										
15										

Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-8

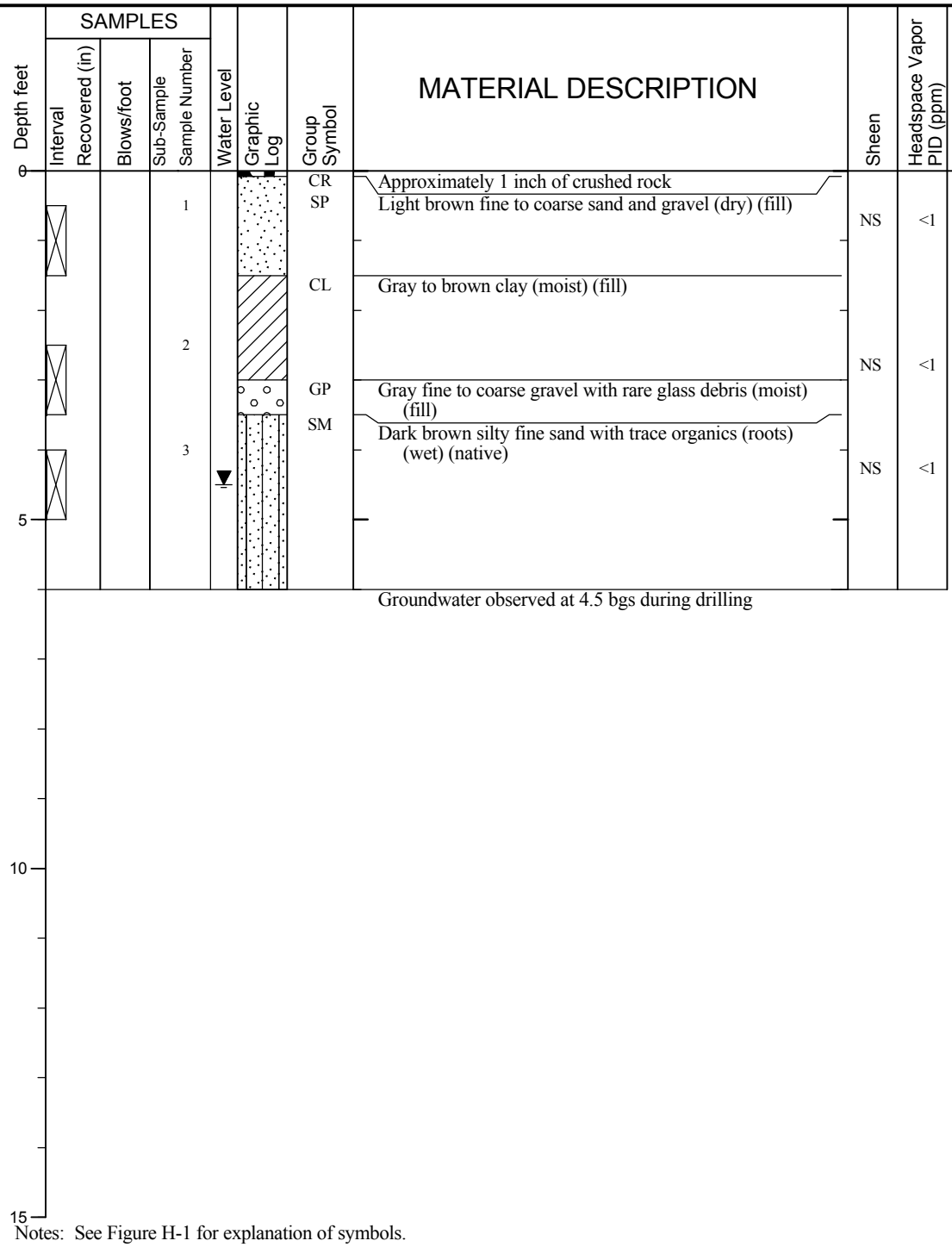
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-24
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	6	Surface Elevation (ft)	13.5	Groundwater Level (ft. bgs)	4.5
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209377.73 559561.73



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-9

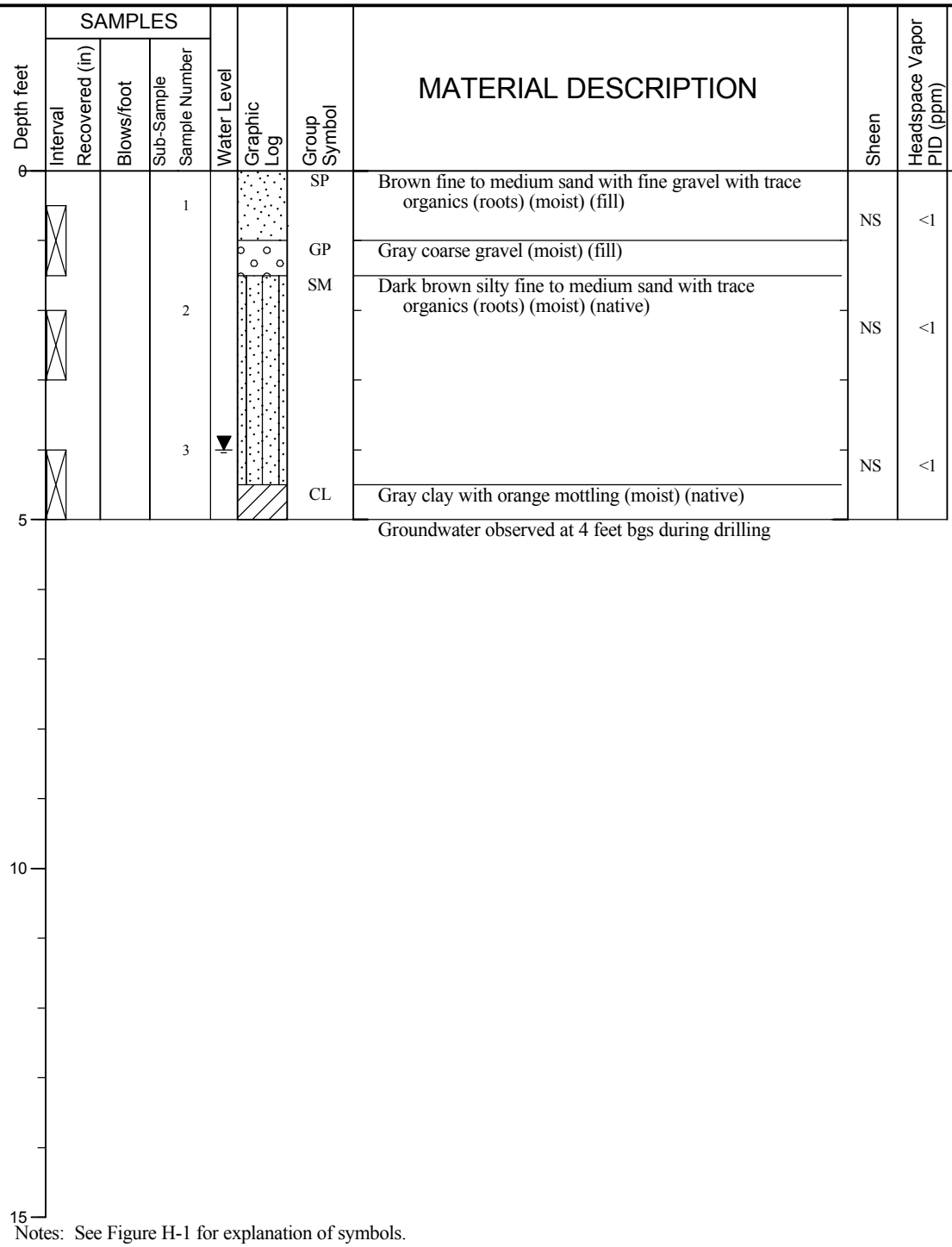
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-25
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/17/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Hand Auger	Sampling Methods	Grab
Auger Data	3-inch ID	Hammer Data	N/A	Drilling Equipment	N/A
Total Depth (ft)	5	Surface Elevation (ft)	13.5	Groundwater Level (ft. bgs)	4
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209331.73 559585.00



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-10

GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-26
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/17/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Hand Auger	Sampling Methods	Grab
Auger Data	3-inch ID	Hammer Data	N/A	Drilling Equipment	N/A
Total Depth (ft)	5	Surface Elevation (ft)	13.5	Groundwater Level (ft. bgs)	4.5
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209335.82 559536.65

Depth feet	SAMPLES: Interval Recovered (in)	SAMPLES: Blows/foot	SAMPLES: Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
0						SP	Brown fine to coarse sand with fine gravel (fill)			
			1			SM	Dark brown/red silty fine to coarse sand with gravel (moist) (fill)	NS	<1	
			2					NS	<1	
						SP	Dark brown fine to medium sand with occasional gravel (moist) (native)			
			3	▼		ML	Gray to brown silt with occasional gravel (wet)	NS	<1	
5						CL	Gray clay (moist)			
							Groundwater observed at 4.5 feet bgs during driling			
10										
15										

Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-11

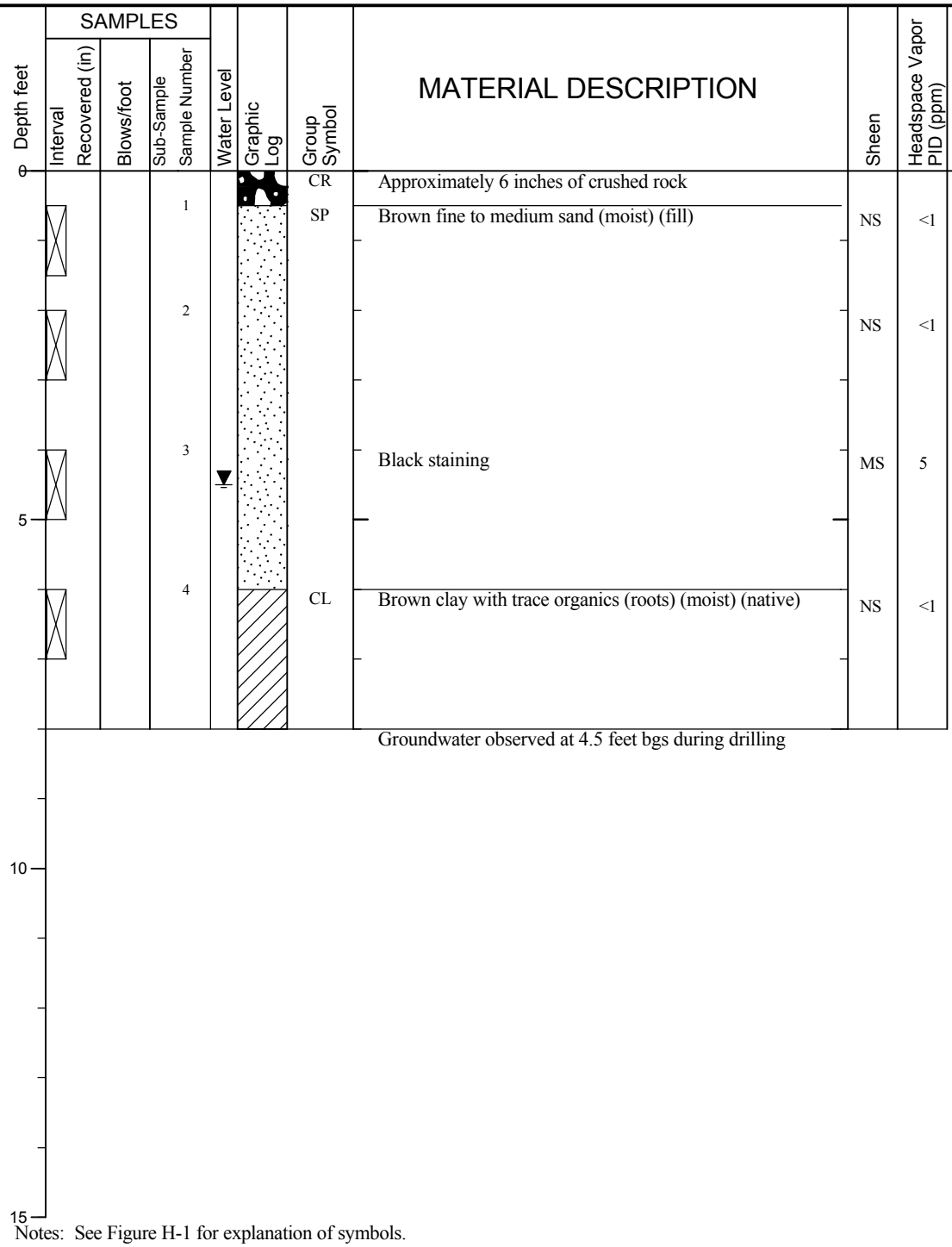
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-27
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	8	Surface Elevation (ft)	12.9	Groundwater Level (ft. bgs)	4.5
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209972.11 559494.54



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-12

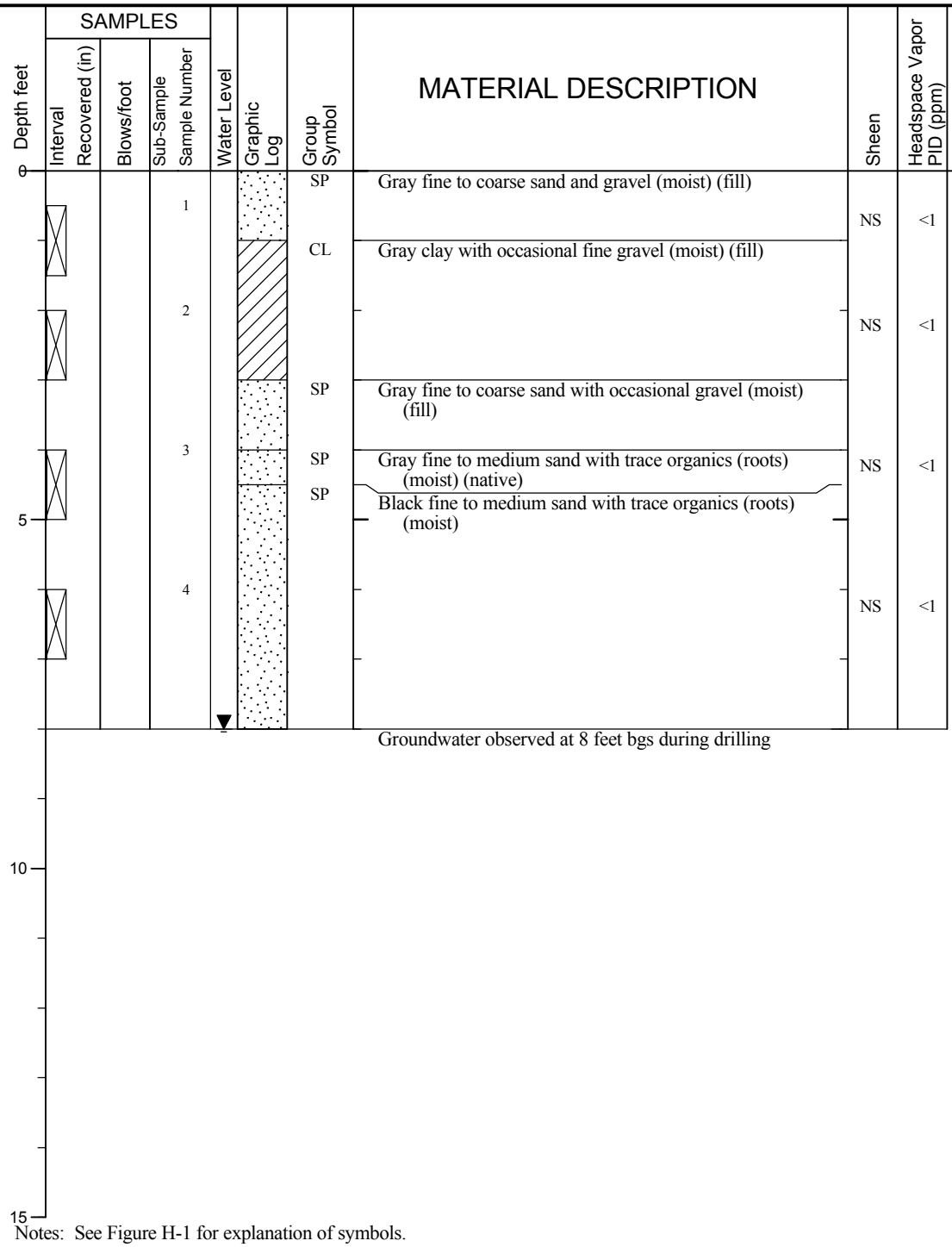
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-28
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	8	Surface Elevation (ft)	12.9	Groundwater Level (ft. bgs)	8
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209946.55 559502.02



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-13

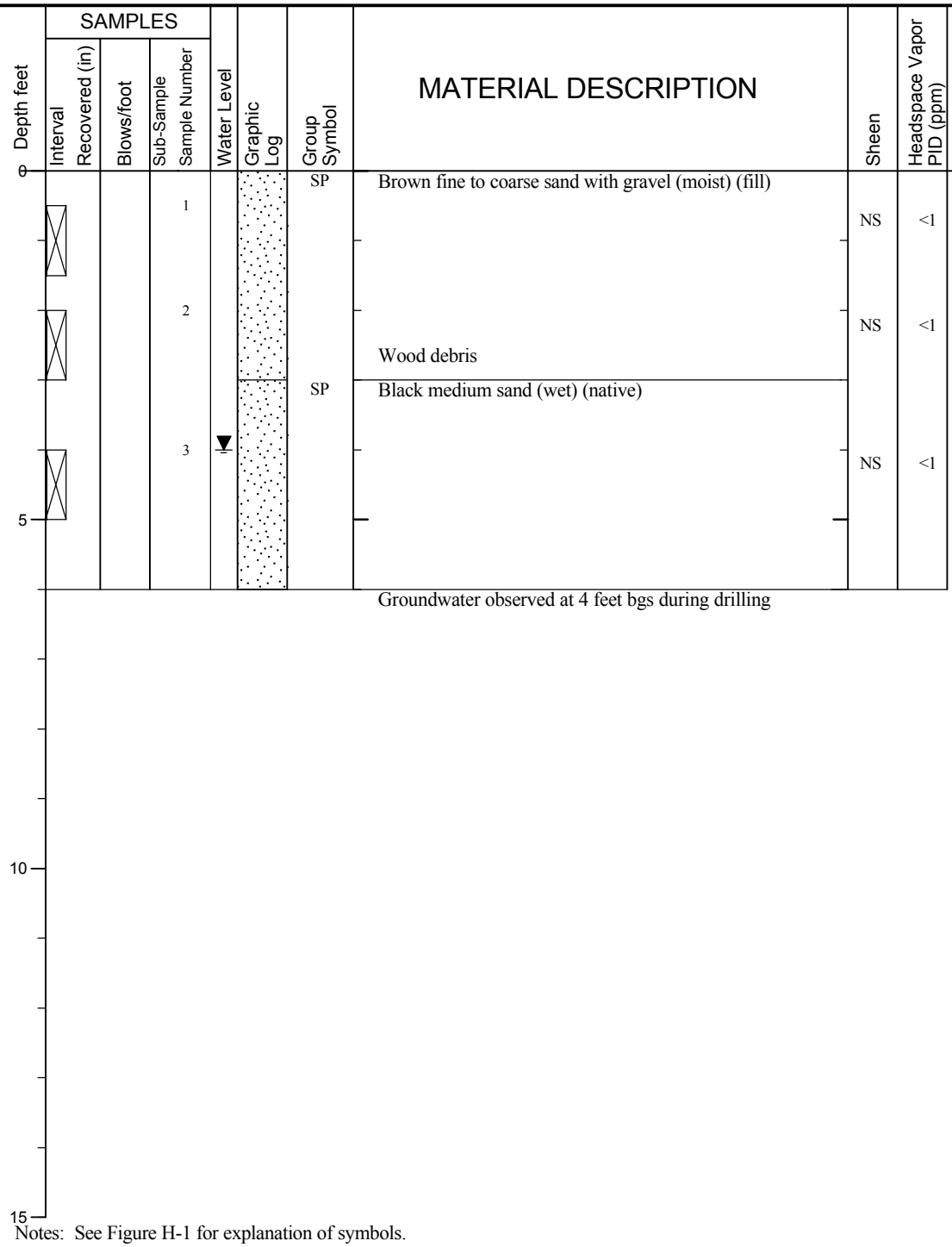
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-29
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	6	Surface Elevation (ft)	12.8	Groundwater Level (ft. bgs)	4
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209998.29 559503.90



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-14

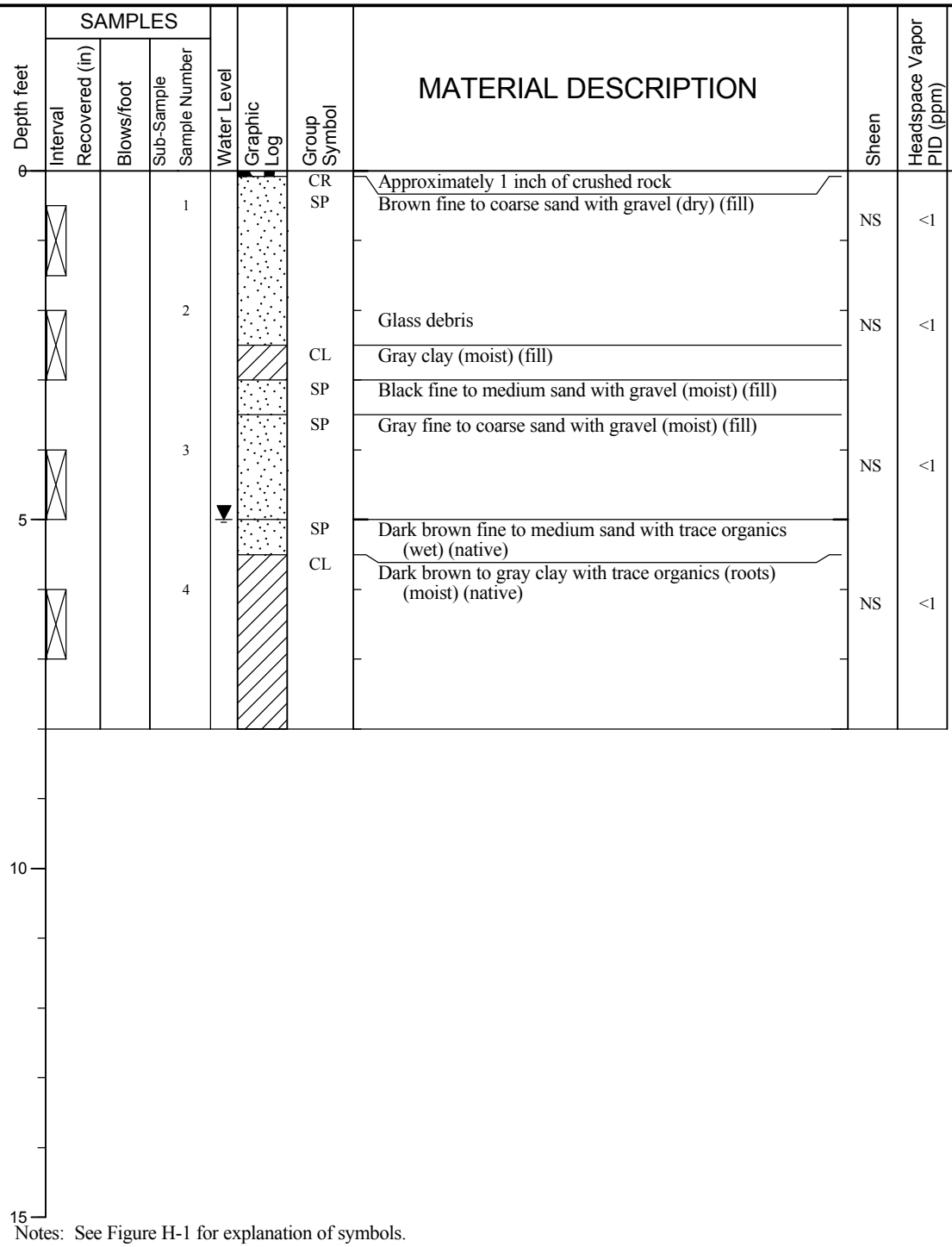
GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-30
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date(s) Drilled	6/16/08	Logged By	RST	Checked By	VRE
Drilling Contractor	Cascade Drilling	Drilling Method	Direct-Push	Sampling Methods	Sleeved Sample
Auger Data	2-inch ID	Hammer Data	Pneumatic	Drilling Equipment	Geoprobe
Total Depth (ft)	8	Surface Elevation (ft)	13.0	Groundwater Level (ft. bgs)	5
Vertical Datum	MLLW	Datum/ System	Washington State Plans North NAD83 (feet)	Easting(x): Northing(y):	1209973.15 559463.97



Notes: See Figure H-1 for explanation of symbols.

LOG OF BORING SB-15

GeoEngineers

Project: Port of Anacortes - Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-01

FIGURE H-31
Sheet 1 of 1

V6_GTBORING P:\5\5147006\01\FINALS\5147006\01.GPJ GEIV6_1.GDT 7/22/08

Date Excavated: 9/5/08 Logged by: VRE

Equipment: Backhoe Surface Elevation (ft): 14

Elevation feet	Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
	0					GM	Gravel with medium sand (loose, moist) (fill)			
						SP	Brown fine to medium sand with gravel (loose to medium dense, moist) (fill)			
		X	1			SP	Brown medium sand with trace silt and gravel (loose to medium dense, moist) (fill)			
10		X	2							
	5									
		X	3							
		X	3							
5										
		X	4			ML	Gray silt with gravel and fine sand (stiff, moist) (native)			
	10						Test pit completed at 10 feet bgs on 9/5/08 No groundwater seepage observed No caving observed			
0										
	15									

Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-3

GeoEngineers

Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-32
Sheet 1 of 1

V6_ENVTPIT P:\5\5147006\05\FINALS\5147006O5.GPJ GEIV6_1.GDT 1/12/09

Date Excavated: 9/8/08 Logged by: VRE

Equipment: Backhoe Surface Elevation (ft): 14

Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
0					GM	Gravel with silty medium sand (loose, moist) (fill)			
					SP	Brown fine to medium sand with silt and gravel (loose to medium dense, moist) (fill)			
		1				Piling encountered at 2.8 feet bgs			
					SM-ML	Black silty fine to medium sand/sandy silt (loose to medium dense, moist) (fill)			
		2			SP	Brown medium sand with trace silt (loose to medium dense, moist) (fill)			
5									
		3			GP	Gravel with fine to medium sand (loose to medium dense, moist) (fill)			
					SM	Gray silty sand with gravel (loose to medium dense, moist) (fill)			
		4			ML	Gray silt with sand and gravel (medium stiff, moist) (native)			
						Test pit completed at 8.5 feet bgs on 9/8/08 No groundwater seepage observed No caving observed			
10									
15									

Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-4

GeoEngineers

Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-33
Sheet 1 of 1

V6_ENVTPIT P:\5\5147006\05\FINALS\5147006005.GPJ GEIV6_1.GDT 1/12/09

Date Excavated: 9/8/08 Logged by: VRE

Equipment: Backhoe Surface Elevation (ft): 15

Elevation feet	Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
15	0					GP	Gravel with sand (loose, moist) (fill)			
						SP	Brown medium sand with silt, tile, brick, and rebar (moist) (fill)			
			1			CC	Brick, tile, rebar, concrete, gravel and debris with medium sand (loose, moist) (fill)			
			2							
10	5						Test pit completed at 4.5 feet bgs on 9/8/08 Groundwater observed at 4.5 feet bgs No caving observed			
5	10									
0	15									

Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-5

GeoEngineers

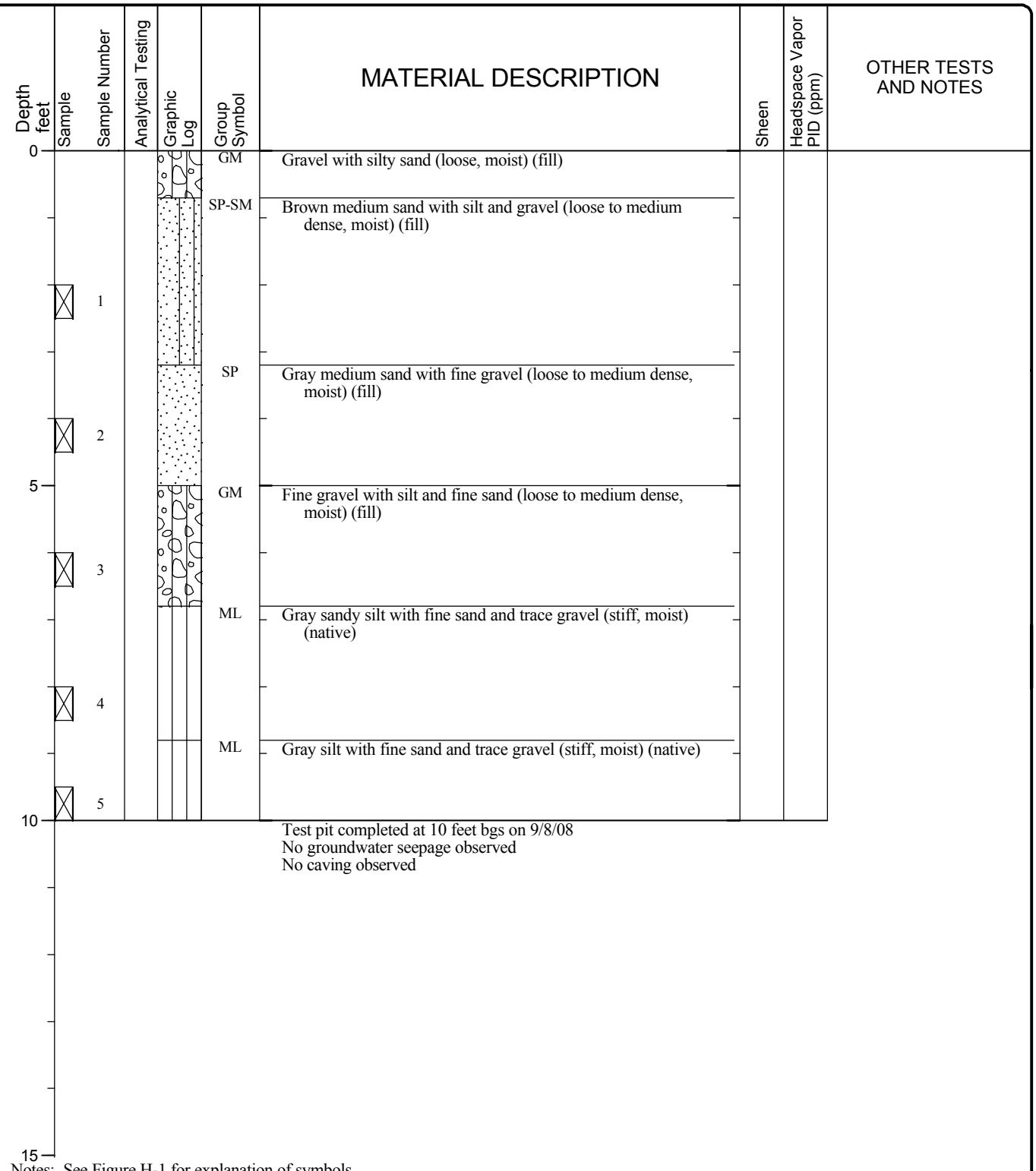
Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-34
Sheet 1 of 1

V6_ENVTPIT P:\5\5147006\05\FINALS\5147006O5.GPJ GEIV6_1.GDT 1/12/09

Date Excavated: 9/8/08 Logged by: VRE

Equipment: Backhoe Surface Elevation (ft): 14



Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-10

GeoEngineers

Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-35
Sheet 1 of 1

V6_ENVTPIT P:\5\5147006\05\FINALS\5147006O5.GPJ GEIV6_1.GDT 1/12/09

Date Excavated: 9/8/08 Logged by: VRE

Equipment: Backhoe Surface Elevation (ft): 15

Elevation feet	Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
15	0					GM	Gravel with silty sand (loose, moist) (fill)			
						SM	Brown silty fine sand with gravel (loose to medium dense, moist) (fill)			
							Piling encountered at 2 feet bgs			
						SM	Black silty fine sand with gravel (loose to medium dense, moist) (fill)			
						SP	Brown fine to medium sand with trace silt (loose to medium dense, moist) (fill)			
						SP	Gray medium sand with trace silt and gravel (loose to medium dense, moist) (fill)			
10	5		1							
						SM	Gray gravelly sand with silt (loose to medium dense, moist) (fill)			
			2							
						ML	Gray silt with trace gravel (medium stiff, moist) (native)			
			3							
5	10						Test pit completed at 10 feet bgs on 9/8/08 No groundwater seepage observed No caving observed			
0	15									

Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-11

GeoEngineers

Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-36
Sheet 1 of 1

V6_ENVTPIT P:\5\5147006\05\FINALS\5147006O5.GPJ GEIV6_1.GDT 1/12/09

Date Excavated: 9/8/08 Logged by: VRE

Equipment: Backhoe Surface Elevation (ft): 13

Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
0					AC	Asphalt			
					GP	Gravel (loose, moist) (fill)			
					SP	Brown medium sand with concrete and gravel (loose to medium dense, moist) (fill)			
		1			SP	Brown medium sand with silt and gravel (loose to medium dense, moist) (fill)			
						Test pit completed at 3 feet bgs on 9/8/08 No groundwater seepage observed No caving observed			
5									
10									
15									

Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-12

GeoEngineers

Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-37
Sheet 1 of 1

V6_ENVTPIT P:\5\5147006\05\FINALS\5147006O5.GPJ GEIV6_1.GDT 1/12/09

Date Excavated: 9/8/08 Logged by: VRE

Equipment: Backhoe Surface Elevation (ft): 14

Elevation feet	Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
	0					GM	Gravel with silty fine sand (loose, moist) (fill)			
						SP-SM	Dark gray fine sand with silt and fine gravel (loose to medium dense, moist) (fill)			
			1			SP-SM	Dark gray fine to medium sand with silt, gravel, metal, tile, and brick debris (loose, moist)			
10						SP-SM	Dark gray fine sand with silt and fine gravel (loose to medium dense, moist) (fill)			
			2				Concrete slab at 4.5 feet bgs Test pit completed at 4.5 feet bgs on 9/8/08 No groundwater seepage observed No caving observed			
5	5									
	10									
0										
	15									

Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-13

GeoEngineers

Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-38
Sheet 1 of 1

V6_ENVTPIT P:\5\5147006\05\FINALS\5147006O5.GPJ GEIV6_1.GDT 1/12/09

Date Excavated: 9/18/08 Logged by: JMH

Equipment: Backhoe Surface Elevation (ft): 14

Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
0					GP	Gray angular gravel (<1") (loose, moist) (fill)			
					SP-SM	Dark gray fine sand with gravel and wood (loose, moist) (fill)			
5					SP-SM	Dark gray fine to medium sand with gravel and wood (loose, moist) (fill)			
					SP	Light gray fine sand (medium dense to dense, moist) (native)			
						Test pit completed at 6.5 feet bgs on 9/18/08 No groundwater seepage observed No caving observed			
10									
15									

Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-14

GeoEngineers

Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-39
Sheet 1 of 1

Date Excavated: 9/18/08 Logged by: JMH

Equipment: Backhoe Surface Elevation (ft): 14

Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
0					GP	Gray angular gravel (<1") (loose, moist) (fill)			
					SP-SM	Brown fine to medium sand with wood and gravel (loose, moist) (fill)			
					SM	Light gray silt fine to medium sand (loose to medium dense, moist) (fill)			
					WD	Dark brown wood sawdust (loose, moist) (fill)			
					WD	Wood (fill)			
5						Test pit completed at 5 feet bgs on 9/18/08 No groundwater seepage observed No caving observed			
10									
15									

Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-15

GeoEngineers

Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-40
Sheet 1 of 1

Date Excavated: 9/18/08 Logged by: JMH

Equipment: Backhoe Surface Elevation (ft): 14

Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	OTHER TESTS AND NOTES
0					GP	Gray angular gravel (<1") (loose, moist) (fill)			
					SP-SM	Gray fine to medium sand with gravel (loose, moist) (fill)			
					SP	Light gray fine sand (medium dense to dense, moist) (native)			
5						Test pit completed at 6 feet bgs 9/18/08 No groundwater seepage observed No caved observed			
10									
15									

Notes: See Figure H-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP-16

GeoEngineers

Project: Port of Anacortes/Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-05

Figure H-41
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged B / Checked By	Driller	Drilling Method
9/29/2014	9/29/2014	10	NRS / RST	Cascade Drilling	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Easting / Northing	System Datum	Groundwater
1210093.36 / 559475.54	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		52.8			S-1			GP	Light gray fine gravel with sand (dry, dense)	NS	<1	
									OL	Dark brown organics (wood debris) (moist)			
						S-2			ML	Dark gray silt (stiff, moist)	NS	<1	
									Wood Debris	Dark brown organics (wood debris) (moist)			
	5		51.6			S-3			SP		NS	<1	
									Wood Debris	Dark brown organics (wood debris) (moist)			
						S-4			SP		NS	<1	Groundwater observed at 7.75 feet bgs during drilling
						S-5					NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-1

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-42
Sheet 1 of 1

Drilled	Start 9/29/2014	End 9/29/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude / Longitude	1210061.50 / 559449.19				System Datum	Washington State Plans North NAD83 (feet)			Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		44.4						AC	3 inches asphalt concrete			
									GP	Gray fine to coarse gravel with sand (dense, moist) (fill)			
						S-1							
									GP	Light gray fine gravel (dense, dry)			
									SM	Dark gray silty sand with occasional gravel			
									Debris	Red brick debris			
						S-2			SP	Gray medium sand (loose, moist) (fill)			
	5		49.2							Fine gravel layer			
									SP	Brown fine to medium sand with occasional gravel (medium dense, moist) (native)			
						S-3							Groundwater observed at 7.5 feet bgs during drilling
						S-4				Becomes gray			
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-2

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-43
Sheet 1 of 1

Drilled Start 9/29/2014 End 9/29/2014	Total Depth (ft) 10	Logged By RST/NRS Checked By	Driller Cascade Drilling	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data Pneumatic		Drilling Equipment GeoProbe 7730 DT
Latitude 1210061.50 Longitude 559449.19		System Datum Washington State Plans North NAD83 (feet)		Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)
Notes:				See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		45.6						AC	6 inches asphalt concrete			
									GP	Gray/ to brown fine gravel with sand (dense, moist)			
									GP	Gray fine gravel with occasional sand (dense, dry)			
						S-1			SP	Brown medium sand with occasional gravel	NS	<1	
									SM	Dark gray silty fine to medium sand with occasional gravel (medium dense, moist) (fill)			
	5		50.4			S-2					NS	<1	
									Debris	Black fabric			
									SM	Gray silty fine to medium sand with occasional gravel (medium dense, wet) (native)			
						S-3					NS	<1	Groundwater observed at 7.5 feet bgs during drilling
						S-4					NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

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Log of Boring GEI-3

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-44
Sheet 1 of 1

Drilled	Start 9/29/2014	End 9/29/2014	Total Depth (ft)	7.5	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1210025.93				System Datum	Washington State Plans North NAD83 (feet)			Groundwater	Date Measured / Depth to Water (ft) / Elevation (ft)
Longitude	559567.18								See "Remarks" section for groundwater observed	
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		51.6			S-1			SP	Gray medium to coarse sand and fine gravel (dense, moist) (fill)	NS	<1	
									GP	Light gray fine gravel with coarse sand (dense, dry) (fill)			
						S-2					NS	<1	
	5		24						SP	Dark brown fine to medium sand with occasional gravel (loose, moist) (fill)			
						S-3					NS	<1	Groundwater observed at 6 feet bgs during drilling
									CC	Concrete			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-4

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Drilled	Start 9/29/2014	End 9/29/2014	Total Depth (ft) 15	Logged By / Checked By RST/NRS	Driller Cascade Drilling	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	Pneumatic	Drilling Equipment	GeoProbe 7730 DT
Latitude 1209994.65 Longitude 559535.64			System Datum	Washington State Plans North NAD83 (feet)	Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:						

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		40.8		S-1			GP	Dark gray fine gravel with sand (dense, moist)	NS	<1	
							ML	Brown silt (stiff, moist)			
				S-2					NS	<1	
5		28.8						Becomes soft			
				S-3			SM	Gray silty fine to coarse sand with gravel (dense, wet) (native?)	NS	<1	Groundwater observed at 7 feet bgs during drilling
				S-4			SM	Black silty fine to coarse sand with gravel (dense, wet)	MS	<1	
							Wood Debris	Wood debris (sawdust)			
10											Strong H_2S odor
				S-5			ML	Gray silt with trace gravel (hard, moist)	NS	<1	
15											

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-5

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-46
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006\0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start 9/29/2014	End 9/29/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1210041.33				System Datum	Washington State Plans North NAD83 (feet)			Groundwater	Date Measured: — Depth to Water (ft): — Elevation (ft): —
Longitude	559632.39								See "Remarks" section for groundwater observed	
Notes:										

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		54						AC	6 inches asphalt concrete			
								GP	Dark gray fine gravel with sand (dense, moist)			
					S-1			SP	Brown medium sand (loose, moist) (fill)	NS	<1	Plastic debris at base of gravel fill
					S-2			SP	Light gray medium sand (loose, moist) (fill)	NS	<1	
5		51.6						SP	Gray fine to medium sand (loose, moist) (fill)			
					S-3					NS	<1	Groundwater observed at 7 feet bgs during drilling
								SM	Gray silty fine to medium sand with occasional gravel (medium dense, wet) (native)			
					S-4					MS	<1	
10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-6

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-47
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/29/2014	9/29/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209970.01 / 559438.78	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		54					AC	6 inches asphalt concrete			
							GP	Gray-brown fine gravel with sand (dense, moist) (fill)			
				S-1			SM	Brown medium sand with occasional gravel (medium dense, moist) (fill)	NS	<1	
							RX	3 inch rock layer			
				S-2			ML	Dark gray silt (hard, moist) (fill)	NS	<1	
5		50.4					Wood	Wood debris (tree/log) (fill)			
							GP	Light gray fine gravel with sand (dense, moist) (fill)			
				S-3			SP	Black medium sand (loose, wet) (fill)	NS	<1	Groundwater observed at 7 feet bgs during drilling
							ML	Dark gray silt (hard, moist) (native?)			
				S-4					NS	<1	
10							SM	Dark brown silty fine to medium sand with occasional gravel and trace organics (roots) (loose, wet) (native)			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-7

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-48
Sheet 1 of 1

Drilled	Start 9/29/2014	End 9/29/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude / Longitude	1210023.45 / 559438.56				System Datum	Washington State Plans North NAD83 (feet)			Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		46.8						AC	6 inches asphalt concrete			
									GP	Gray fine gravel with sand (dense, moist)			
						S-1			SP	Light brown fine to medium sand (loose, moist) (fill)	NS	<1	
						S-2					NS	<1	
	5		46.8										
						S-3			SM	Dark brown silty fine to medium sand with occasional gravel (medium dense, wet) (native?)	SS	<1	Groundwater observed at 7 feet bgs during drilling
						S-4				Occasional roots	NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-8

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-49
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/29/2014	9/29/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209992.93 / 559474.29	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		56.4						AC	6 inches asphalt concrete			
						S-1			GP	Light gray fine gravel with sand (dense, dry) (fill)	NS	<1	
									ML	Gray silt with occasional sand and fine gravel (stiff, moist)			
						S-2					NS	<1	
									ML	Gray silt with gravel and sand (soft, moist)			
									ML	Gray silt with occasional sand and fine gravel (stiff, moist)			
	5		54										
						S-3			Bark	Dark brown organics (bark) (wet)	NS	<1	Groundwater observed at 6 feet bgs during drilling
									SP	Black fine to medium sand with trace organics (roots) (loose, wet)			
						S-4					NS	<1	
									SP	Brown to gray medium sand with organics (roots)			
									SM	Light gray silty medium to coarse sand (loose, wet)			
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-9

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-50
Sheet 1 of 1

Drilled	Start 9/29/2014	End 9/29/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1209972.53				System Datum	Washington State Plans North NAD83 (feet)			Groundwater	Date Measured: — Depth to Water (ft): — Elevation (ft): —
Longitude	559509.85								See "Remarks" section for groundwater observed	
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		52.8						AC	6 inches asphalt concrete			
									GP	Light gray fine gravel with sand (dense, dry)			
									Wood	Wood debris			
						S-1			Debris / SP	Brown fine to medium sand	NS	<1	
						S-2			SP	Black fine to medium sand with occasional gravel (moist)	NS	<1	
	5		54						SP	Gray fine to medium sand (loose, moist) (native?)			
						S-3			SP	Dark gray fine to medium sand (medium dense, wet)	NS	<1	Groundwater observed at 7 feet bgs during drilling
						S-4			SM	Dark gray silty fine sand with occasional gravel (soft, wet)	NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

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Log of Boring GEI-10

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-51
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/29/2014	9/29/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209980.34 / 559591.37	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet) / Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	57.6		S-1			GP	Light gray fine gravel (very dense, moist) (fill)			
5	45.6		s-2			SP	Gray to brown fine to medium sand (loose, moist) (fill?)			Groundwater observed at 7 feet bgs during drilling
							Becomes wet			
10			S-3			SP	Gray fine to medium sand (loose, wet) (native)			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-11

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-52
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/29/2014	9/29/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209966.44 / 559549.28	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		55.2						AC	6 inches asphalt concrete			
									SP	Brown fine to coarse sand with fine gravel (dense, moist)			
									GP	Light gray fine gravel with sand (dense, dry) (fill)			
						S-1					NS	<1	
						S-2			SP	Brown fine to medium sand (loose, moist)	NS	<1	
	5		51.6						SP	Gray fine to medium sand (loose, moist)			
						S-3			SP	Dark brown medium to coarse sand with occasional gravel (loose, wet) (native)	NS	<1	Groundwater observed at 7 feet bgs during drilling
						S-4					NS	<1	
	10								SM	Gray silty fine to coarse sand with occasional gravel (loose, wet)			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-12

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-53
Sheet 1 of 1

Drilled	Start 9/30/2014	End 9/30/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT		
Latitude	1209938.35		System Datum	Washington State Plans North NAD83 (feet)			Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)	
Longitude	559523.30						See "Remarks" section for groundwater observed			
Notes:										

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		51.6					AC	6 inches asphalt concrete			
							GP-GM	Dark gray fine gravel with silt and sand (dense, moist) (fill)			
							GP	Light gray fine gravel with sand (dense, dry) (fill)			
				S-1							
							SP	Brown medium sand (loose, moist) (fill)			
							GP	3 inch layer of rock			
							SP	Light gray medium sand (loose, moist) (fill)			
5		46.8					GP	3 inch layer of rock			
							SP	Brown medium sand with occasional gravel (loose, moist)			
				S-2							
				S-3							Groundwater observed at 7.5 feet bgs during drilling
							SM	Dark gray silty fine to medium sand with occasional gravel (medium dense, wet) (native)			
				S-4							
10											

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-13

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-54
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/30/2014	9/30/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209940.43 / 559471.92	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		50.4						AC	6 inches asphalt concrete			
									GP	Gray fine gravel with sand (dense, moist)			
						S-1					NS	<1	
									SP	Brown medium sand (dense, moist) (fill)			
						S-2			GP	Rock	NS	<1	
									ML	Dark gray silt (stiff, moist) (fill)			
	5								SM	Gray silty fine to medium sand with occasional gravel (medium stiff, moist) (fill)			
						S-3			SP	Dark brown fine to medium sand with trace organics (roots) (loose, wet) (native?)	NS	<1	Groundwater observed at 7 feet bgs during drilling
						S-4			ML	Gray silt (soft, moist)	NS	<1	
	10								SM	Gray silty fine to medium sand and occasional gravel (medium dense, wet) (native) Trace organics			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-14

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-55
Sheet 1 of 1

Drilled	Start 9/30/2014	End 9/30/2014	Total Depth (ft)	15	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude / Longitude	1209912.96 / 559465.64				System Datum	Washington State Plans North NAD83 (feet)			Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		38.4						AC	6 inches asphalt concrete			
									GP	Gray fine gravel with sand (dense, moist)			
						S-1					NS	<1	
									ML	Gray silt with occasional gravel (stiff, moist) (native?)			
						S-2					MS	<1	Petroleum odor
	5		31.2										
									WD	Wood (tree/log)			
									XX	Poor recovery			
	10		60			S-3			SM	Gray slty fine to medium sand with occasional gravel (loose, wet)	SS	<1	Groundwater observed at 10 feet bgs during drilling
						S-4			ML	Gray-brown silt (hard, moist)	NS	<1	
	15												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-15

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-56
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006\0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/30/2014	9/30/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209903.88 / 559536.23	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0								AC	6 inches asphalt concrete			
									GP-GM	Gray fine gravel with silt and sand (dense, moist) (fill)			
						S-1			ML	Gray to brown silt with sand and occasional gravel (stiff, moist) (fill)	NS	<1	
									GP	Light gray fine gravel (concrete) (very dense, dry)			
						S-2			ML	Gray to brown silt with sand and occasional gravel (stiff, moist) (fill)	NS	<1	
	5								GP	Large rock			
						S-3			SP	Dark brown fine to medium sand with trace organics (roots) (loose, wet) (native?)	NS	<1	Groundwater observed at 7 feet bgs during drilling
									WD	2 inch wood layer			
						S-4			SP	Dark gray medium sand (loose, wet)	NS	<1	
	10								ML	Gray to brown silt (soft, moist) (native)			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-16

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-57
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled Start 9/30/2014 End 9/30/2014	Total Depth (ft) 10	Logged By RST/NRS Checked By	Driller Cascade Drilling	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data Pneumatic		Drilling Equipment GeoProbe 7730 DT
Latitude 1209921.84 Longitude 559644.37		System Datum Washington State Plans North NAD83 (feet)		Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)
Notes:				See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		32.4						GP	Dark gray fine gravel with sand (dense, moist)			
						S-1			GP	Light gray fine gravel with sand (dense, dry)	NS	<1	
						S-2					NS	<1	
	5		48						SM	Gray-brown silty fine to medium sand with occasional gravel (dense, moist)			
						S-3			SP	Dark brown medium sand with trace organics (wood debris) (loose, wet) (native?)	NS	<1	Groundwater observed at 7.5 feet bgs during drilling
									SM	Gray to brown silty fine to coarse sand with occasional gravel (dense, moist)			
						S-4					NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-17

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-58
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/30/2014	9/30/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209837.68 / 559655.97	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		57.6						GP	Dark gray fine gravel with sand (dense, moist)			
									GP	Light gray fine gravel with sand (dense, dry)			
						S-1					NS	<1	
	5		44.4			S-2			SP-SM	Brown silty fine to medium sand to sandy silt (loose, moist) (fill)	NS	<1	
						S-3			SP	Brown fine to medium sand (loose, wet) (native)	NS	<1	Groundwater observed at 8 feet bgs during drilling
						S-4					NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-18

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-59
Sheet 1 of 1

Drilled	Start 9/30/2014	End 9/30/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1209826.99				System Datum	Washington State Plans North NAD83 (feet)			Groundwater	
Longitude	559563.51								Date Measured	Depth to Water (ft) / Elevation (ft)
Notes:									See "Remarks" section for groundwater observed	

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		57.6			S-1			GP	Gray to brown fine gravel with sand (dense, moist) (fill)			
						S-2			SP	Brown medium sand with trace gravel (loose, moist) (fill)			
	5		51.6			S-3			SM	Dark gray silty fine to medium sand with trace organics (wood debris) (soft, wet) (native?)			Groundwater observed at 7.5 feet bgs during drilling
						S-4			ML	Dark gray silt (soft, moist) (native)			
	10								SP	Dark gray medium sand (loose, wet)			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-19

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-60
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start 9/30/2014	End 9/30/2014	Total Depth (ft) 10	Logged By / Checked By RST/NRS	Driller Cascade Drilling	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	Pneumatic	Drilling Equipment	GeoProbe 7730 DT
Latitude 1209862.61 Longitude 559473.78			System Datum	Washington State Plans North NAD83 (feet)	Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:						

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		38.4			S-1			GP	Gray fine gravel with sand (dense, moist) (fill)	NS	<1	
					S-2			ML	Gray silt (soft, moist)	NS	<1	
5		40.8						SM	Gray silty fine to medium sand iwth occasional gravel (medium dense, wet)			
					S-3					HS	<1	Creosote odor Groundwater observed at 6.5 feet bgs during drilling
								Peat	Dark brown peat (soft, moist) (native)			
					S-4			ML	Gray silt (soft, moist)	NS	<1	
10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-20

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-61
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled Start 9/30/2014	End 9/30/2014	Total Depth (ft) 10	Logged By / Checked By RST/NRS	Driller Cascade Drilling	Drilling Method Direct Push
Surface Elevation (ft) / Vertical Datum Undetermined		Hammer Data Pneumatic		Drilling Equipment GeoProbe 7730 DT	
Latitude 1209819.42 / Longitude 559453.48		System Datum Washington State Plans North NAD83 (feet)		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:				See "Remarks" section for groundwater observed	

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		48						AC	6 inches asphalt concrete			
									SP	Gray medium to coarse sand with occasional gravel (loose, moist) (fill)			
						S-1					NS	<1	
									CC	Concrete cement			
	5		60			S-2			Wood	2 inch wood (log)	NS	<1	Groundwater observed at 5 feet bgs during drilling
									SP	Gray fine to medium sand (loose, wet) (fill)			
									CC	Concrete cement			
						S-3			Wood	Black organics (wood debris)	HS	<1	Creosote odor
									SP	Gray fine to medium sand (loose, wet)			
						S-4					NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-21

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-62
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
10/1/2014	10/1/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209762.83 / 559487.67	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		33.6						AC	6 inches asphalt concrete			
									GP	Gray fine to coarse gravel with sand (dense, moist) (fill)			
									SM	Gray silty fine to coarse sand with gravel (dense, moist) (fill)			
						S-1					NS	<1	Black staining at approximately 2.5 feet
	5		43..2			S-2			ML	Dark gray silt (soft, moist) (native)	NS	<1	Groundwater observed at 5 feet bgs during drilling
						S-3					NS	<1	Glass debris
									Peat	Dark brown peat (soft, moist)			
						S-4					NS	<1	
	10								SP	Gray medium sand (loose, wet)			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-22

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-63
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/30/2014	9/30/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209806.33 / 559499.92	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		49.2					AC	6 inches asphalt concrete			
				S-1			SP	Brown to gray fine to medium sand with occasional gravel (loose, moist) (fill)	NS	<1	
				S-2					NS	<1	Groundwater observed at 3 feet bgs during drilling
							CC	Cement concrete			
5		42		S-3			Wood	2 inch wood layer	NS	<1	Groundwater observed at 5 feet bgs during drilling
							GM	Gray silty gravel with sand (medium dense, wet)			
							Peat	Dark brown organics (peat and bark) (soft, moist) (native)			
				S-4			SP	Gray medium sand (loose, wet)	SS	<1	
									NS	<1	
10											

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-23

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-64
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/30/2014	9/30/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209779.84 / 559566.03	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		54					GP	Light gray fine gravel with sand (dense, moist)			
				S-1			SP	Light brown medium sand with occasional gravel (loose, moist) (fill)	NS	<1	
				S-2					NS	<1	
5		49.2					SM	Dark gray silty fine to coarse sand with occasional gravel (medium dense, wet) (fill)			Groundwater observed at 5.5 feet bgs during drilling
				S-3					NS	<1	
							CC	Concrete cement			
				S-4			SP	Dark gray medium sand (loose, wet) (native)	NS	<1	
10											

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-24

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-65
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/30/2014	9/30/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209785.95 / 559714.93	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		51.6			S-1			GP	Light gray fine gravel with sand (dense, dry)	NS	<1	
									SP	Brown medium sand (loose, moist)			
						S-2			ML	Brown to gray silt with occasional gravel (soft, moist)	NS	<1	
	5		40.8										
						S-3					NS	<1	Groundwater observed at 7 feet bgs during drilling
						S-4					NS	<1	
									SM	Gray silty fine to coarse sand and occasional gravel (medium dense, wet)			
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-25

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-66
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/30/2014	9/30/2014	15	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209730.45 / 559601.21	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		46.8					AC	6 inches asphalt concrete			
							GP	Dark gray fine gravel with sand (dense, wet) (fill)			
				S-1			GP	Light gray fine gravel with sand (dense, dry) (fill)	NS	<1	
				S-2			ML	Gray to brown silt with occassional gravel (stiff, moist) (fill)	NS	<1	
5		19.2		S-3			SM	Brown silty fine to coarse sand with gravel (dense, wet)	NS	<1	Groundwater observed at 6.5 feet bgs during drilling
								Poor recovery-Driving rock			
10		2.4						No recovery			No recovery
15											

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-26

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-67
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006\0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1209716.09				System Datum	Washington State Plans North NAD83 (feet)			Groundwater	Date Measured / Depth to Water (ft) / Elevation (ft)
Longitude	559502.37								See "Remarks" section for groundwater observed	
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		49.2						AC	6 inches asphalt concrete			
						S-1			GP	Gray fine gravel with sand (dense, moist) (fill)	NS	<1	
									SM	Dark gray silty fine to coarse sand with gravel (dense, moist)			
						S-2			RX	Rock	NS	<1	
									SP	Dark gray fine to medium sand with gravel (medium dense, moist)			
	5		40.8			S-3					NS	<1	Groundwater observed at 5.5 feet bgs during drilling
									Brick	Brick debris			
									Debris	Dark brown peat (sitff, moist) (native)			
									Peat				
						S-4			SP	Dark gray medium sand (loose, wet)	NS	<1	
	10								ML	Dark gray silt (soft, moist)			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-27

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-68
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	15	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude / Longitude	1209746.70 / 559456.89				System Datum	Washington State Plans North NAD83 (feet)			Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		33.6						AC	6 inches asphalt concrete			
									GP	Gray fine gravel with sand (dense, moist)			
						S-1							
									SM	Dark gray silty fine sand with occasional gravel (medium dense, wet) (native)			
	5		10.8			S-2							Groundwater observed at 5 feet bgs during drilling No recovery
										No recovery-Driving on rock			
	10		60			S-3			ML	Brown silt (hard, moist)			
	15												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-28

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-69
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start 9/30/2014	End 9/30/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1209723.91				System Datum	Washington State Plans North NAD83 (feet)			Groundwater	
Longitude	559543.75								Date Measured	Depth to Water (ft) / Elevation (ft)
Notes:									See "Remarks" section for groundwater observed	

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		54						GP	Gray fine gravel with sand (dense, moist) (fill)			
						S-1			SP	Light brown to gray medium to coarse sand with gravel (dense, dry)	NS	<1	
									SM	Dark gray silty fine to medium sand with occasional gravel (medium dense, moist)			
	5		46.8			S-2					HS	<1	Slight petroleum odor
									CC	Concrete cement			
									Wood	1 inch wood layer			
						S-3			SP	Gray medium sand (loose, wet)	NS	<1	Groundwater observed at 8 feet bgs during drilling
						S-4					NS	<1	
	10								ML	Gray silt (soft, moist)			

Note: See Figure H-1 for explanation of symbols.

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006\0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Log of Boring GEI-29

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-70
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/30/2014	9/30/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209722.42 / 559670.95	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft): See "Remarks" section for groundwater observed

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		56.4						GP	Dark gray fine gravel with sand (dense, moist)			
									GP	Light gray fine gravel with sand (dense, dry)			
						S-1			SP	Brown medium sand (loose, moist)	NS	<1	
	5		57.6			S-2					NS	<1	
						S-3					NS	<1	Groundwater observed at 7 feet bgs during drilling
						S-4				Becomes dry	NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-30

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-71
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start 9/30/2014	End 9/30/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1209716.69				System Datum	Washington State Plans North			Groundwater	
Longitude	559755.21					NAD83 (feet)			Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		52.8						AC	6 inches asphalt concrete			
						S-1			GP	Gray fine gravel with sand (dense, moist)	NS	<1	
						S-2			ML	Gray silt (medium stiff, moist) (native)	NS	<1	
	5		54										
						S-3					NS	<1	Groundwater observed at 6 feet bgs during drilling
									SM	Dark gray silty sand with occasional shell fragments (medium dense, wet) (native)			
						S-4			SP	Brown medium sand with occasional gravel (loose, wet) (native)	NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-31

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-72
Sheet 1 of 1

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude / Longitude	1209582.50 / 559725.13				System Datum	Washington State Plans North NAD83 (feet)			Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		52.8						AC	6 inches asphalt concrete			
									SP	Brown fine to medium sand with occasional gravel (loose, moist) (fill)			
						S-1					NS	<1	
									GP	Gray fine gravel with sand (dense, dry)			
									SP	Dark brown fine to medium sand with occasional gravel (medium dense, moist)			
						S-2					NS	<1	
	5		51.6										
						S-3			SP	Brown medium sand (medium dense, wet) (native)	NS	<1	
													Groundwater observed at 7.5 feet bgs during drilling
						S-4					NS	<1	
									SP	Gray medium sand (medium dense, wet)			
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-32

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-73
Sheet 1 of 1

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude 1209588.77 Longitude 559481.71					System Datum	Washington State Plans North NAD83 (feet)			Groundwater Date Measured	Depth to Water (ft) / Elevation (ft) See "Remarks" section for groundwater observed
Notes:										

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		45.6					AC	6 inches asphalt concrete			
				S-1			GP	Gray fine gravel with sand (dense, moist) (fill)	NS	<1	
							ML	Gray silt (stiff, moist)			
							SP	Dark brown fine to medium sand with occasional gravel and trace organics (wood debris) (fill)			
				S-2					NS	<1	
5		51.6					ML	Gray silt (stiff, moist)			
							SP	Gray fine to coarse sand (medium dense, moist)			
							Wood	Organics (wood debris, bark, peat) (wet) (native)			Groundwater observed at 7.5 feet bgs during drilling
				S-3			ML	Gray silt (soft, moist)	NS	<1	
				S-4			SM	Gray silty fine to coarse sand with occasional gravel (medium dense, wet)	NS	<1	
10											

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-33

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-74
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
10/1/2014	10/1/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209565.10 / 559461.64	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		44.4						AC	6 inches asphalt concrete			
									CC	Cement concrete			
						S-1			SP	Brown medium sand with occasional gravel (dense, moist)	NS	<1	
									OL	Black to dark brown silt with organics (wood debris) (medium dense, moist) (fill)			
						S-2					NS	<1	
	5		44.4										
						S-3			ML	Gray brown silt (soft, wet)	NS	<1	Groundwater observed at 6 feet bgs during drilling
										Becomes moist			
						S-4			SP	Gray to brown medium sand with occasional gravel	NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

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Log of Boring GEI-34

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-75
Sheet 1 of 1

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1209561.29				System Datum	Washington State Plans North NAD83 (feet)			Groundwater	Date Measured: — Depth to Water (ft): — Elevation (ft): —
Longitude	559554.08								See "Remarks" section for groundwater observed	
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		52.8						AC	6 inches asphalt concrete			
									GP	Gray fine gravel with sand (dense, moist)			
									CC	Concrete cement			
						S-1			ML	Brown silt (stiff, moist)	NS	<1	
						S-2					NS	<1	
	5								ML	Gray silt with occasional gravel (stiff, moist)			Glass, porcelain debris
									Peat	Dark brown organics (peat and bark) (native)			
						S-3			SP	Gray medium sand (loose, wet)	NS	<1	Groundwater observed at 8 feet bgs during drilling
						S-4			SM	Gray silty fine to medium sand with occasional gravel (medium dense, wet)	NS	<1	
	10								ML	Gray to brown silt (stiff, moist)			

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-35

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-76
Sheet 1 of 1

Seattle: Date:10/23/14 Path:C:\USERS\KJANC\DESKTOP\5147006l0.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	15	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1209563.88				System Datum	Washington State Plans North			Groundwater	
Longitude	559664.50					NAD83 (feet)			Date Measured	Depth to Water (ft) / Elevation (ft)
Notes:									See "Remarks" section for groundwater observed	

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		49.2						AC	6 inches asphalt concrete			
									CC	6 inches cement concrete			
						S-1			SP	Gray medium to coarse sand with gravel (dense, moist)			
									ML	Dark brown silt with gravel and sand (stiff, moist)			
						S-2							
	5		22.8			S-3			SM	Dark brown silty fine to medium sand with occasional gravel (loose, wet)			Groundwater observed at 6 feet bgs during drilling Poor recovery
									Peat	Dark brown peat (native)			
	10		45.6			S-4			SM	Dark brown silty fine to medium sand with occasional gravel (loose, wet) (native)			
	15												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-36

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-77
Sheet 1 of 1

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude 1209551.94 Longitude 559760.99					System Datum	Washington State Plans North NAD83 (feet)			Groundwater Date Measured	Depth to Water (ft) / Elevation (ft)
Notes:									See "Remarks" section for groundwater observed	

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		50.4		S-1			AC	6 inches asphalt concrete			
							SP	Brown fine to medium sand with occasional gravel (loose, moist)	NS	<1	
				S-2					NS	<1	
							GP	Gray fine gravel with sand (dense, moist)			
5		55.2					SP	Brown fine to medium sand (loose, wet)			
				S-3					NS	<1	Groundwater observed at 6 feet bgs during drilling
				S-4					NS	<1	
							SP	Gray fine to medium sand (loose, wet)			
10											

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-37

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-78
Sheet 1 of 1

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude / Longitude	1209523.35 / 559699.76				System Datum	Washington State Plans North NAD83 (feet)			Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		20.4						AC	6 inches asphalt concrete			
									SM	No recovery - Rock in shoe			
						S-1					NS	<1	
										Dark brown medium sand (loose, wet) (native?)			
	5		44.4						SP	Dark brown medium sand (loose, wet) (native?)			
						S-2					NS	<1	Groundwater observed at 6 feet bgs during drilling
						S-3					NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-38

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-79
Sheet 1 of 1

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1209531.38				System Datum	Washington State Plans North			Groundwater	
Longitude	559591.01					NAD83 (feet)			Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet) / Depth (feet)	FIELD DATA: Interval / Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	44.4					CC	20 inches concrete cement			
			S-1			SM	Light gray silty fine to medium sand with occasional gravel (dense, moist) (fill)	NS	<1	
						ML	Light gray silt (stiff, moist) (fill)			
			S-2					NS	<1	
5	34.8					SM	Light gray silty fine sand (loose, wet)			
			S-3					NS	<1	Groundwater observed at 6 feet bgs during drilling
						Peat	Dark brown organics (peat, roots) (soft, moist) (native)			
			S-4					NS	<1	
10										

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-39

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-80
Sheet 1 of 1

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude	1209503.22				System Datum	Washington State Plans North			Groundwater	
Longitude	559531.83					NAD83 (feet)			Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet) / Depth (feet)	FIELD DATA: Interval / Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	39.6					CC	18 inches concrete cement			
			S-1			ML	Gray silt (stiff, moist) (fill)	NS	<1	
						ML	Brown silt (stiff, moist)			
			S-2			ML	Gray silt (soft, moist)	NS	<1	
5	54									Metal debris and wood debris
						Peat	Dark brown peat (native)			
						ML	Gray to brown silt (soft, moist)			
			S-3					NS	<1	Groundwater observed at 7 feet bgs during drilling
						SM	Gray silty fine to coarse sand with occasional gravel (dense, wet)			
			S-4					NS	<1	
10										

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-40

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-81
Sheet 1 of 1

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude 1209446.81 Longitude 559508.50					System Datum	Washington State Plans North NAD83 (feet)			Groundwater Date Measured	Depth to Water (ft) / Elevation (ft) See "Remarks" section for groundwater observed
Notes:										

Elevation (feet) / Depth (feet)	FIELD DATA: Interval / Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	49.2		S-1			GP	Gray fine gravel with sand (dense, moist)			
						ML	Gray silt (stiff, moist)	NS	<1	
						AC	2 inches asphalt concrete			
						ML	Gray silt (medium stiff, moist)			
			S-2			AC	2 inches asphalt concrete	NS	<1	
						SM	Dark brown silty fine to medium sand with trace organics (roots) (soft, moist) (native)			Glass debris
5						SM	Gray to brown silty sand (medium dense, wet)			
			S-3					NS	<1	Groundwater observed at 6 feet bgs during drilling
			S-4					NS	<1	
10										

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-41

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-82
Sheet 1 of 1

Drilled	Start 10/1/2014	End 10/1/2014	Total Depth (ft)	10	Logged By / Checked By	RST/NRS	Driller	Cascade Drilling	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7730 DT
Latitude / Longitude	1209463.45 / 559658.15				System Datum	Washington State Plans North NAD83 (feet)			Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	See "Remarks" section for groundwater observed
Notes:										

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		54			S-1			GP	Dark gray fine gravel with sand (dense, moist) (fill)	NS	<1	
									ML	Brown silt (stiff, moist) (fill?)			
						S-2					NS	<1	
	5		42						ML	Gray to brown silt (soft, wet)			
						S-3					NS	<1	Groundwater observed at 6 feet bgs during drilling
									Peat	Dark brown organics (peat) (stiff, moist) (native)			
									ML	Gray silt (soft, moist)			
									SP	Dark gray medium sand with occasional gravel (medium dense, wet)			
						S-4					NS	<1	
	10												

Note: See Figure H-1 for explanation of symbols.

Log of Boring GEI-42

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-83
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
10/1/2014	10/1/2014	10	RST/NRS	Cascade Drilling	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Pneumatic	GeoProbe 7730 DT

Latitude / Longitude	System Datum	Groundwater
1209434.69 / 559592.99	Washington State Plans North NAD83 (feet)	Date Measured / Depth to Water (ft) / Elevation (ft)

Notes:

See "Remarks" section for groundwater observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		26.4			S-1			CC	10 inches concrete cement			
									SM	Gray silty fine to medium sand (medium dense, moist) (fill)			
									ML	Gray silt with sand (medium stiff, moist)			
						S-2							
	5		32.4										
						S-3							
									Peat	Dark brown peat (soft, moist)			
									SM	Dark brown silty fine to medium sand with occasional gravel (loose, wet) (native?)			Groundwater observed at 7 feet bgs during drilling
						S-4							
	10												

Note: See Figure H-1 for explanation of symbols.

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Log of Boring GEI-43

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-10

Figure H-84
Sheet 1 of 1

Drilled: Start 7/23/2018 End 7/23/2018	Total Depth (ft): 25	Logged By: KRA Checked By: RST	Driller: Cascade Drilling, LP	Drilling Method: Direct Push	
Surface Elevation (ft): 16 Vertical Datum: MLLW	Hammer Data: Pneumatic	Drilling Equipment: GeoProbe 7822			
Latitude: 1209574.97 Longitude: 559808.58	System Datum: Washington State Plans North NAD83 (feet)	See "Remarks" section for groundwater observed			
Notes: Hand cleared from 0 to 5 feet					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample	FIELD DATA: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
5	0				1		AC	Approximately 4 inches asphalt concrete pavement	NS	<1	
							SP	Brown fine to coarse sand with gravel (moist) (fill)	SS	<1	
					2 CA		SP	Black fine to coarse sand with occasional gravel (moist)	NS	<1	
					3		SP	Brown fine to coarse sand (moist)			
0	5	54			5		SM	Brown silty fine to coarse sand (moist)	SS	<1	
					4				NS	<1	Groundwater observed at 6 feet at time of drilling
					6 CA		GP-GM	Gray fine to coarse gravel with silt and sand (wet)	NS	<1	
-5	10	60			7				NS	<1	
					8		GP-GM	Brown fine to coarse gravel with silt and sand (wet)	NS	<1	
					9		SP	Gray fine to coarse sand with occasional gravel (wet) (native)	SS	<1	
-10	15	54			10 CA		SP	Brown fine to coarse sand and gravel (wet)	NS	<1	
					11		SP-SM	Dark gray fine to coarse sand with silt (wet)	NS	<1	
					12		SP-SM	Gray fine to coarse sand with silt (wet)	NS	<1	
-15	20	56			13		ML	Brown-gray silt with occasional sand (moist)	NS	<1	
	25										

Note: See Figure H-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring GEI-44

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-11

Figure H-85
Sheet 1 of 1

Drilled Start 7/23/2018 End 7/23/2018	Total Depth (ft) 30	Logged By KRA / Checked By RST	Driller Cascade Drilling, LP	Drilling Method Direct Push	
Surface Elevation (ft) 14.5 / Vertical Datum MLLW		Hammer Data Pneumatic		Drilling Equipment GeoProbe 7822	
Latitude 1209503.50 / Longitude 559866.63		System Datum Washington State Plans North NAD83 (feet)		See "Remarks" section for groundwater observed	

Notes: Hand cleared from 0 to 5 feet

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0						CC	7 inches concrete cement			
					1 CA		SP	Brown fine to coarse sand with occasional gravel (moist) (fill)	SS	<1	
							NR	No recovery			
	5	42			2		SP	Brown fine to coarse sand with occasional gravel (moist)	NS	<1	
					3 CA			Becomes wet	NS	<1	Groundwater observed at 9 feet at time of drilling
	10	60			4				NS	<1	
					5				NS	<1	
					6		SP/GP	Gray fine to coarse sand and gravel (wet)	NS	<1	
	15	60			7		SP	Brown fine to coarse sand with occasional gravel (wet)	NS	<1	
					8 CA		SM	Brown silty fine to coarse sand with occasional gravel (wet) (native)	NS	<1	
	20	60			9				NS	<1	
					10				NS	<1	
								Occasional shell fragments between 24 and 25 feet			
	25	60			11		GP	Gray fine to coarse gravel with occasional sand (wet)	NS	<1	
					12		ML	Gray silt with occasional sand (moist)	NS	<1	
					13				NS	<1	
	30										

Note: See Figure H-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring GEI-45

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-11

Figure H-86
Sheet 1 of 1

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Drilled	Start 7/23/2018	End 7/23/2018	Total Depth (ft)	25	Logged By / Checked By	KRA / RST	Driller	Cascade Drilling, LP	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	14.5 MLLW				Hammer Data	Pneumatic			Drilling Equipment	GeoProbe 7822
Latitude / Longitude	1209425.06 / 559810.13				System Datum	Washington State Plans North NAD83 (feet)			See "Remarks" section for groundwater observed	

Notes: Hand cleared from 0 to 5 feet

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0						CC	7 inches concrete cement			
							SP	Brown fine to coarse sand with occasional gravel (moist) (fill)	NS	<1	
10	5	60			1		SP	Gray fine to coarse sand with occasional gravel (moist)	NS	<1	
							SP	Brown fine to coarse sand (moist)			
					2 CA			Becomes wet	NS	<1	Groundwater observed at 7 feet at time of drilling
					3				NS	<1	
5	10	60			4		SP-SM	Brown fine to coarse sand with silt (wet)	NS	<1	
					5		SM	Gray silty fine to coarse sand with occasional gravel (wet) (native)	NS	<1	
					6 CA				NS	<1	
0	15	60			7				NS	<1	
					8		SP	Gray fine to coarse sand with occasional gravel (wet)	NS	<1	
					9				NS	<1	
5	20	60			10				NS	<1	
					11		ML	Black-brown silt with sand (wet)	NS	<1	
							ML	Brown-gray silt with occasional sand and gravel (moist)			
10	25				12				NS	<1	

Note: See Figure H-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring GEI-46

GeoEngineers

Project: Dakota Creek Industries
Project Location: Anacortes, Washington
Project Number: 5147-006-11

Figure H-87