Stage 1 Upland Source and Groundwater Investigation Data Report

Port of Everett South Terminal
Weyerhaeuser Mill A Former Site
3500 Terminal Avenue
Everett, Washington

for
WorleyParsons

March 24, 2010

GeoEngineers
Earth Science + Technology

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3500 Terminal Avenue
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1.0 INTRODUCTION

This Stage 1 Upland Source and Groundwater Investigation Report summarizes field investigation activities at the Port of Everett (Port) South Terminal Weyerhaeuser Former Mill A Site (Property) located at 3500 Terminal Avenue in Everett, Washington (Figure 1). Stage 1 investigation activities included drilling soil borings and installing monitoring wells at seven locations at the Property, and collecting soil and groundwater samples for chemical analyses as part of an upland source and groundwater investigation. The activities were performed in general accordance with the Work Plan dated December 28, 2009 (GeoEngineers, 2009). The Work Plan describes the Property history and background.

2.0 STAGE 1 FIELD INVESTIGATION TASKS

Field investigation activities consisted of drilling and sampling soil borings and installing wells at seven locations (i.e., EST07 and EST09 through EST14) and performing groundwater sampling at six locations (i.e., EST09 through EST14) at the Property (Figure 2). Tasks performed as part of the Stage 1 investigation are summarized below and discussed in greater detail in Sections 2.1 through 2.3:

- Performing public and private utility locates at the Property.
- Advancing hollow-stem auger borings at seven locations using Cascade Drilling, Inc. of Woodinville, Washington, and completing groundwater monitoring wells at the seven locations. A total of 12 borings were drilled at the seven locations between January 13 and 21, 2009, as described below.
    - One boring was drilled at each of EST09, EST10 and EST13 to depths of approximately 25 feet below ground surface (bgs). Continuous soil sampling was performed to evaluate environmental conditions to the total depth of the borings during drilling. The borings were backfilled to within approximately 15 to 20 feet bgs and monitoring wells were installed in the borings.
    - Two borings were drilled at each of EST07, EST12 and EST14. An initial boring was drilled to depths of 40 to 85 feet bgs. Continuous soil sampling was performed to a depth ranging between 20 feet and 53 feet bgs to evaluate the environmental conditions of fill material, and sampling at 5-foot intervals was performed from approximately 2 feet past the fill/native interface to the total depth of the boring to assess geotechnical parameters during drilling. The borings were completely backfilled to the ground surface. A second boring was then drilled approximately 10 feet away from the first boring to approximately 15 feet bgs and a monitoring well was installed.
    - Three borings were drilled at EST11. The first boring was drilled to approximately 66 feet bgs. Continuous soil sampling was performed to evaluate environmental conditions to the total depth of the boring during the drilling. The boring was completely backfilled to the ground surface. A second boring was drilled within 10 feet of the first boring to approximately 15 feet bgs. However, a monitoring well was not

installed because buried components of the adjacent bulkhead (i.e., wood tie-back) were encountered during drilling. A third boring was drilled, also within 10 feet of the first boring, to approximately 15 feet bgs and a monitoring well was installed.

  - The drill cuttings generated by boring advancement were placed in labeled 55-gallon drums.

- Development of the monitoring wells. The monitoring wells were developed on January 26, 2009 by surging each well using a decontaminated, stainless steel bailer and removing up to 25 well volumes of water. The water generated by well development was placed in labeled 55-gallon drums.
- Purging and collecting groundwater samples from Monitoring Wells EST09 through EST14 during an ebb tide using low-flow, low-turbidity sampling techniques. The groundwater samples were collected on January 28 and 29, 2009.
- Submitting soil and groundwater samples to Analytical Resources, Inc., (ARI) of Tukwila, Washington, for chemical analyses. The chemical analytical schedule is presented in Table 1.
- Relocating drums containing soil cuttings and water generated by well-development and well purging/sampling to a secure area at the Property for future disposal.
- Performing data quality review on the laboratory data resulting from soil and groundwater analysis and comparing the chemical analytical data to preliminary screening levels identified in the project Work Plan.

2.1. Soil Sampling Activities

Soil borings were advanced at seven investigation locations using a hollow-stem auger drill rig (Figure 2). All of the borings were advanced through surficial fill material present at the Property to depths of at least 2 feet into the underlying native soil to evaluate the presence of contamination and potential contaminant source material. The fill/native interface was observed at approximately 20 feet to 27 feet bgs in the borings advanced at locations EST07 and EST09 through EST13 and the fill/native interface was observed at approximately 53 feet bgs at EST14. Additionally, the geotechnical characteristics of surficial fill and underlying native soil were evaluated in each boring. At locations EST07, EST11, EST12 and EST14, the borings were advanced to depths of between 41 feet and 86 feet bgs to evaluate geotechnical characteristics of deeper native soil.

Continuous soil sampling was performed at all borings from the surface to at least 2 feet into the native material. At locations EST07, EST11, EST12 and EST14, samples were then collected at 5-foot intervals to the total depth of the borings. The borings were sampled using either a 2-inch-outside-diameter split spoon sampler (i.e., “SPT” sampler) or 3.25-inch-outside-diameter sampler (i.e., “California”/”Dames and Moore” sampler). The soil type recovered in each sampling interval was classified and recorded on a boring log form in general accordance with the Unified Soil Classification System (ASTM International [ASTM], 1998). A log of each boring is provided in Appendix A. The soil column retained in each sampling interval was field screened by physical examination and also evaluated for the potential presence of contamination using additional field screening techniques that included visual, olfactory, water sheen tests and photoionization (PID) measurements. These observations were recorded on the boring log forms.

Samples were collected that were representative of contaminated or potentially contaminated materials and/or different types of fill materials at each boring. Two soil samples from each boring were submitted for laboratory analysis. Additional samples from each boring were submitted to the analytical laboratory for archiving.

One soil sample was collected for laboratory analysis from the capillary fringe zone (i.e., interface of the vadose and saturated soil zones) observed in the boring at the time of drilling across. A second soil sample was collected for laboratory analysis from fill material to characterize potential contaminant source material present at the sample location. If field screening indicated the presence of potentially contaminated fill material, a sample was collected from the fill material that exhibited the greatest apparent contamination. If field screening did not indicate the presence of potential contamination, a soil sample was collected to characterize specific fill material types. A 1-foot sample interval was used when collecting soil samples.

Samples being submitted for volatile organic compounds (VOCs), gasoline-range petroleum hydrocarbons (TPH-G) and benzene, ethylbenzene, toluene and xylenes (BETX) were collected first from undisturbed material at the center of the selected sampling interval. Samples being tested for VOCs, TPH-G, BETX were collected using Environmental Protection Agency (EPA) Method 5035A soil sampling procedures consistent with Washington State Department of Ecology (Ecology) guidance to reduce volatilization and biodegradation of the sample constituents. Then the material from the selected sample interval was placed into a stainless steel bowl and homogenized. Sample material was then placed into appropriate laboratory-supplied sample containers and labeled.

Immediately upon collection of the samples, the samples were placed into a cooler with ice and logged on the chain-of-custody using the procedures described in the quality assurance procedures of the Work Plan. The samples were submitted to ARI Laboratory in Tukwila, Washington, for a combination of analyses (Table 1). Soil sample analyses included:

- Petroleum hydrocarbon identification by Ecology Method NWTPH-HCID and subsequent follow-up analysis if specific petroleum hydrocarbon ranges were positively detected:
    - Gasoline-range hydrocarbons by Ecology Method NWTPH-Gx;
    - Diesel- and heavy oil-range petroleum hydrocarbons by Ecology Method NWTPH-Dx with silica gel/acid wash cleanup;
    - BETX by EPA Method 8260.
- Priority pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium and zinc) by EPA Methods 6000/7000 series;
- VOCs by EPA Method 8260;
- Semi-volatile organic compounds (SVOCs) including polycyclic aromatic compounds (PAHs) by EPA Method 8270; and
- Polychlorinated biphenyls (PCBs) by EPA Method 8082 (modified).

Table 2 summarizes the results of chemical analyses of soil samples. The analytical results for soil samples are compared to the preliminary screening levels that were identified as part of the

development of the Work Plan. Figure 2 presents the soil sample results that were greater than the preliminary screening levels. The laboratory reports for soil sample analyses are presented in Appendix B.

2.2. Monitoring Well Installation and Development

Monitoring wells were constructed at all seven investigation locations (Figure 3). The monitoring wells were constructed by a licensed drilling contractor in accordance with Washington Administrative Code (WAC) 173-160, *Minimum Standards for Construction and Maintenance of Wells*. The monitoring well completion details were recorded on the boring log forms.

Prior to installing each well, the water level within the boring was measured to help select an appropriate well design. The well screens were placed across the saturated and unsaturated portions of the upper-most transmissive zone to allow for monitoring of seasonally/tidally influenced water level fluctuations and potential presence of light non-aqueous phase liquid (LNAPL).

Monitoring well development was performed following completion of the monitoring wells and prior to performing groundwater sampling. The monitoring wells were developed by surging each well using a decontaminated, stainless steel bailer and removing up to 25 well volumes of water.

2.3. Groundwater Level Measurement and Sampling

Groundwater samples were collected from six of the seven monitoring wells after well development. Well EST07 was not sampled as part of Stage 1. Groundwater from well EST07 is to be sampled and analyzed as part of Stage 2 investigation activities.

Groundwater sampling was performed on an ebb tide. Groundwater levels were measured in each monitoring well prior to sampling using a decontaminated electronic water level indicator. Low-flow/low-turbidity sampling techniques were used to minimize the suspension of sediment in the samples. Water quality parameter measurements including; dissolved oxygen (DO), pH, electrical conductivity, salinity, total dissolved solids (TDS), turbidity, oxidation-reduction potential (ORP) and temperature were collected using a flow-through cell. Groundwater samples were collected once water quality parameters stabilized. Table 3 presents the water quality parameter values recorded upon completion of well purging and initiation of groundwater sample collection.

Groundwater samples were collected in laboratory-prepared containers, placed into a cooler with ice and logged on the chain-of-custody using the procedures described in the quality assurance procedures in the Work Plan. The groundwater samples were submitted to ARI Laboratory for a combination of the following analyses (Table 1):

- Total petroleum hydrocarbon identification by Ecology Method NWTPH-HCID and subsequent follow-up analysis if specific petroleum hydrocarbon ranges were positively detected:
    - Gasoline-range hydrocarbons by Ecology Method NWTPH-Gx;
    - Diesel- and heavy oil-range petroleum hydrocarbons by Ecology Method NWTPH-Dx with silica gel/acid wash cleanup;
    - BETX by EPA Method 8260.

- Total and dissolved Priority Pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium and zinc) by EPA Methods 6000/7000 series;
- SVOCs by EPA 8270 including PAHs by EPA Method 8270-SIM;
- VOCs by EPA Method 8260;
- PCBs by EPA Method 8082 (modified);
- Dioxins and furans by EPA 1613;
- Ammonia by EPA Method 350.1; and
- Sulfides by EPA Method 376.1.

Samples collected for dissolved metals analyses were filtered in the field using an inline 0.45 micron filter. All SVOCs and dioxin and furans samples were centrifuged at the analytical laboratory to remove particulates prior to extraction as these analyses are commonly affected by particulate or colloidal interferences.

Table 4 summarizes the results of chemical analyses on groundwater samples. The analytical results for groundwater samples are compared to the preliminary screening levels that were identified as part of the development of the Work Plan. Figure 3 presents the groundwater sample results that were greater than the preliminary screening levels. The laboratory reports for groundwater sample analyses are presented in Appendix B.

3.0 DATA QUALITY REVIEW

Data validation was performed on the Stage 1 laboratory analytical results for soil and groundwater. Data validation consisted of a United States Environmental Protection Agency (USEPA)-defined Stage 2B validation (USEPA Document 540-R-08-005). The data validation included verification and validation checks of the following quality control (QC) elements:

- Chain of Custody
- Holding Times
- Surrogates (organics only)
- Method and Trip Blanks
- Laboratory Control Samples
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory and Field Duplicates
- Internal Standards
- Dual column confirmations (PCBs only)
- Instrument Initial Calibrations (ICALs)
- Instrument Continuing Calibrations (CCALs)

- Instrument Tunes
- Sample Results

Based on the data validation, the laboratory followed the specified analytical methods, the precision and accuracy were acceptable and all data are acceptable for use as qualified. The Data Quality Assessment Summary is provided in Appendix B.

4.0 HISTORICAL AND CULTURAL RESOURCES

Because of the Property location, there was a potential to encounter historical and/or cultural resources during investigation activities. The Work Plan included elements that addressed the potential presence of historical and cultural resources and project personnel and stakeholders including Port, Ecology, Tulalip Indian Tribe and GeoEngineers representatives attended an Ecology presentation regarding historical and cultural resources prior to drilling activities.

On January 15, during field investigation activities, a potential historical/cultural resource (i.e., potential fire-cracked rocks) was identified at approximately 21 feet bgs during drilling at EST-13. Upon identification of a potential historical/cultural resource, the procedures specified in the Work Plan were implemented.

All project work stopped at the investigation location and representatives from the Port, Ecology, City of Everett and Department of Archeological and Historic Preservation were notified. Representatives from the Tulalip Tribe were on site.

A professional archeologist, Glenn Hartmann, from Cultural Resource Consultants, Inc. (CRC) was retained to review information, visit the Property, observe the potential fire-cracked rocks and provide an opinion on the potential resource. Project personnel and stakeholders including GeoEngineers, Port, Ecology, Tulalip Indian Tribe, City of Everett and Department of Archeological and Historic Preservation were also on site during CRC's site visit to determine an appropriate course of action.

In the archeologist's opinion, the rocks were not morphologically dissimilar from fire-cracked rock, but there were several lines of evidence suggesting that the rocks were probably not fire-cracked, or if they were, that the rocks were likely not in their original depositional position. On January 21, at the conclusion of the site visit and consultation between the project personnel and stakeholders, the rocks were returned to boring EST13 before the boring was backfilled. A copy of the CRC technical memorandum is included in Appendix C.

5.0 LIMITATIONS

This Stage 1 Upland Source and Groundwater Investigation Data Report been prepared for use by WorleyParsons and the Port of Everett. GeoEngineers has performed this Stage 1 Upland Source and Groundwater Investigation Report for the Port of Everett (Port) South Terminal Weyerhaeuser Former Mill A Site (Property) located at 3500 Terminal Avenue in Everett, Washington, in general accordance with the scope and limitations of our proposal.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with the generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Please refer to Appendix D titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

TABLE 1

ANALYTICAL SCHEDULE[1]

PORT OF EVERETT SOUTH TERMINAL
EVERETT, WASHINGTON

SOIL

Boring	EST07		EST09		EST10		EST11		EST12		EST13		EST14	
Sample	EST7-10.5-11.5	EST7-12-13	EST9-8.5-9.5	EST9-15-16	EST10-7.5-8.5	EST10-12-13	EST11-7-8	EST11-12-13	EST12-8-9	EST12-22.5-23.5	EST13-7-8	EST13-17.5-18.5	EST14-9-10	EST14-19.5-20.5
Sample Depth (ft)	10.5-11.5	12-13	8.5-9.5	15-16	7.5-8.5	12-13	7-8	12-13	8-9	22.5-23.5	7-8	17.5-18.5	9-10	19.5-20.5
Total Priority Pollutant Metals	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hydrocarbon Identification[2]	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Gasoline-Range Petroleum Hydrocarbons / BETX	NA	X	NA	NA	NA	X	NA	NA	NA	X	NA	NA	NA	NA
Diesel- and Oil-Range Petroleum Hydrocarbons	X	X	NA	NA	NA	X	NA	NA	NA	X	NA	X	NA	NA
Volatile Organic Compounds[3]	NA	X	X	X	NA	X	NA	NA	NA	X	NA	NA	NA	NA
Semi-volatile Organic Compounds	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Polychlorinated Biphenyls	X	X	X	X	X	X	X	X	X	X	X	X	X	X

GROUNDWATER

Monitoring Well	EST07[4]	EST09	EST10	EST11	EST12	EST13	EST14
Sample		EST9-W-012810	EST10-W-012810	EST11-W-012810	EST12-W-012810	EST13-W-012810	EST14-W-012810
Dissolved and Total Priority Pollutant Metals	NA	X	X	X	X	X	X
Hydrocarbon Identification[2]	NA	X	X	X	X	X	X
Gasoline-Range Petroleum Hydrocarbons / BETX	NA	NA	X	X	X	NA	NA
Diesel-Range Petroleum Hydrocarbons	NA	NA	X	X	X	NA	NA
Volatile Organic Compounds	NA	X	X	X	X	NA	NA
Semi-volatile Organic Compounds	NA	X	X	X	X	X	X
Polychlorinated Biphenyls	NA	X	X	X	X	X	X
Dioxins and Furans	NA	X	X	NA	NA	NA	NA
Ammonia	NA	X	X	X	X	X	X
Sulfides	NA	X	X	X	X	X	X

Notes:

[1] See the Ecology-approved Work Plan, dated December 28, 2009, for analytical requirements.

[2] Hydrocarbon Identification (HCID) analysis was performed on all samples as required in the Work Plan. Gasoline-range petroleum hydrocarbons/benzene, ethylbenzene, toluene and xylenes (BETX) and/or diesel- and heavy oil-range petroleum hydrocarbons analysis was performed as a follow-up if detected by HCID analysis.

[3] Volatile organic compounds (VOCs) were required to be analyzed for soil samples from EST-9 based on the Work Plan. Additionally, volatile organic compound analyses were performed on selected samples from EST-7, EST-10 and EST-12 based on PID readings measured during field screening of samples in accordance with the Work Plan.

[4] Groundwater from monitoring well EST07 was not sampled as part of Stage 1 field activities.

NA = not analyzed

TABLE 2

SUMMARY OF ANALYTICAL RESULTS FOR SOIL

PORT OF EVERETT SOUTH TERMINAL

EVERETT, WASHINGTON

Analytes	Preliminary Screening Level	Boring	EST07			EST09		EST10		EST11		EST12			EST13		EST14	
		Sample	EST7-10.5-11.5	EST7-12-13	DUP2-012110	EST9-8.5-9.5	EST9-15-16	EST10-7.5-8.5	EST10-12-13	EST11-7-8	EST11-12-13	EST12-8-9	DUP1-011910	EST12-22.5-23.5	EST13-7-8	EST13-17.5-18.5	EST14-9-10	EST14-19.5-20.5
		Date	1/21/10	1/21/10	1/21/10	1/14/10	1/14/10	1/20/10	01/20/10	1/18/10	1/18/10	1/19/10	1/19/10	1/19/10	1/15/10	1/15/10	1/13/10	1/13/10
Priority Pollutant Metals (mg/kg)																		
Antimony	1,400		8 U	10 U	10 U	6 U	30 U	6 U	6 U	6 U	6 U	6 U	7 U	7 U	6 U	20 U	7 U	6 U
Arsenic	20		8 U	10 U	10 U	6 U	30 U	6 U	6 U	6 U	6 U	6 U	7 U	7 U	6 U	20 U	7 U	6 U
Beryllium	7,000		**0.2**	0.2 U	0.2 U	0.1 U	0.6 U	**0.2**	**0.1**	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	**0.2**	0.4 U	**0.3**	**0.1**
Cadmium	2		0.3 U	0.5 U	0.4 U	0.2 U	1 U	**0.3**	0.3 U	0.2 U	0.2 U	0.3 U	0.3 U	0.3 U	**0.3**	**1.2**	**0.6**	0.2 U
Chromium	2,000[1]		**34.3 J**	**45 J**	**18 J**	**15.8**	**29**	**28.8 J**	**22.9 J**	**20.7**	**16**	**22.2**	**26**	**16.8**	**48.6**	**80**	**49.7**	**41.4**
Copper	130,000		**47.2**	**28.1 J**	**20.3 J**	**5**	**40**	**40.4**	**12.7**	**36.1 J**	**9.3 J**	**8.2**	**10.4**	**9.9**	**31.6**	**133**	**39.5**	**17.7**
Lead	1,000		**22 J**	**14 J**	**14 J**	**2**	**20**	**575 J**	**31 J**	**8**	2 U	3 U	3 U	3 U	**12**	**121**	**27**	2 U
Mercury	2		0.03 U	0.06 U	0.05 U	0.02 U	0.1 U	**0.28**	**0.06**	0.05 U	0.04 U	0.03 U	0.02 U	0.03 U	**0.11**	**0.23**	**0.09**	0.02 U
Nickel	70,000		**37 J**	**34 J**	**22 J**	**14**	**36**	**55 J**	**25 J**	**20**	**17**	**24**	**28**	**15**	**59**	**63**	**46**	**69**
Selenium	18,000		8 U	10 U	10 U	6 U	30 U	6 U	6 U	6 U	6 U	6 U	7 U	7 U	6 U	20 U	7 U	6 U
Silver	18,000		0.5 U	0.7 U	0.6 U	0.3 U	2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U	0.4 U	0.3 U
Thallium	250		8 U	10 U	10 U	6 U	30 U	6 U	6 U	6 U	6 U	6 U	7 U	7 U	6 U	20 U	7 U	6 U
Zinc	1,100,000		**58**	**45**	**33**	**22**	**85**	**180**	**55**	**43**	**23**	**25**	**30**	**21**	**66**	**120**	**67**	**33**
Total Petroleum Hydrocarbons (mg/kg)																		
HCID Gasoline-Range	NA		32 U	**>30**	**>28**	20 U	50 U	20 U	**>20**	20 U	20 U	20 U	20 U	**>20**	20 U	20 U	20 U	20 U
HCID Diesel-Range	NA		**>79**	**>74**	**>69**	50 U	120 U	50 U	**>50**	50 U	50 U	50 U	50 U	**>50**	50 U	**>50**	50 U	50 U
HCID Heavy Oil-Range	NA		**>160**	**>150**	**>140**	100 U	250 U	100 U	100 U	100 U	100 U	100 U	100 U	**>100**	100 U	**>100**	100 U	100 U
Gasoline-Range Hydrocarbons	30/100[2]		--	**160 J**	**49 J**	--	--	--	**61**	--	--	--	--	**280**	--	--	--	--
Diesel-Range Hydrocarbons	2,000		**94**	**140**	**87**	--	--	--	**34**	--	--	--	--	**20**	--	**34**	--	--
Heavy Oil-Range Hydrocarbons	2,000		**160**	**190**	**130**	--	--	--	13 U	--	--	--	--	14 U	--	110	--	--
BETX Compounds (µg/kg)																		
Benzene	30		--	2.7 U	2 U	1 U	8 U	--	**3.8**	--	--	--	--	1.4 U	--	--	--	--
Ethylbenzene	6,000		--	2.7 U	2 U	1 U	8 U	--	**15**	--	--	--	--	1.4 U	--	--	--	--
Toluene	7,000		--	2.7 U	2 U	1 U	8 U	--	**3.8**	--	--	--	--	1.4 U	--	--	--	--
Xylenes	NE		--	2.7 U	2 U	1 U	8 U	--	**48**	--	--	--	--	1.4 U	--	--	--	--
Volatile Organic Compounds (µg/kg)																		
1,1,1,2-Tetrachloroethane	5,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,1,1-Trichloroethane	2,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,1,2,2-Tetrachloroethane	660,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,1,2-Trichloro-1,2,2-Trifluoroethane (CFC-113)	1.05E+11		--	5.4 U	4.1 U	2 U	16 U	--	2.4 U	--	--	--	--	2.8 U	--	--	--	--
1,1,2-Trichloroethane	2,300,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,1-Dichloroethane	700,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,1-Dichloroethene	180,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,1-Dichloropropene	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,2,3-Trichlorobenzene	NE		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
1,2,3-Trichloropropane	19,000		--	5.4 U	4.1 U	2 U	16 U	--	2.4 U	--	--	--	--	2.8 U	--	--	--	--
1,2,4-Trichlorobenzene	35,000,000		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
1,2,4-Trimethylbenzene	180,000,000		--	2.7 U	2 U	1 U	8 U	--	**52**	--	--	--	--	1.4 U	--	--	--	--
1,2-Dibromo-3-Chloropropane	94,000		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
1,2-Dichlorobenzene	320,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,2-Dichloroethane	1,400,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--

Analytes	Preliminary Screening Level	Boring	EST07			EST09		EST10		EST11		EST12			EST13		EST14	
		Sample	EST7-10.5-11.5	EST7-12-13	DUP2-012110	EST9-8.5-9.5	EST9-15-16	EST10-7.5-8.5	EST10-12-13	EST11-7-8	EST11-12-13	EST12-8-9	DUP1-011910	EST12-22.5-23.5	EST13-7-8	EST13-17.5-18.5	EST14-9-10	EST14-19.5-20.5
		Date	1/21/10	1/21/10	1/21/10	1/14/10	1/14/10	1/20/10	01/20/10	1/18/10	1/18/10	1/19/10	1/19/10	1/19/10	1/15/10	1/15/10	1/13/10	1/13/10
Volatile Organic Compounds (µg/kg)																		
1,2-Dichloropropane	1,900,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,3,5-Trimethylbenzene	180,000,000		--	2.7 U	2 U	1 U	8 U	--	**23**	--	--	--	--	1.4 U	--	--	--	--
1,3-Dichlorobenzene	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,3-Dichloropropane	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
1,4-Dichlorobenzene	5,500,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
2,2-Dichloropropane	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
2-Butanone	2,100,000,000		--	**18**	**25**	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
2-Chloroethylvinylether	NE		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
2-Chlorotoluene	70,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
2-Hexanone	NE		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
4-Chlorotoluene	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
4-Methyl-2-Pentanone	280,000,000		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
Acetone	350,000,000		--	**190**	**290**	**6.2**	**120**	--	**25**	--	--	--	--	**120**	--	--	--	--
Acrolein	70,000,000		--	140 U	100 U	49 U	400 U	--	60 U	--	--	--	--	70 U	--	--	--	--
Acrylonitrile	240,000		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
Bromobenzene	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Bromochloromethane	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Bromoethane	NE		--	5.4 U	4.1 U	2 U	16 U	--	2.4 U	--	--	--	--	2.8 U	--	--	--	--
Bromoform	17,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Bromomethane	4,900,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Carbon Disulfide	350,000,000		--	**11**	**12**	1 U	**10**	--	**1.4**	--	--	--	--	**3**	--	--	--	--
Carbon Tetrachloride	1,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Chlorobenzene	70,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Chloroethane	45,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Chloroform	22,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Chloromethane	10,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Cis-1,2-Dichloroethene	35,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Cis-1,3-Dichloropropene	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Dibromochloromethane	1,600,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Dibromomethane	35,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Dichlorobromomethane	2,100,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Ethylene dibromide	5		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Hexachlorobutadiene	700,000		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
Isopropylbenzene	350,000,000		--	2.7 U	2 U	1 U	8 U	--	**5.1**	--	--	--	--	1.4 U	--	--	--	--
Methyl Iodide	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Methyl t-butyl ether	100		--	2.7 U	2 U	1 U	--	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Methylene Chloride	20		--	5.4 U	4.1 U	2 U	16 U	--	2.4 U	--	--	--	--	2.8 U	--	--	--	--
Naphthalene	5,000		--	14 U	10 U	4.9 U	40 U	--	**120,000**	--	--	--	--	7 U	--	--	--	--
n-Butylbenzene	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
n-Propylbenzene	NE		--	2.7 U	2 U	1 U	8 U	--	**2**	--	--	--	--	1.4 U	--	--	--	--
p-Isopropyltoluene	NE		--	**42**	**43**	1 U	**160**	--	**26**	--	--	--	--	**11,000**	--	--	--	--
Sec-Butylbenzene	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Styrene	4,400,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Tert-Butylbenzene	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Tetrachloroethene	50		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Trans-1,2-Dichloroethene	70,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Trans-1,3-Dichloropropene	NE		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--

Analytes	Preliminary Screening Level	Boring	EST07			EST09		EST10		EST11		EST12			EST13		EST14	
		Sample	EST7-10.5-11.5	EST7-12-13	DUP2-012110	EST9-8.5-9.5	EST9-15-16	EST10-7.5-8.5	EST10-12-13	EST11-7-8	EST11-12-13	EST12-8-9	DUP1-011910	EST12-22.5-23.5	EST13-7-8	EST13-17.5-18.5	EST14-9-10	EST14-19.5-20.5
		Date	1/21/10	1/21/10	1/21/10	1/14/10	1/14/10	1/20/10	01/20/10	1/18/10	1/18/10	1/19/10	1/19/10	1/19/10	1/15/10	1/15/10	1/13/10	1/13/10
Volatile Organic Compounds (µg/kg)																		
Trans-1,4-Dichloro-2-butene	NE		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
Trichloroethene	30		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Trichlorofluoromethane	1,100,000,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Vinyl Acetate	3,500,000,000		--	14 U	10 U	4.9 U	40 U	--	6 U	--	--	--	--	7 U	--	--	--	--
Vinyl Chloride	88,000		--	2.7 U	2 U	1 U	8 U	--	1.2 U	--	--	--	--	1.4 U	--	--	--	--
Semi-volatile Organic Compounds (µg/kg)																		
1,2,4-Trichlorobenzene	35,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
1,2-Dichlorobenzene	320,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
1,3-Dichlorobenzene	NE		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
1,4-Dichlorobenzene	5,500,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
2,2'-Oxybis[1-chloropropane]	1,900,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
2,4,5-Trichlorophenol	350,000,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
2,4,6-Trichlorophenol	12,000,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
2,4-Dichlorophenol	11,000,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
2,4-Dimethylphenol	70,000,000		66 U	65 U	100 U	60 U	130 U	65 U	**140**	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
2,4-Dinitrophenol	7,000,000		660 U	650 U	1,000 U	600 U	1,300 U	650 U	630 U	660 U	640 U	640 U	660 U	620 U	610 U	640 U	610 U	610 U
2,4-Dinitrotoluene	7,000,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
2,6-Dinitrotoluene	3,500,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
2-Chloronaphthalene	280,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
2-Chlorophenol	18,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
2-Nitroaniline	NE		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
2-Nitrophenol	NE		330 U	320 U	530 U	300 U	650 U	320 U	310 U	66 U	64 U	64 U	66 U	62 U	310 U	320 U	300 U	310 U
3,3'-Dichlorobenzidine	291,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
3-Nitroaniline	NE		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
4,6-Dinitro-2-Methylphenol	NE		660 U	650 U	1,000 U	600 U	1,300 U	650 U	630 U	660 U	640 U	640 U	660 U	620 U	610 U	640 U	610 U	610 U
4-Bromophenyl phenyl ether	NE		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
4-Chloro-3-Methylphenol	NE		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
4-Chloroaniline	14,000,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
4-Chlorophenyl-Phenylether	NE		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
4-Nitroaniline	NE		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
4-Nitrophenol (p-Nitrophenol)	NE		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
Acenaphthene	210,000,000		66 U	**80**	**150**	60 U	**280**	**4,700**	**35,000**	66 U	**200**	**870 J**	**340 J**	**660**	**290**	64 U	61 U	61 U
Acenaphthylene	NE		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	**74**	64 U	**66**	61 U
Anthracene	1,100,000,000		66 U	65 U	100 U	60 U	130 U	**410**	**19,000**	66 U	64 U	64 U	66 U	62 U	**240**	64 U	**100**	61 U
Benzo(a)anthracene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**4,000 J**	66 U	64 U	64 U	66 U	62 U	**260**	64 U	**230**	61 U
Benzo(a)pyrene	2,000		66 U	65 U	100 U	60 U	130 U	65 U	**2,000**	66 U	64 U	64 U	66 U	62 U	**260**	**110**	**260**	61 U
Benzo(b)fluoranthene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**2,000**	66 U	64 U	64 U	66 U	62 U	**290**	**96**	**180**	61 U
Benzo(ghi)perylene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**380**	66 U	64 U	64 U	66 U	62 U	**86**	**70**	**150**	61 U
Benzo(k)fluoranthene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**2,000**	66 U	64 U	64 U	66 U	62 U	**290**	**96**	**180**	61 U
Benzoic Acid	NE		660 U	650 U	1,000 U	600 U	1,300 U	650 U	630 U	660 U	640 U	**720**	660 U	620 U	610 U	640 U	610 U	610 U
Benzyl Alcohol	1,100,000,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
Bis(2-Chloroethoxy)Methane	NE		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Bis(2-Chloroethyl)Ether	120,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Bis(2-Ethylhexyl) Phthalate	9,400,000		**130**	65 U	**150**	**130**	**360**	65 U	**90**	66 U	64 U	64 U	66 U	62 U	140 U	130 U	140 U	130 U
Butyl benzyl Phthalate	700,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U

Analytes	Preliminary Screening Level	Boring	EST07			EST09		EST10		EST11		EST12			EST13		EST14	
		Sample	EST7-10.5-11.5	EST7-12-13	DUP2-012110	EST9-8.5-9.5	EST9-15-16	EST10-7.5-8.5	EST10-12-13	EST11-7-8	EST11-12-13	EST12-8-9	DUP1-011910	EST12-22.5-23.5	EST13-7-8	EST13-17.5-18.5	EST14-9-10	EST14-19.5-20.5
		Date	1/21/10	1/21/10	1/21/10	1/14/10	1/14/10	1/20/10	01/20/10	1/18/10	1/18/10	1/19/10	1/19/10	1/19/10	1/15/10	1/15/10	1/13/10	1/13/10
Semi-volatile Organic Compounds (µg/kg)																		
Carbazole	6,600,000		66 U	65 U	100 U	60 U	130 U	**2,300**	**9,500 J**	66 U	**65**	**440 J**	**160 J**	**160 J**	**250**	64 U	**61**	61 U
Chrysene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**3,900**	66 U	64 U	64 U	66 U	62 U	**380**	**91**	**250**	61 U
Dibenzo(a,h)anthracene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**210**	66 U	64 U	64 U	66 U	62 U	61 U	64 U	**65**	61 U
Dibutyl phthalate	350,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Diethyl phthalate	2,800,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Dimethyl phthalate	3,500,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Di-N-Octyl Phthalate	70,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Hexachlorobenzene	82,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Hexachlorobutadiene	700,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Hexachlorocyclopentadiene	21,000,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
Hexachloroethane	3,500,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Isophorone	140,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Nitrobenzene	1,800,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	**360**	61 U	64 U	61 U	61 U
N-Nitrosodi-n-propylamine	19,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
N-Nitrosodiphenylamine	27,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
o-Cresol (2-methylphenol)	175,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
p-Cresol (4-methylphenol)	17,500,000		66 U	**320 J**	**120 J**	60 U	**360**	65 U	**92**	66 U	64 U	64 U	66 U	62 U	**1,800**	64 U	**170**	61 U
Pentachlorophenol	1,100,000		330 U	320 U	530 U	300 U	650 U	320 U	310 U	330 U	320 U	320 U	330 U	310 U	310 U	320 U	300 U	310 U
Phenol	2,100,000,000		66 U	65 U	100 U	60 U	130 U	65 U	63 U	66 U	64 U	64 U	66 U	62 U	61 U	64 U	61 U	61 U
Polycyclic Aromatic Hydrocarbons (PAHs) (µg/kg)																		
1-Methylnaphthalene	NE		66 U	65 U	100 U	60 U	130 U	**2,000**	**16,000**	66 U	**170**	**630 J**	**200 J**	**180**	**97**	64 U	61 U	61 U
2-Methylnaphthalene	14,000,000		66 U	65 U	100 U	60 U	130 U	**2,700**	**29,000**	66 U	**120**	**690 J**	**210 J**	**150**	**160**	64 U	61 U	61 U
Dibenzofuran	7,000,000		66 U	65 U	100 U	60 U	**130**	**1,400**	**21,000**	66 U	64 U	**320 J**	**83 J**	**120**	**210**	64 U	61 U	61 U
Fluoranthene	140,000,000		**110**	**94**	100 U	60 U	**310**	**810**	**34,000**	**160**	64 U	64 U	66 U	**130**	**1,300**	**120**	**830**	61 U
Fluorene	140,000,000		66 U	65 U	**110**	60 U	**160**	**3,800**	**31,000**	66 U	**130**	**560 J**	**220 J**	**380**	**320**	64 U	**72**	61 U
Indeno(1,2,3-cd)pyrene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**460**	66 U	64 U	64 U	66 U	62 U	**90**	**70**	**130**	61 U
Naphthalene	5,000		66 U	65 U	100 U	60 U	130 U	**3,600**	**75,000**	66 U	**180**	**260 J**	66 UJ	**410**	**500**	**89**	**220**	61 U
Phenanthrene	NE		**140**	**120**	100 U	60 U	130 U	**3,300**	**88,000**	**110**	**130**	**440 J**	**220 J**	**140**	**960**	**84**	**540**	61 U
Pyrene	110,000,000		**71**	**77**	100 U	60 U	**160**	**480**	**22,000**	**89**	64 U	64 U	66 U	**72**	**1,400**	**99**	**460**	61 U
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) (µg/kg)																		
Benzo(a)anthracene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**4,000 J**	66 U	64 U	64 U	66 U	62 U	**260**	64 U	**230**	61 U
Benzo(a)pyrene	2,000		66 U	65 U	100 U	60 U	130 U	65 U	**2,000**	66 U	64 U	64 U	66 U	62 U	**260**	**110**	**260**	61 U
Benzo(b)fluoranthene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**2,000**	66 U	64 U	64 U	66 U	62 U	**290**	**96**	**180**	61 U
Benzo(k)fluoranthene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**2,000**	66 U	64 U	64 U	66 U	62 U	**290**	**96**	**180**	61 U
Chrysene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**3,900**	66 U	64 U	64 U	66 U	62 U	**380**	**91**	**250**	61 U
Dibenzo(a,h)anthracene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**210**	66 U	64 U	64 U	66 U	62 U	61 U	64 U	**65**	61 U
Indeno(1,2,3-cd)pyrene	NE		66 U	65 U	100 U	60 U	130 U	65 U	**460**	66 U	64 U	64 U	66 U	62 U	**90**	**70**	**130**	61 U
cPAH TEQ (ug/kg)	2,000		66 U	65 U	100 U	60 U	130 U	65 U	**2,906**	66 U	64 U	64 U	66 U	62 U	**357**	**137**	**341**	61 U

Analytes	Preliminary Screening Level	Boring	EST07			EST09		EST10		EST11		EST12			EST13		EST14	
		Sample	EST7-10.5-11.5	EST7-12-13	DUP2-012110	EST9-8.5-9.5	EST9-15-16	EST10-7.5-8.5	EST10-12-13	EST11-7-8	EST11-12-13	EST12-8-9	DUP1-011910	EST12-22.5-23.5	EST13-7-8	EST13-17.5-18.5	EST14-9-10	EST14-19.5-20.5
		Date	1/21/10	1/21/10	1/21/10	1/14/10	1/14/10	1/20/10	01/20/10	1/18/10	1/18/10	1/19/10	1/19/10	1/19/10	1/15/10	1/15/10	1/13/10	1/13/10
Polychlorinated Biphenyls (PCBs) (mg/kg)																		
PCB-aroclor 1016	250		0.033 U	0.033 U	0.086 U	0.032 U	0.033 U	0.032 U	0.032 U	0.032 U	0.032 U	0.033 U	0.032 U	0.033 U	0.032 U	0.032 U	0.033 U	0.031 U
PCB-aroclor 1221	NE		0.033 U	0.033 U	0.086 U	0.032 U	0.033 U	0.032 U	0.032 U	0.032 U	0.032 U	0.033 U	0.032 U	0.033 U	0.032 U	0.032 U	0.033 U	0.031 U
PCB-aroclor 1232	NE		0.033 U	0.033 U	0.086 U	0.032 U	0.033 U	0.032 U	0.032 U	0.032 U	0.032 U	0.033 U	0.032 U	0.033 U	0.032 U	0.032 U	0.033 U	0.031 U
PCB-aroclor 1242	NE		0.033 U	0.033 U	0.086 U	0.032 U	0.033 U	0.032 U	0.032 U	0.032 U	0.032 U	0.033 U	0.032 U	0.033 U	0.032 U	**0.16**	0.033 U	0.031 U
PCB-aroclor 1248	NE		0.033 U	0.033 U	0.086 U	0.032 U	0.033 U	0.032 U	0.032 U	0.032 U	0.032 U	0.033 U	0.032 U	0.033 U	0.032 U	0.032 U	0.033 U	0.031 U
PCB-aroclor 1254	70		0.033 U	0.033 U	0.086 U	0.032 U	0.033 U	0.032 U	0.032 U	0.032 U	0.032 U	0.033 U	0.032 U	0.033 U	0.032 U	**0.056**	0.033 U	0.031 U
PCB-aroclor 1260	NE		0.033 U	0.033 U	0.086 U	0.032 U	0.033 U	0.032 U	0.032 U	0.032 U	0.032 U	0.033 U	0.032 U	0.033 U	0.032 U	**0.038**	0.033 U	0.031 U
Total PCBs	10		0.033 U	0.033 U	0.086 U	0.032 U	0.033 U	0.032 U	0.032 U	0.032 U	0.032 U	0.033 U	0.032 U	0.033 U	0.032 U	**0.254**	0.033 U	0.031 U

Notes:

[1] MTCA Method A cleanup level for Chromium III is 2,000 mg/kg. MTCA Method A cleanup level for Chromium VI is 19 mg/kg. The cleanup levels are based on protection of drinking water, and chromium was either not detected in groundwater or was detected at a concentration approximately an order of magnitude less than the preliminary screening criteria in the Work Plan (see Table 3).

[2] MTCA Method A cleanup level for gasoline is 30 mg/kg if benzene is present and 100 mg/kg if benzene is not present.

mg/kg = milligram per kilogram

µg/kg = microgram per kilogram

-- = The analysis was not performed

> = The analyte was identified to be present in the sample

NA = Not applicable

U = The analyte was not detected at the indicated reporting limit.

NE = Not established

BETX = Benzene, Ethylbenzene, Toluene, Xylenes

HCID = Hydrocarbon Identification

Bold indicates the analyte was detected in the sample

Shading indicates the concentration exceeds the preliminary screening level.

TABLE 3

GROUNDWATER QUALITY PARAMETERS

PORT OF EVERETT SOUTH TERMINAL

EVERETT, WASHINGTON

Well	Screened Interval (ft bgs)	Date	Volume purged (gal)	Dissolve Oxygen (DO) (mg/l)	pH	Conductivity (S/M)	Temperature (C)	Turbidity (NTU)	Oxidation Reduction Protential (ORP) (M/V)	Salinity (%)	Total Dissolved Solids (TDS) (g/l)
EST09	3-16	1/28/10	6	0.0	6.85	5.66	8.6	0.7	-49	3.7	35
EST10	5-15	1/28/10	4	2.2	6.61	0.529	11.4	2.6	-230	0.3	3.3
EST11	5-15	1/28/10	5	0.07	6.44	0.233	12.0	2.9	-126	0.1	1.5
EST12	5-15	1/28/10	4.2	0.0	6.68	0.138	11.5	0.75	-132	0.1	0.9
EST13	3-18	1/28/10	9.2	0.0	6.67	2.14	10.6	14.9	-159	1.3	13
EST14	5-15	1/29/10	5.5	4.19	7.33	4.64	12.2	0.36	68	3.0	28

Notes:

S/M = Siemens per meters

NTU = Nephlometric turbidity units

M/V = Millivolts

mg/l = milligram per liter

ft = feet

bgs = below ground surface

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER

PORT OF EVERETT SOUTH TERMINAL

EVERETT, WASHINGTON

Analytes	Monitoring Well	EST09	EST10		EST11	EST12	EST13	EST14
	Sample	EST9-W-012810	EST10-W-012810	DUPW-012810	EST11-W-012810	EST12-W-012810	EST13-W-012810	EST14-W-012910
	Sample Date	1/28/10	1/28/10	1/28/10	1/28/10	1/28/10	1/28/10	1/29/10
Total Priority Pollutant Metals (mg/l)	Preliminary Screening Level							
Antimony	0.640	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.001 U	0.001 U
Arsenic	0.005	**0.007**	**0.0019**	**0.0016**	**0.0019**	**0.0064**	**0.009**	0.005 U
Beryllium	0.273	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.001 U	0.001 U
Cadmium	0.0088	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.001 U	0.001 U
Chromium	0.050	**0.003 J**	**0.004 J**	**0.004 J**	0.002 U	0.002 U	**0.005 J**	0.002 U
Copper	0.0024	**0.018**	**0.0016**	**0.0013**	**0.0014**	**0.001**	**0.021**	**0.016**
Lead	0.0081	0.005 U	**0.001**	**0.001**	0.001 U	0.001 U	0.005 U	0.005 U
Mercury	0.000025	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U
Nickel	0.0082	**0.02**	**0.004**	**0.0039**	**0.0187**	0.001 U	**0.039**	**0.019**
Selenium	0.071	**0.006**	**0.003**	**0.003**	0.002 U	**0.0014**	**0.03**	0.02 U
Silver	25.93	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.001 U	0.001 U
Thallium	0.00047	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.001 U	0.001 U
Zinc	0.081	0.02 U	0.004 U	0.004 U	**0.005**	0.004 U	0.02 U	0.02 U
Dissolved Priority Pollutant Metals (mg/l)								
Antimony	0.640	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.001 U	0.001 U
Arsenic	0.005	**0.005**	**0.0016**	**0.0016**	**0.0023**	**0.0061**	**0.007**	**0.008**
Beryllium	0.273	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.001 U	0.001 U
Cadmium	0.0088	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.001 U	0.001 U
Chromium	0.050	0.002 U	**0.004**	**0.004**	0.002 U	0.002 U	0.002 U	0.002 U
Copper	0.0024	**0.019**	**0.0012**	**0.0012**	**0.0014**	**0.0009**	**0.018**	**0.015**
Lead	0.0081	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.005 U
Mercury	0.000025	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U
Nickel	0.0082	**0.019**	**0.004**	**0.0041**	**0.0181**	**0.0042**	**0.038**	**0.019**
Selenium	0.071	0.005 U	**0.003**	**0.003**	**0.0018**	**0.0013**	**0.02**	**0.006**
Silver	25.93	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.001 U	0.001 U
Thallium	0.00047	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0005 U	0.001 U
Zinc	0.081	0.02 U	0.004 U	0.004 U	**0.005**	0.004 U	0.02 U	0.02 U
Petroleum Hydrocarbons (mg/l)								
HCID Gasoline-Range	NE	0.25 U	**>0.25**	**>0.25**	**>0.25**	**>0.25**	0.25 U	0.25 U
HCID Diesel-Range	NE	0.5 U	**>0.5**	**>0.5**	**>0.5**	**>0.5**	0.5 U	0.5 U
HCID Heavy Oil-Range	NE	0.5 U	**>0.5**	**>0.5**	**>0.5**	0.5 U	0.5 U	0.5 U
Gasoline-Range Hydrocarbons	0.8	--	**1.2**	**1.2**	**0.46**	**1**	--	--
Diesel-Range Hydrocarbons	0.5	--	0.25 U	**0.26**	0.25 U	**0.29**	--	--
Heavy Oil-Range Hydrocarbons	0.5	--	0.5 U	0.5 U	0.5 U	0.5 U	--	--
BETX Compounds (µg/l)								
Benzene	23	0.2 U	0.2 U	0.2 U	0.2 U	**0.3**	--	--
Ethylbenzene	2,100	0.2 U	**2**	**2**	0.2 U	**0.8**	--	--
Toluene	15,000	0.2 U	**1**	**1**	0.2 U	**0.2**	--	--
Total Xylenes	1,000	0.4 U	**6.0**	**6.0**	0.4 U	**3.1**	--	--
Volatile Organic Compounds (µg/l)								
1,1,1,2-Tetrachloroethane	1.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,1,1-Trichloroethane	416,667	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,1,2,2-Tetrachloroethane	4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,1,2-Trichloro-1,2,3-Trifluoroethane (CFC-113)	240,000	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,1,2-Trichloroethane	16	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,1-Dichloroethane	1,600	0.2 U	0.2 U	0.2 U	0.2 U	**0.3**	--	--
1,1-Dichloroethene	3.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,1-Dichloropropene	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,2,3-Trichlorobenzene	NE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,2,3-Trichloropropane	0.50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,2,4-Trichlorobenzene	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,2,4-Trimethylbenzene	400	0.2 U	**4.8**	**4.7**	**0.3**	**2.1**	--	--
1,2-Dibromo-3-Chloropropane	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,2-Dichlorobenzene	1,300	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,2-Dichloroethane	37	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,2-Dichloropropane	15	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,3,5-Trimethylbenzene	400	0.2 U	**1.6**	**1.7**	0.2 U	**0.4**	--	--
1,3-Dichlorobenzene	960	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,3-Dichloropropane	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,4-Dichlorobenzene	4.86	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
2,2-Dichloropropane	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
2-Butanone	4,800	5 U	5 U	5 U	5 U	5 U	--	--
2-Chloroethylvinylether	NE	1 U	1 U	1 U	1 U	1 U	--	--
2-Chlorotoluene	160	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
2-Hexanone	NE	5 U	5 U	5 U	5 U	5 U	--	--

Analytes	Monitoring Well	EST09	EST10		EST11	EST12	EST13	EST14
	Sample	EST9-W-012810	EST10-W-012810	DUPW-012810	EST11-W-012810	EST12-W-012810	EST13-W-012810	EST14-W-012910
	Sample Date	1/28/10	1/28/10	1/28/10	1/28/10	1/28/10	1/28/10	1/29/10
Volatile Organic Compounds (µg/l)								
4-Chlorotoluene	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
4-Methyl-2-Pentanone	640	5 U	5 U	5 U	5 U	5 U	--	--
Acetone	800	5 U	**5.5**	**5.3**	**8**	5 U	--	--
Acrolein	290	5 U	5 U	5 U	5 U	5 U	--	--
Acrylonitrile	1	1 U	1 U	1 U	1 U	1 U	--	--
Bromobenzene	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Bromochloromethane	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Bromoethane	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Bromoform	140	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Bromomethane	968	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Carbon Disulfide	800	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Carbon Tetrachloride	1.6	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Chlorobenzene	1,600	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Chloroethane	15.1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Chloroform	283	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Chloromethane	133	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Cis-1,2-Dichloroethene	80	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Cis-1,3-Dichloropropene	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Dibromochloromethane	13	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Dibromomethane	80	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Dichlorobromomethane	17	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Dichlorodifluoromethane (CFC-12)	1,600	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	--	--
Ethylene dibromide	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Hexachlorobutadiene	18	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Isopropylbenzene (Cumene)	800	0.2 U	**0.7**	**0.7**	0.2 U	**1.4**	--	--
Methyl Iodide	NE	1 U	1 U	1 U	1 U	1 U	--	--
Methyl t-butyl ether	20	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Methylene Chloride	590	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Naphthalene	4,938	0.5 U	**460**	**480**	**2.2**	**160**	--	--
n-Butylbenzene	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
n-Propylbenzene	NE	0.2 U	**0.2**	**0.2**	0.2 U	**0.4**	--	--
p-Isopropyltoluene	NE	**0.7**	**42**	**42**	**27**	**1.6**	--	--
Sec-Butylbenzene	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Styrene	1.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Tert-Butylbenzene	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Tetrachloroethene	0.387	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Trans-1,2-Dichloroethene	10,000	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Trans-1,3-Dichloropropene	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Trans-1,4-Dichloro-2-butene	NE	1 U	1 U	1 U	1 U	1 U	--	--
Trichloroethene	6.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Trichlorofluoromethane (CFC-11)	2,400	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Vinyl Acetate	8,000	1 U	1 U	1 U	1 U	1 U	--	--
Vinyl Chloride	2.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Semi-volatile Organic Compounds (µg/l)								
1,2,4-Trichlorobenzene	70	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1,300	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	960	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	4.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1-Methylnaphthalene[1]	NE	1 U	**30**	**27**	1 U	**42**	1 U	1 U
2,2'-Oxybis[1-chloropropane]	37	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,4,5-Trichlorophenol	3,600	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	191	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	553	1 U	**13**	**12**	1 U	1 U	1 U	1 U
2,4-Dinitrophenol	3,457	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	16	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	1,027	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorophenol	97	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Methylnaphthalene[1]	32	1 U	**36**	**33**	1 U	**38**	1 U	1 U
2-Nitroaniline	NE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Nitrophenol	NE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3-Nitroaniline	NE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4,6-Dinitro-2-Methylphenol	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Chloro-3-Methylphenol	NE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chloroaniline	32	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl-Phenylether	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Nitroaniline	NE	5 U	5 U	5 U	21 U	5 U	5 U	5 U
4-Nitrophenol (p-Nitrophenol)	NE	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Analytes	Monitoring Well	EST09	EST10		EST11	EST12	EST13	EST14
	Sample	EST9-W-012810	EST10-W-012810	DUPW-012810	EST11-W-012810	EST12-W-012810	EST13-W-012810	EST14-W-012910
	Sample Date	1/28/10	1/28/10	1/28/10	1/28/10	1/28/10	1/28/10	1/29/10
Semi-volatile Organic Compounds (µg/l)								
Acenaphthene[1]	643	1 U	38	36	2.6	52	1.3	1 U
Acenaphthylene[1]	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Anthracene[1]	25,926	1 U	1.4	1.3	1 U	1.6	1 U	1 U
Benzo(a)anthracene	0.0180	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(a)pyrene	0.0180	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene	0.0180	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(ghi)perylene	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(k)fluoranthene	0.0180	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzoic Acid	64,000	10 U	23	20	27	10 U	10 U	10 U
Benzyl Alcohol	2,400	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-Chloroethoxy)Methane	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bis(2-Chloroethyl)Ether	17	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bis(2-Ethylhexyl) Phthalate	2.2	1 U	1 U	1 U	4.1	5.1	1	1 U
Butyl benzyl phthalate	1,260	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbazole	4.4	1 U	13	12	1 U	17	1 U	1 U
Chrysene	0.018	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibenzo(a,h)anthracene	0.018	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibenzofuran[1]	32	1 U	12	11	1 U	12	1 U	1 U
Dibutyl phthalate	2,913	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Diethyl phthalate	28,412	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dimethyl phthalate	72,016	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Di-N-Octyl Phthalate	320	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Fluoranthene[1]	90	1 U	1.5	1.4	1 U	2.4	1 U	1 U
Fluorene[1]	3,457	1 U	16	15	1 U	27	1 U	1 U
Hexachlorobenzene	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	18	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorocyclopentadiene	1,100	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexachloroethane	3.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Indeno(1,2,3-cd)pyrene	0.018	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isophorone	600	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene[1]	4,938	1 U	220	200	1.3	61	1 U	1 U
Nitrobenzene	449	1 U	1 U	1 U	1 U	1 U	1 U	1 U
N-Nitrosodi-n-propylamine	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Nitrosodiphenylamine	6	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Cresol (2-methylphenol)	400	1 U	2.8	2.5	1 U	1 U	1 U	1 U
p-Cresol (4-methylphenol)	40	1 U	16	14	10	1 U	1 U	1 U
Pentachlorophenol	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Phenanthrene[1]	NE	1 U	12	11	1 U	17	1 U	1 U
Phenol	1,111,111	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Pyrene[1]	2,593	1 U	1 U	1 U	1 U	1.4	1 U	1 U
Polycyclic Aromatic Hydrocarbons (SIM) (µg/l)								
1-Methylnaphthalene	NE	0.12	35	33	0.4	63	0.24	0.01 U
2-Methylnaphthalene	32	0.079	43	47	0.4	64	0.14	0.016
Acenaphthene	643	0.64	43	47	1.9	79	0.92	0.01 U
Acenaphthylene	NE	0.01 U	0.43	0.43	0.011	0.27	0.01 U	0.01 U
Anthracene	25,926	0.011	0.89	0.76	0.01 U	2	0.026	0.01 U
Dibenzofuran	32	0.14	16	15	0.062	18	0.18	0.01 U
Fluoranthene	90	0.02	1.4	0.93	0.013	3	0.046	0.01 U
Fluorene	3,457	0.1	20	18	0.29	39	0.18	0.01 U
Indeno(1,2,3-cd)pyrene	0.018	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
Naphthalene	4,938	0.53	330	340	1.5	110	0.5	0.069
Phenanthrene	NE	0.017	14	14	0.064	25	0.023	0.01 U
Pyrene	2,593	0.01	0.61	0.54	0.011	1.8	0.032	0.01 U
Carcinogenic Polycyclic Aromatic Hydrocarbons (SIM) (µg/l)								
Benzo(a)anthracene	0.018	0.01 U	0.067	0.05	0.01 U	0.096	0.01 U	0.01 U
Benzo(a)pyrene	0.018	0.01 U	0.022	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	0.018	0.01 U	0.018	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(ghi)perylene	NE	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene	0.018	0.01 U	0.021	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	0.018	0.01 U	0.064	0.053	0.01 U	0.08	0.01 U	0.01 U
Dibenzo(a,h)anthracene	0.018	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
cPAH Total TEF	0.030	0.01 U	0.033	0.006	0.01 U	0.01	0.01 U	0.01 U
Polychlorinated Biphenyls (µg/l)								
PCB-aroclor 1016	0.01	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1221	NE	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1232	NE	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1242	NE	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1248	NE	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1254	0.01	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1260	0.01	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

Analytes	Monitoring Well	EST09	EST10		EST11	EST12	EST13	EST14
	Sample	EST9-W-012810	EST10-W-012810	DUPW-012810	EST11-W-012810	EST12-W-012810	EST13-W-012810	EST14-W-012910
	Sample Date	1/28/10	1/28/10	1/28/10	1/28/10	1/28/10	1/28/10	1/29/10
Dioxins and Furans (pg/l)								
2,3,7,8-TCDD	5	5 U	5 U	5 U	--	--	--	--
1,2,3,7,8-PeCDD	NE	25 U	25 U	25 U	--	--	--	--
1,2,3,4,7,8-HxCDD	NE	25 U	25 U	25 U	--	--	--	--
1,2,3,6,7,8-HxCDD	NE	25 U	25 U	25 U	--	--	--	--
1,2,3,7,8,9-HxCDD	NE	25 U	25 U	25 U	--	--	--	--
1,2,3,4,6,7,8-HpCDD	NE	25 U	25 U	25 U	--	--	--	--
OCDD	NE	50 U	50 U	50 U	--	--	--	--
2,3,7,8-TCDF	NE	5 U	5 U	5 U	--	--	--	--
1,2,3,7,8-PeCDF	NE	25 U	25 U	25 U	--	--	--	--
2,3,4,7,8-PeCDF	NE	25 U	25 U	25 U	--	--	--	--
1,2,3,4,7,8-HxCDF	NE	25 U	25 U	25 U	--	--	--	--
1,2,3,6,7,8-HxCDF	NE	25 U	25 U	25 U	--	--	--	--
2,3,4,6,7,8-HxCDF	NE	25 U	25 U	25 U	--	--	--	--
1,2,3,7,8,9-HxCDF	NE	25 U	25 U	25 U	--	--	--	--
1,2,3,4,6,7,8-HpCDF	NE	25 U	25 U	25 U	--	--	--	--
1,2,3,4,7,8,9-HpCDF	NE	25 U	25 U	25 U	--	--	--	--
OCDF	NE	50 U	50 U	50 U	--	--	--	--
Total TCDD	NE	5 U	5 U	5 U	--	--	--	--
Total PeCDD	NE	25 U	25 U	25 U	--	--	--	--
Total HxCDD	NE	25 U	25 U	25 U	--	--	--	--
Total HpCDD	NE	25 U	25 U	25 U	--	--	--	--
Total TCDF	NE	5 U	5 U	5 U	--	--	--	--
Total PeCDF	NE	25 U	25 U	25 U	--	--	--	--
Total HxCDF	NE	25 U	25 U	25 U	--	--	--	--
Total HpCDF	NE	25 U	25 U	25 U	--	--	--	--

Notes:

[1] The analyte was also analyzed for in selected ion mode.

mg/l = milligram per liter

µg/l = microgram per liter

pg/l = picogram per liter

U = The analyte was not detected at the indicated reporting limit.

-- = The analysis was not performed

> = The analyte was identified to be present in the sample

NE = Not established

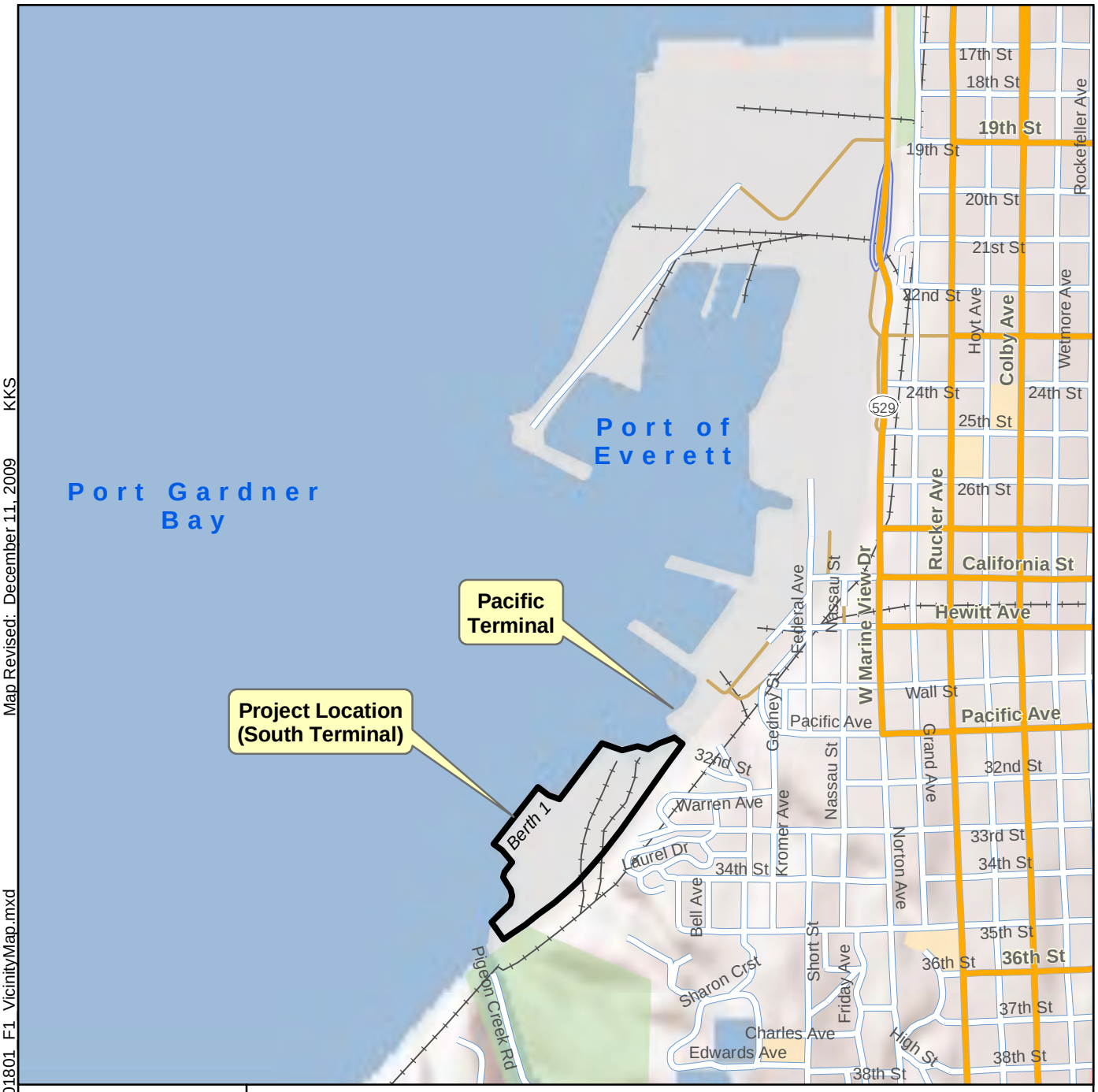
BETX = Benzene, Ethylbenzene, Toluene, Xylenes

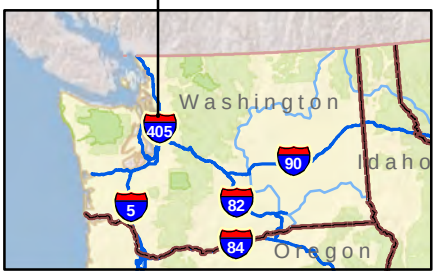
HCID = Hydrocarbon Identification

SIM = selected ion mode analysis used to achieve low level detection limits

Bold indicates the analyte was detected in the sample

Shading indicates the concentration exceeds the preliminary screening level





N
W E
S

1,500 0 1,500

Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing 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.
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Data Sources: ESRI Data & Maps, Street Maps 2008

Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

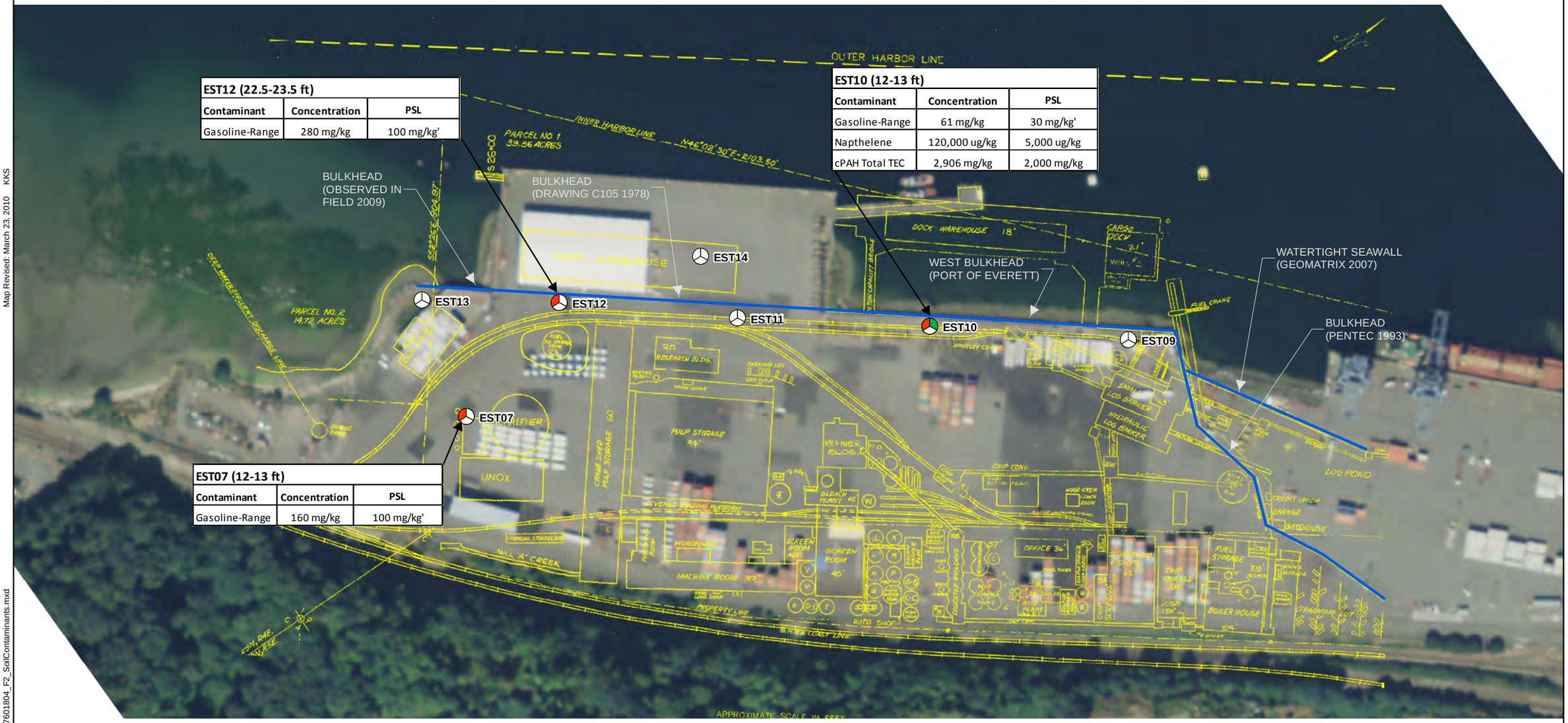
Vicinity Map

Port of Everett
Everett, Washington

GeoEngineers

Figure 1

Office: SEA Path: \\Sea\projects\0067601801\GIS\0676018GIS\VicinityMap.mxd F1 Map Revised: December 11, 2009 KKS



EST12 (22.5-23.5 ft)		
Contaminant	**Concentration**	**PSL**
Gasoline-Range	280 mg/kg	100 mg/kg'

EST10 (12-13 ft)		
Contaminant	**Concentration**	**PSL**
Gasoline-Range	61 mg/kg	30 mg/kg'
Napthelene	120,000 ug/kg	5,000 ug/kg
cPAH Total TEC	2,906 mg/kg	2,000 mg/kg

EST07 (12-13 ft)		
Contaminant	**Concentration**	**PSL**
Gasoline-Range	160 mg/kg	100 mg/kg'

Legend

EST07 Boring Location and Designation

Gasoline at a Concentration Exceeding the Preliminary Screening Levels

SVOCs/cPAHs at Concentrations Exceeding the Preliminary Screening Levels

Metals at Concentrations Exceeding the Preliminary Screening Levels

Notes:
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Reference: Historical site plan from Port of Everett Drawing. Coordinate system: NAD 1983, Washington North (feet)

200 0 200
Feet

1: 30 mg/kg if benzene is present and 100 mg/kg if benzene is not present.
cPAH Total TEC = Carcinogenic Polycyclic Aromatic Hydrocarbon Total Toxic Equivalent Concentration
PSL = Preliminary Screening Level

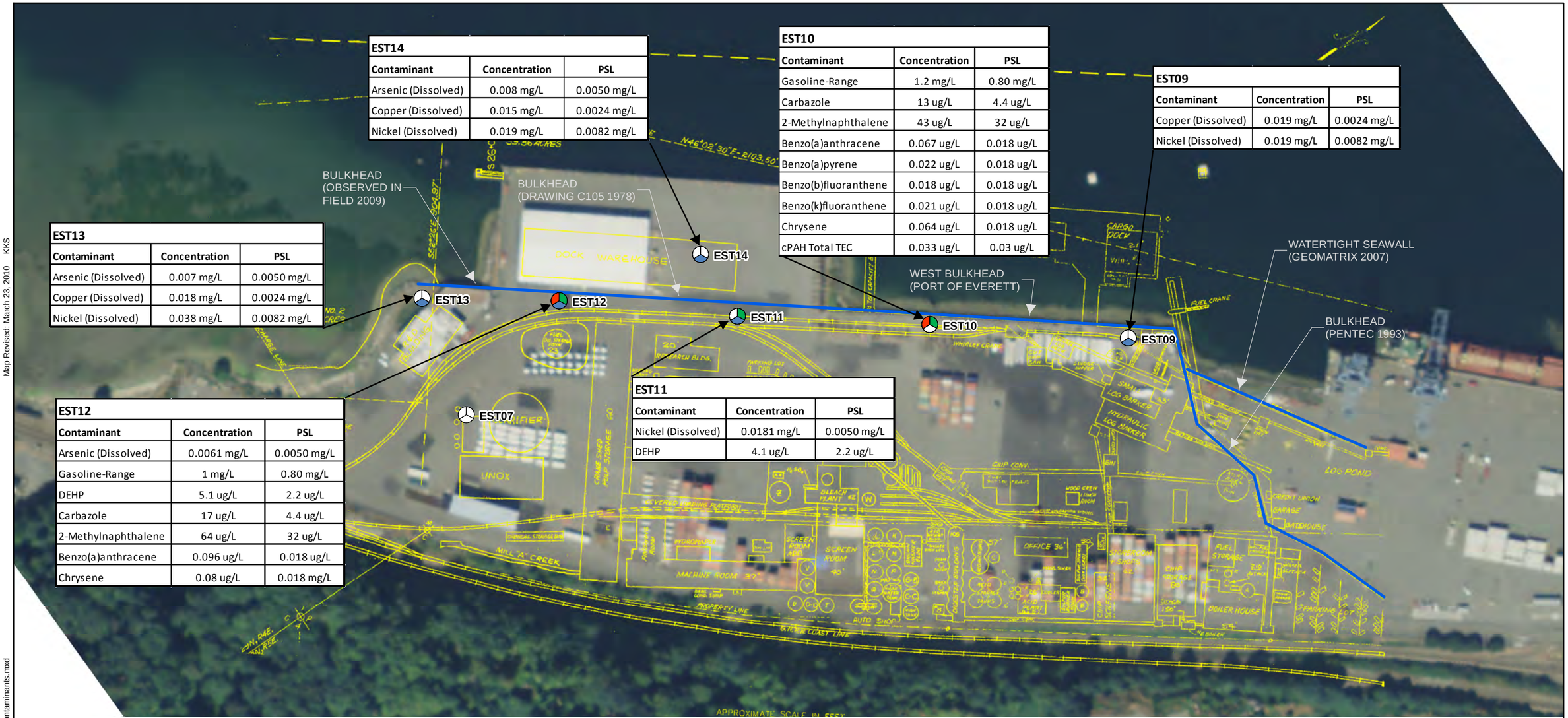
Contaminants of Potential Concern in Soil at Concentrations Exceeding Preliminary Screening Levels

Port of Everett
Everett, Washington

GeoEngineers

Figure 2

Map Revised: March 23, 2010 KKS
Path: \\Seaprojects\0\067601\GIS\067601804_F2_SoilContaminants.mxd
Office: SEA



EST14

Contaminant	Concentration	PSL
Arsenic (Dissolved)	0.008 mg/L	0.0050 mg/L
Copper (Dissolved)	0.015 mg/L	0.0024 mg/L
Nickel (Dissolved)	0.019 mg/L	0.0082 mg/L

EST10

Contaminant	Concentration	PSL
Gasoline-Range	1.2 mg/L	0.80 mg/L
Carbazole	13 ug/L	4.4 ug/L
2-Methylnaphthalene	43 ug/L	32 ug/L
Benzo(a)anthracene	0.067 ug/L	0.018 ug/L
Benzo(a)pyrene	0.022 ug/L	0.018 ug/L
Benzo(b)fluoranthene	0.018 ug/L	0.018 ug/L
Benzo(k)fluoranthene	0.021 ug/L	0.018 ug/L
Chrysene	0.064 ug/L	0.018 ug/L
cPAH Total TEC	0.033 ug/L	0.03 ug/L

EST09

Contaminant	Concentration	PSL
Copper (Dissolved)	0.019 mg/L	0.0024 mg/L
Nickel (Dissolved)	0.019 mg/L	0.0082 mg/L

EST13

Contaminant	Concentration	PSL
Arsenic (Dissolved)	0.007 mg/L	0.0050 mg/L
Copper (Dissolved)	0.018 mg/L	0.0024 mg/L
Nickel (Dissolved)	0.038 mg/L	0.0082 mg/L

EST11

Contaminant	Concentration	PSL
Nickel (Dissolved)	0.0181 mg/L	0.0050 mg/L
DEHP	4.1 ug/L	2.2 ug/L

EST12

Contaminant	Concentration	PSL
Arsenic (Dissolved)	0.0061 mg/L	0.0050 mg/L
Gasoline-Range	1 mg/L	0.80 mg/L
DEHP	5.1 ug/L	2.2 ug/L
Carbazole	17 ug/L	4.4 ug/L
2-Methylnaphthalene	64 ug/L	32 ug/L
Benzo(a)anthracene	0.096 ug/L	0.018 ug/L
Chrysene	0.08 ug/L	0.018 mg/L

Notes:
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Reference: Historical site plan from Port of Everett Drawing. Coordinate system: NAD 1983, Washington North (feet)

Legend

- Gasoline at a Concentration Exceeding the Preliminary Screening Level
- SVOCs/cPAHs at Concentrations Exceeding the Preliminary Screening Levels
- Metals at Concentrations Exceeding the Preliminary Screening Levels
- EST07 — Groundwater Sampling Not Performed as Part of Stage 1 Event

200 0 200
Feet

cPAH Total TEC = Carcinogenic Polycyclic Aromatic Hydrocarbon Total Toxic Equivalent Concentration
DEHP = Bis(2-ethylhexyl)phthalate
SVOC = Semi-Volatile Organic Compound
PSL = Preliminary Screening Level

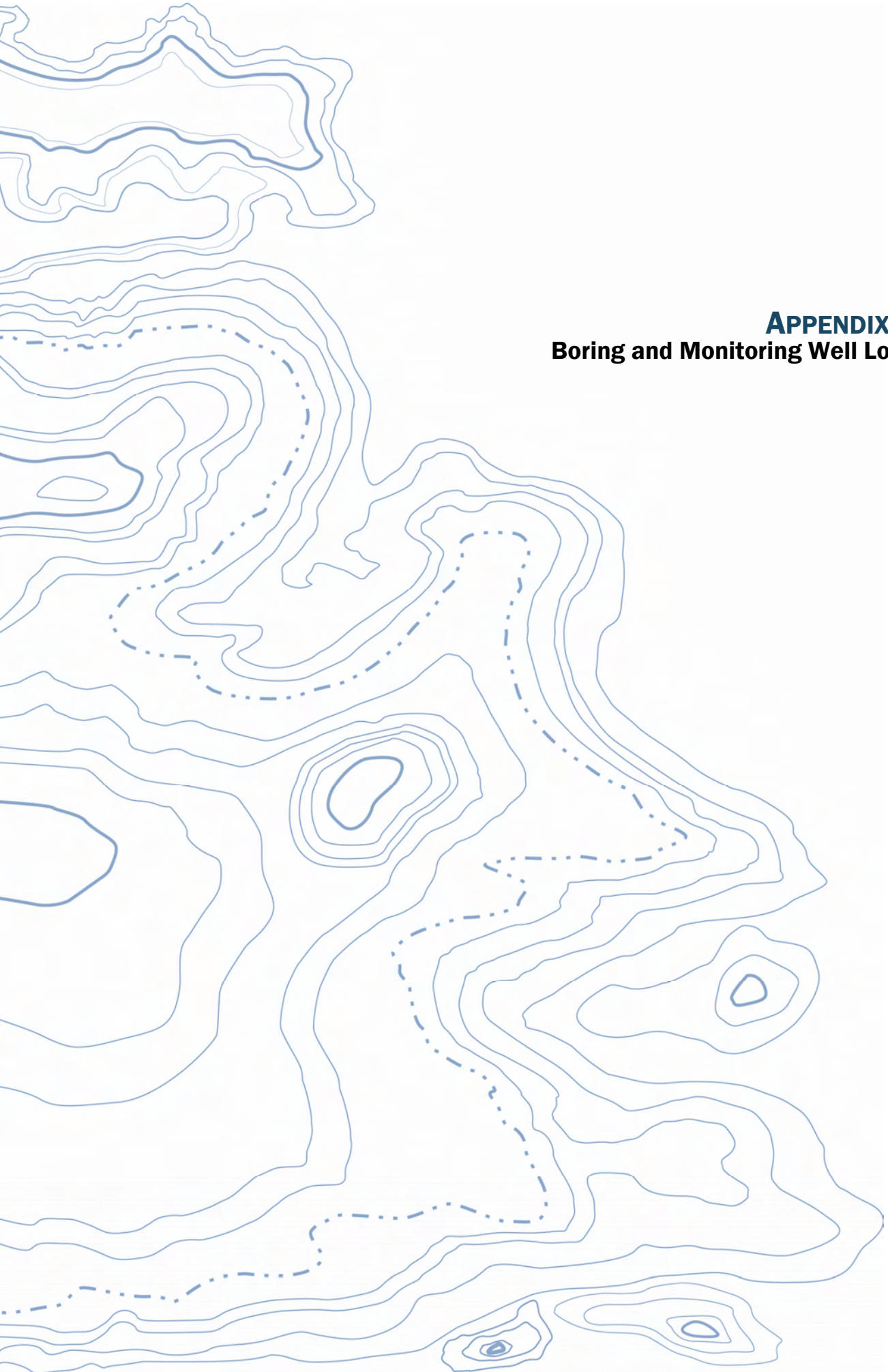
Contaminants of Potential Concern in Groundwater at Concentrations Exceeding Preliminary Screening Levels

Port of Everett
Everett, Washington

GeoEngineers

Figure 3

Map Revised: March 23, 2010 KKS
Path: \\Seaprojects\0\067601\GIS\067601804_F3_GWContaminants.mxd
Office: SEA



APPENDIX A
Boring and Monitoring Well Logs

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 A-1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	1/21/2010	1/21/2010	41.5	GRL		Cascade Drilling	Hollow Stem Auger

Hammer Data	300 lb/30 in Drop	Drilling Equipment	CME 75 Truck Rig
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

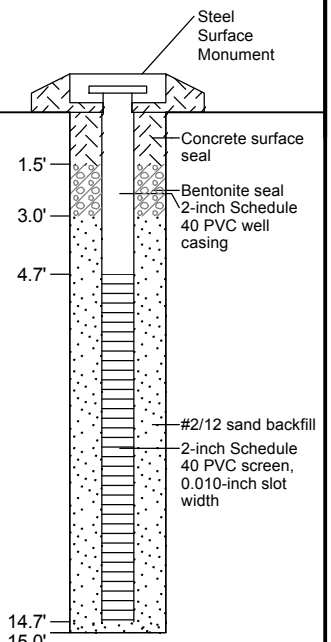
Licensing agency well number: **#BCC-523**
A 2 inch well was installed 5 feet west of boring on 1/21/2010 to a depth of 15 feet.

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
1/21/2010	7.2	

Notes: Auger Data: 5 foot long continuous flight 4" I.D., 8" O.D.

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor
	0							AC	9 inches Asphalt concrete		
								GP	1 inch base course (moist) (fill)	NS	0.0
		18	48					SP-SM	Dark brown fine to coarse sand with silt and pea gravel, trace wood (very dense, moist) (fill)	SS	0.0
		17	58					SP	Gray fine to coarse sand with occasional gravel and trace silt (very dense, moist) (fill)	SS	0.0
	5	18	74							SS	0.0
		5	50/5"							NS	
										NS	
										NS	
						▽		CC	1 inch of ash or concrete (fill)	NS	
		16	30					WD	3 inches of wood (fill)	NS	0.0
								SP	Gray fine to coarse sand with occasional gravel, trace wood and small shell fragments (medium dense, moist)	NS	
	10	12	21					WD	Wood (medium dense, moist) (fill) (note: methanol odor)	NS	0.0
		18	26						Grades to wet	NS	0.0
		12	56						(Note: methanol odor)	NS	
										NS	45
		14	55						(Note: methanol odor)	NS	
	15	4	60/6"							NS	0.0
		NR	72						(Note: methanol odor)	NS	
		6	61							NS	0.0
										NS	
										NS	27.0
										NS	
										SS	
	20	4	51							NS	13.1
										NS	
										NS	5.8
		10	33					SP	Gray fine to medium sand, trace silt and wood (dense, wet) (native) (note: very slight methanol odor)	NS	
		12	23							NS	2.3
										NS	
									Grades no methanol odor at 23 feet bgs	NS	0.0
	25									NS	
										NS	
		11	21							NS	
										NS	0.0
									Grades to no wood	NS	
	30										
		10	41							NS	0.0
	35										

WELL LOG



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

Log of Monitoring Well EST7

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-2
Sheet 1 of 2

Seattle: Date:3/11/10 Path:W:\SEATTLE\PROJECTS\0\0676018\GINT\0676018.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL

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	WELL LOG
	35	12	80						(Note: drove through 1 coarse gravel)	NS	0.0	
	40	16	62						Gray silt, trace sand (hard, wet) (native) Samples collected for chemical analysis or archive at 10.5'-11.5', 12'-13', and 22.5'-23.5'.	NS	0.0	

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

Log of Monitoring Well EST7 (continued)

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-2
Sheet 2 of 2

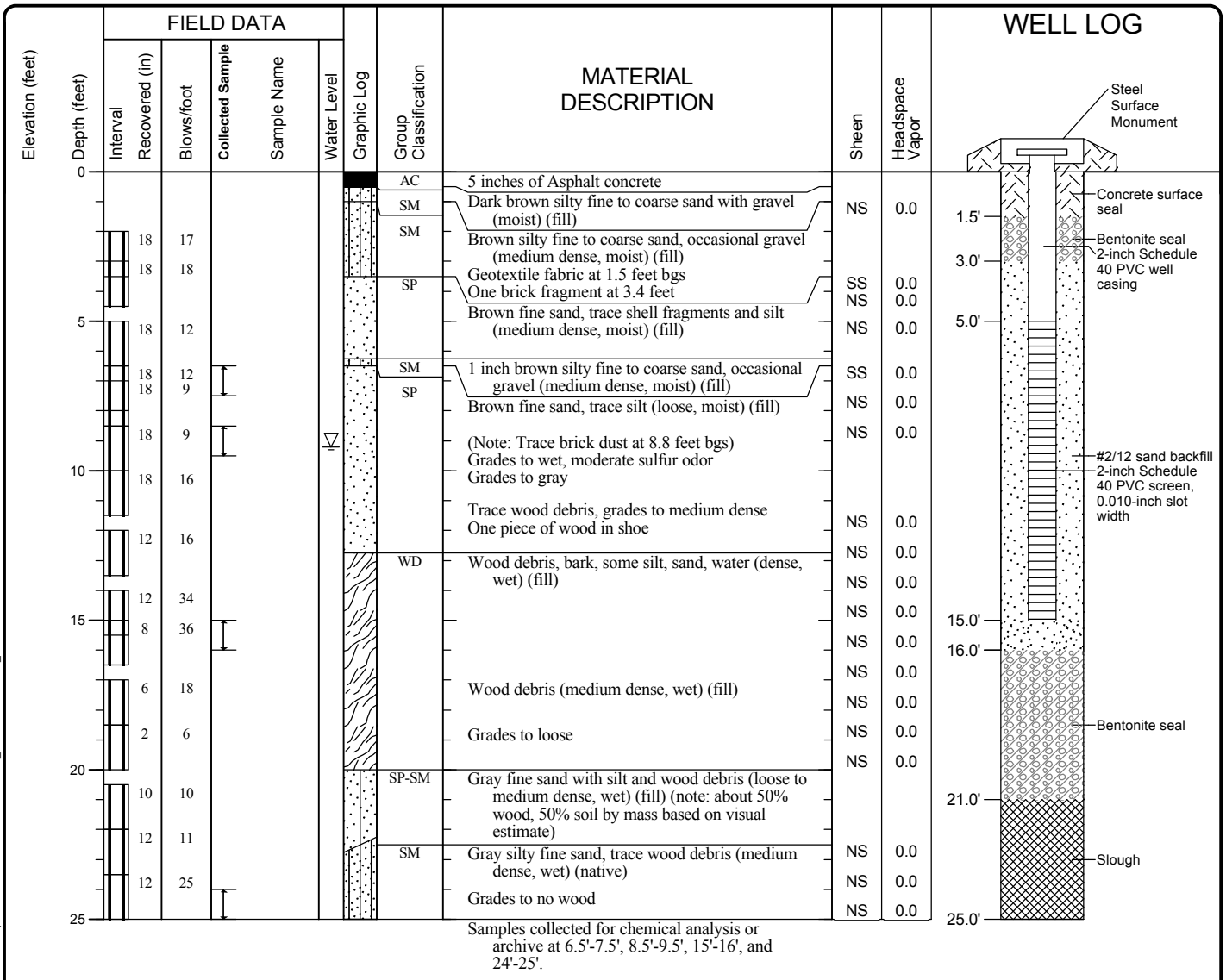
Drilled	Start 1/14/2010	End 1/14/2010	Total Depth (ft)	25	Logged By / Checked By	GRL	Driller	Cascade Drilling	Drilling Method	Hollow Stem Auger

Hammer Data	300 lb/30 in Drop	Drilling Equipment	CME 75 Truck Rig
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

Licensing agency well number: **#BCC-520**
A 2 inch well was installed on 1/15/2010 to a depth of 15 feet.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
1/14/2010	9.2	

Notes: Auger Data: 5 foot long continuous flight 4" I.D., 8" O.D.



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

Log of Monitoring Well EST9

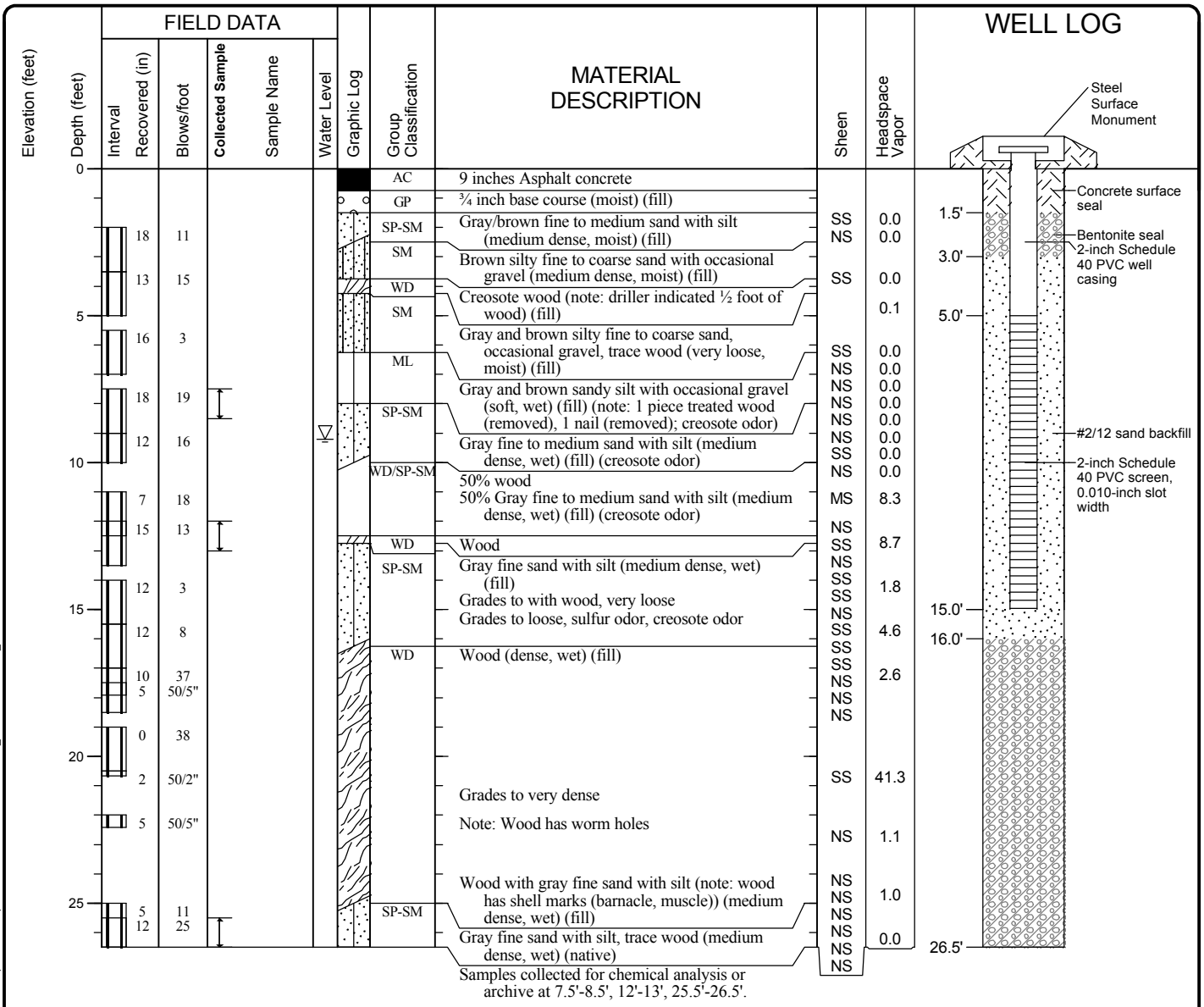
GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-3
Sheet 1 of 1

Drilled	Start 1/20/2010	End 1/20/2010	Total Depth (ft) 26.5	Logged By / Checked By GRL	Driller Cascade Drilling	Drilling Method Hollow Stem Auger
Hammer Data	300 lb/30 in Drop		Drilling Equipment	CME 75 Truck Rig	Licensing agency well number: **#BCC-521** A 2 inch well was installed on 1/20/2010 to a depth of 15 feet.	
Surface Elevation (ft) Vertical Datum	Undetermined		Top of Casing Elevation (ft)		Groundwater Date Measured: 1/20/2010 Depth to Water (ft): 9.2 Elevation (ft):	
Easting (X) Northing (Y)			Horizontal Datum			

Notes: Auger Data: 5 foot long continuous flight 4" I.D., 8" O.D.



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

Log of Monitoring Well EST10

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-4
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
	1/18/2010	1/18/2010	66.25	GRL	Cascade Drilling	Hollow Stem Auger

Hammer Data	300 lb/30 in Drop	Drilling Equipment	CME 75 Truck Rig
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

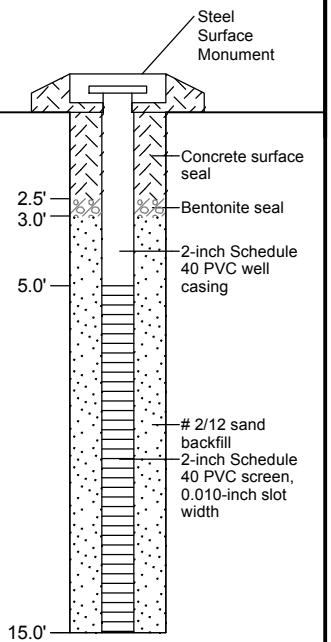
Licensing agency well number: **#BCC-525**
A 2 inch well was installed 11 feet east of boring on 1/19/2010 to a depth of 15 feet.

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
1/18/2010	7.5	

Notes: Auger Data: 5 foot long continuous flight 4" I.D., 8" O.D.

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor
	0								AC	9 inches Asphalt concrete		
									GP	¾ inch ballast from 9 inches to 18 inches bgs (very dense, moist) (fill)	NS	0.0
			18	62					SP-SM	Brown fine to coarse sand with gravel and silt (very dense, moist) (fill)	NS	0.0
									SP		NS	0.0
			18	28						Brown fine sand, trace silt and shell fragment (medium dense, moist) (fill)	NS	0.0
	5		4	22							NS	0.0
			0	17							NS	0.0
										Grades to trace wood (sawdust)	NS	0.0
			18	20						Grades wet	NS	0.0
			16	21							NS	0.0
	10								SP	Grades fine to medium sand, trace silt and shell fragments (medium dense, moist) (fill) (note: no wood fragments, slight diesel odor)	NS	0.0
			16	18								
			12	16						Diesel odor to 17.5 feet bgs	NS	0.0
											NS	0.0
											NS	0.0
			16	9							SS	0.0
	15										SS	0.0
			16	18							NS	0.0
											NS	0.0
											NS	0.0
			8	11						Grades to trace wood	NS	0.0
			12	33							NS	0.0
											NS	0.0
									WD	Wood (fill)	NS	0.0
									SM	Brown silty fine sand with wood (medium dense, wet) (note: wood is sawdust, splinters, and small pieces approximately 2 inches) (slight sulfur odor)	NS	0.0
	20		12	13							NS	0.0
			14	52					WD		NS	0.0
			18	40							NS	0.0
										Wood with brown silty fine sand (very dense, wet) (fill) (note: wood is woodwaste)	NS	0.0
											NS	0.0
									SM	Gray silty fine sand, trace wood (medium dense, wet) (native)	NS	0.0
			7	32							NS	0.0
	25										NS	0.0
											NS	0.0
			15	26							NS	0.0
			18	41						One piece of wood (note: wood looks like different type compared to wood above-possible driftwood?/native)	NS	0.0
											NS	0.0
											NS	0.0
			18	77					SP-SM	Gray fine sand with silt, trace wood (very dense, wet) (native)	NS	0.0
	30										NS	0.0
	35								SP	Gray fine sand, trace silt (dense, wet) (native)		

WELL LOG



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

Log of Monitoring Well EST11

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-5
Sheet 1 of 2

Seattle: Date:3/11/10 Path:W:\SEATTLE\PROJECTS\0\0676018\GINT\0676018.GPJ DBTemplate\LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL

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	WELL LOG
	35	14	32							NS	0.0	
									Grades to no wood			
	40	16	75						Grades to very dense			
	45	12	57							NS	0.0	
	50	11	72/11"						Trace shell fragments	NS	0.0	
	55	16	96/10"							NS	0.0	
	60	10	80/10"							NS	0.0	
	65	15	95/9"						Grades to fine to coarse sand, trace silt (very dense, wet) (native)	NS	0.0	
									Samples collected for chemical analysis or archive at 7'-8', 11'-12', 18'-19' and 22'-23'.			

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

Log of Monitoring Well EST11 (continued)

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-5
Sheet 2 of 2

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
1/19/2010	1/20/2010	75.5	GRL	Cascade Drilling	Hollow Stem Auger

Hammer Data	300 lb/30 in Drop	Drilling Equipment	CME 75 Truck Rig
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

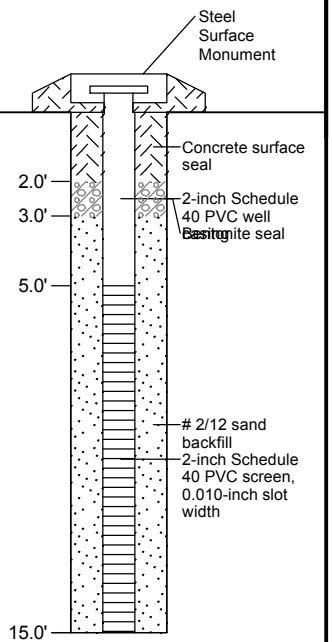
Licensing agency well number: **#BCC-522**
A 2 inch well was installed 5 feet north of boring on 1/20/2010 to a depth of 15 feet.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
1/19/2010	8.2	

Notes: Auger Data: 5 foot long continuous flight 4" I.D., 8" O.D.

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor
	0								AC	14 inches asphalt concrete		
									GP	1 foot base course (dense, moist) (fill)	NS	0.0
			18	44					SP	Gray fine to coarse sand with gravel, trace silt (dense, moist) (fill)	MS	0.0
											MS	0.0
			10	23						Grades to occasional gravel, medium dense		
	5		16	14							MS	0.0
											NS	0.0
			2	20						Note: 1 small (< 1 inch) piece of wood at 5.6 feet bgs	NS	0.0
											NS	0.0
											SS	0.0
			18	17			▽		SP-SM	Gray fine to medium sand with silt and occasional wood (medium dense, moist to wet) (fill) (slight petroleum odor to 17 feet bgs)	SS	0.0
											SS	0.0
	10										NS	0.0
			10	12						Grades to wet	NS	0.0
			18	16							NS	0.0
											NS	78.0
			14	10						Note: 2 inch wood debris/organic at 13 to 13.2 feet	SS	2.6
										Grades to loose to medium dense	SS	3.5
	15		11	12						Grades to trace shell fragments, medium dense	NS	
											NS	0.0
			5	11							NS	0.0
									WD	Wood (very dense, wet) (fill)	NS	
			6	77/9"							NS	0.0
											NS	0.0
											NS	0.0
											NS	
	20		3	50/3"						(Note: pulp odor to 27 feet bgs)	NS	
									SP-SM	Gray fine to medium sand with silt and trace shell fragments with wood (medium dense,wet) (fill) (pulp odor)	SS	4.8
			7	20							SS	
										Grades to loose		
	25		18	9						Grades to medium dense	SS	0.7
			7	16							NS	
									SP-SM	Gray fine to medium sand with silt and trace shell fragments (medium dense, wet) (native)	NS	0.8
			13	21							NS	
										Grades to no wood (native) (slight pulp odor)	NS	
			18	33						Grades to dense	NS	0.0
	30										NS	0.0
			18	32						Trace wood piece at 30.5 feet	NS	0.0
									SP	Gray fine to medium sand, trace silt (dense, wet) (native)	NS	0.0
	35											

WELL LOG



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

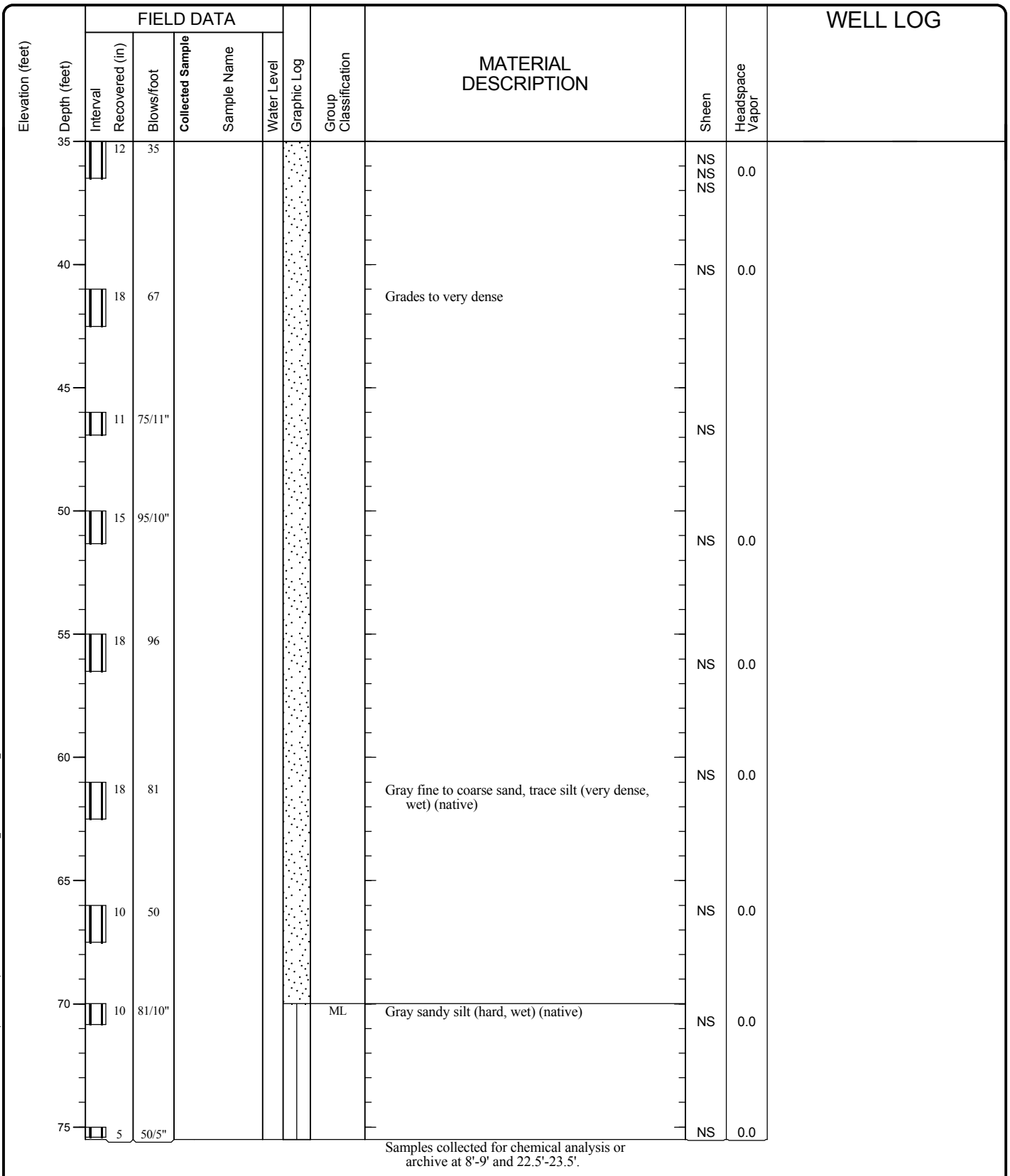
Log of Monitoring Well EST12

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-6
Sheet 1 of 2

Seattle: Date:3/11/10 Path:W:\SEATTLE\PROJECTS\0\0676018\GINT\0676018.GPJ DBTemplate\LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL



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

Log of Monitoring Well EST12 (continued)

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-6
Sheet 2 of 2

Drilled	Start 1/15/2010	End 1/15/2010	Total Depth (ft) 24.5	Logged By GRL / Checked By	Driller Cascade Drilling	Drilling Method Hollow Stem Auger

Hammer Data	300 lb/30 in Drop	Drilling Equipment	CME 75 Truck Rig
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

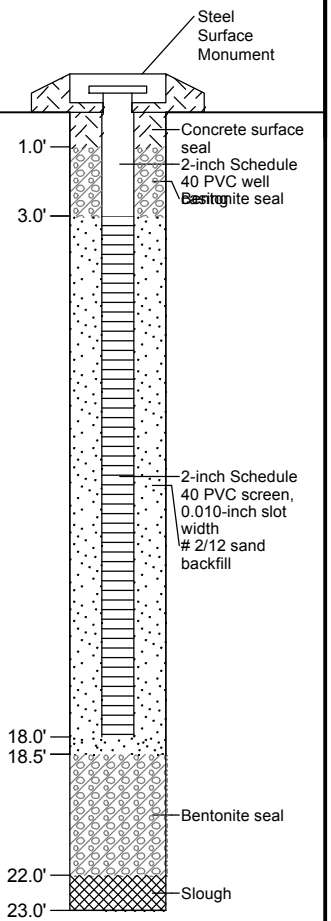
Licensing agency well number: **#BCC-524**
A 2 inch well was installed on 1/21/2010 to a depth of 18 feet.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
1/15/2010	10.5	

Notes: Auger Data: 5 foot long continuous flight 4" I.D., 8" O.D.

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor
	0								SOD	1 inch sod		
			18	33					SM	Brown silty fine sand, trace organics (dense, moist) (fill)	NS	0.0
			12	46					SM		NS	0.0
										Brown silty fine to coarse sand with occasional gravel (dense, moist) (fill)	NS	0.0
											SS	
											NS	
			10	48					GP-GM	Gray fine to coarse gravel with sand and silt (very dense, wet)	NS	
	5		0	7						Grades to loose	NS	
										Grades moist to wet	NS	0.0
			18	2					ML	Brown to gray sandy silt with occasional gravel and trace wood (very soft to soft, wet) (fill)	NS	0.0
			16	6							NS	0.0
											NS	0.0
	10						▽			(Note: slight sulfur odor)	NS	0.0
			6	4							NS	0.0
			6	1							NS	0.0
			2	1						Grades to with wood (note: wood chunks potentially > 2.4 inches in size)	NS	0.0
	15									Note: 2 inch recovery from 14 to 15.5 feet- material consists of silty fine sand to sandy silt matrix, with trace wood, one small piece of charcoal, and potential brick fragments (fill)	NS	0.0
			3	1					ML		NS	0.0
			13	29						Note: 3 inch recovery from 15.5 to 17 feet	NS	0.0
										Black sandy silt with wood debris (note: wood debris approximately 5% by mass) (medium dense, wet) (fill) (note: small glass shard at 18 feet bgs)	NS	0.0
	20		3	9						Grades to loose	NS	0.0
			7	2								
			14	17					SP	(Note: potential fire-cracked rocks at 21.5 feet bgs)	NS	0.0
			16	15						Gray fine to medium sand with trace silt and trace wood debris (medium dense, wet) (native)	NS	0.0
										Samples collected for chemical analysis or archive at 7'-8', 16.5'-17', 17.5'-18.5', and 23'-24'.	NS	0.0

WELL LOG



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

Log of Monitoring Well EST13

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-7
Sheet 1 of 1

Seattle: Date:3/11/10 Path:W:\SEATTLE\PROJECTS\0\0676018\GINT\0676018.GPJ DBTemplate\LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL

Drilled	Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
	1/13/2010	1/14/2010	86.5	GRL	Cascade Drilling	Hollow Stem Auger

Hammer Data	300 lb/30 in Drop	Drilling Equipment	CME 75 Truck Rig
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

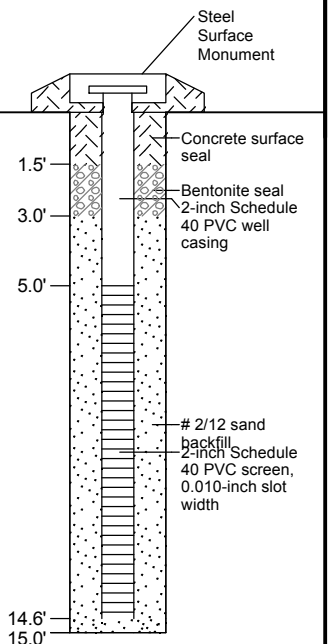
Licensing agency well number: **#BCC-519**
A 2 inch well was installed 10 feet south of boring on 1/13/2010 to a depth of 15 feet.

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
1/13/2010	10.1	

Notes: Auger Data: 5 foot long continuous flight 4" I.D., 8" O.D.

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
	0							AC	6 inches of Asphalt concrete		
								GP	Base course gravel (very dense, moist) (fill) (note: 1 inch crushed rock)		
		15	50					SP-SM	Gray fine to coarse sand with silt and occasional gravel (very dense, moist) (fill)	NS	0.0
		4	50/5"						Grades to with gravel	SS	0.0
	5							SP	Gray fine to coarse sand with occasional gravel and trace silt (medium dense, moist) (fill)	NS	0.0
		15	25					SP-SM	Gray fine to coarse sand with silt, occasional gravel, and trace shell fragments (very dense, moist) (fill) (slight sulfur odor)	SS	0.0
		18	74								
		18	31						Grades to dense	SS	0.0
		18	14					SM/ML	Dark gray laminae of silty fine sand and sandy silt, trace wood (medium dense/stiff, moist to wet) (fill)		
	10					▽		SP		SS	0.0
		18	21						Gray fine to coarse sand with occasional gravel and trace silt (medium dense, wet) (fill)	NS	0.0
		14	31						(slight sulfur odor)	NS	0.0
									Grades to dense	NS	0.0
		14	36								
	15	13	34							NS	0.0
									Grades to with gravel, medium dense	NS	0.0
		11	19							NS	0.0
		6	14							NS	0.0
										NS	0.0
	20	10	11						Grades to with fine gravel	NS	0.0
		8	13							NS	0.0
		10	7						Grades to no gravel, loose	NS	0.0
										NS	0.0
		6	19							NS	0.0
	25								Grades to medium dense	NS	0.0
									Grades to fine to medium sand		
		11	22					GP-GM	Gray fine to coarse gravel with sand, trace silt (medium dense, wet) (fill) (note: one 2 inch gravel (subrounded))	NS	0.0
		18	19					SP		NS	0.0
									Gray fine to coarse sand with gravel, trace silt (medium dense, wet) (fill)	NS	0.0
		6	20							NS	0.0
	30	0	27								
		0	27								
		0	44								
		10	10					GP	Gray fine to coarse gravel, trace silt (dense, wet) (fill)	NS	0.0
	35	0	20						Grades to medium dense		

WELL LOG



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

Log of Monitoring Well EST14

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-8
Sheet 1 of 3

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor
	35		12	8							NS	0.0
										Grades to loose	NS	0.0
										Gray fine to coarse gravel with medium to coarse sand (medium dense, wet) (fill)		
			6	20								
			5	25							NS	0.0
	40		1	27							NS	0.0
											NS	0.0
			3	26								
			0	21								
										(Note: slight sulfur odor)		
	45		2	29								
									SP	Gray medium to coarse sand (medium dense, wet) (fill)		
			2	19							NS	0.0
			3	37						Grades to dense		
	50		1	31							NS	0.0
			12	15							NS	0.0
									WD	Sawdust, bark, wood fragments (note: sulfur odor) (fill)	NS	0.0
			18	94					SP	Gray fine sand with trace silt, shell fragments, and wood (very dense, wet) (note: trace shell and wood each < 1% by mass (estimate)) (native)	NS	0.0
	55		18	78						Grades to no wood	NS	0.0
	60		18	66							NS	0.0
											NS	0.0
	65		18	56						Grades to trace wood (note: wood is 1 piece of bark at 65.5 feet) (native)	NS	0.0
											NS	0.0
	70		10	75/10"						Grades to no wood or shells	NS	0.0
	75		16	97/10"							NS	0.0
									SP-SM	Gray fine to coarse sand with silt and occasional		

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

Log of Monitoring Well EST14 (continued)

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-8
Sheet 2 of 3

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name	FIELD DATA: Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	WELL LOG
	80	11.5	70/11.5"					gravel (very dense, wet) (native) (note: trace organic material at 81 feet)	NS	0.0	
	85	16	87/10"						NS	0.0	

Samples collected for chemical analysis or archive at 9'-10', 19.5'-20.5', and 53'-54'.

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

Log of Monitoring Well EST14 (continued)

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-8
Sheet 3 of 3

APPENDIX B
Laboratory Reports and Data Quality Assessment Summary

DATA QUALITY ASSESSMENT SUMMARY
PROJECT: PORT OF EVERETT SOUTH TERMINAL FORMER WEYERHAEUSER MILL A FORMER SITE (0676-018-04)

Volatiles by EPA Method SW8260,
Semivolatiles by EPA Method SW8270
PAHs by EPA Method SW8270 (including SIM),
PCB Aroclors by EPA Method SW8082,
Total and Dissolved Metals by EPA Methods 6010B and 7471A,
Chlorinated Dibenzodioxins and Dibenzofurans by EPA 1613

ARI Laboratory SDG	Samples Validated
QF64	EST14-9-10, EST14-19.5-20.5, EST9-8.5-9.5, EST9-15-16
QF83 (QG36 NWTPH-Dx)	EST13-7-8, EST13-17.5-18.5
QG00	EST11-7-8, EST11-12-13
QG27	EST12-8-9, EST12-22.5-23.5, DUP1-011910
QG48 (QH07 NWTPH-Dx, Gx)	EST10-7.5-8.5, EST10-12-13, EST7-10.5-11.5, EST7-12-13, DUPE2-012110
QH48, QH87 (QH58, QH88 NWTPH-Dx, Gx)	EST9-W-012810, EST10-W-012810, DUP-W-012810, EST11-W-012810, EST12-W-012810, EST13-W-012810
QH56 (QH57 Mercury)	EST14-W-012910

Frontier Laboratory SDG	Samples Validated
5947	EST9-W-012810, EST10-W-012810, DUP-W-012810

This report presents the results of a United States Environmental Agency (USEPA)-defined Stage 2B validation (USEPA Document 540-R-08-005) of analytical data from the analyses of soil and groundwater samples obtained from the Port of Everett South Terminal Weyerhaeuser Mill A Former Site (Property). The data validation included verification and validation checks of the following quality control (QC) elements:

- Chain of Custody
- Holding Times
- Surrogates (organics only)
- Method and Trip Blanks

- Laboratory Control Samples
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory and Field Duplicates
- Internal Standards
- Dual column confirmations (PCBs only)
- Instrument Initial Calibrations (ICALs)
- Instrument Continuing Calibrations (CCALs)
- Instrument Tunes
- Sample Results

DATA PACKAGE COMPLETENESS

Analytical Resources, Incorporated (ARI), located in Tukwila, Washington, served as the primary laboratory responsible for the samples evaluated. ARI utilized Frontier Analytical Laboratory in El Dorado Hills, California to perform dioxins/furans analysis. The laboratories provided all required deliverables for the validation according to the National Functional Guidelines (NFG). The holding times for all samples were met by the laboratories. The laboratories followed adequate corrective action processes and all identified anomalies were discussed in each case narrative.

Objective

The objective of the data quality assessment was to review laboratory analytical procedures and quality control (QC) results to evaluate whether:

- The samples were analyzed using well-defined and acceptable methods that provide detection limits below applicable regulatory criteria set forth in the project Work Plan;
- The precision and accuracy of the data are well defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

Data Quality Assessment Summary

The results for each of the QC elements are summarized below. The data assessment was performed using guidance in *the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA 2002) and *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (USEPA 2008).

Chain-of-Custody Documentation

Chain-of-custody (COC) forms were provided with the laboratory analytical reports. There were no anomalies noted on the COC forms; proper COC protocols appear to have been followed during the January 2010 sampling investigation.

Holding Times

The holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for all analyses.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Surrogates are used for organic analyses and are added to all samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added at a known concentration and percent recoveries are calculated following analysis. All surrogate recoveries for field samples were within the laboratory control limits, with the following exceptions:

SDG QF64: *(SVOCs-Full List)* The percent recovery (%R) value for the surrogate 2-fluorobiphenyl was greater than the control limits in Sample EST9-15-16. No action was required, as there were at least two other surrogates in the base/neutral fraction that were within control limits.

SDG QH48, QH58, QH88: *(SVOCs-Full List)* The %R value for the surrogate 2,4,6-Tribromophenol was greater than the control limits in Sample EST10-W-012810. No action was required, as there were at least two other surrogates in the acidic fraction that were within control limits.

The %R values for the surrogates 2-Fluorobiphenyl, d5-Phenol, and 2,4,6-Dibromophenol were greater than the control limits in Sample EST10-W-012810 (Dilution). No action was required, as there were at least two other surrogates in both the acidic and base/neutral fraction that were within control limits.

SDG QH48, QH58, QH88: *(PAHs-SIM List)* No surrogate %R values were reported for the diluted versions of Samples EST12-W-012810 (50x and 200x), EST10-W-012810 (50x and 200x), and DUP-W-012810 (500x and 100x) as they were all diluted by factors ranging between 50-fold and 500-fold. No action was required.

SDG QG27 and QG48: *(VOCs)* The %R value for the surrogate Bromofluorobenzene was greater than the control limits in Sample EST12-22.5-23.5. The %R value for the surrogate d4-1,2-Dichloroethane was greater than the control limits in Sample EST10-12-13 (RE). The %R value for the surrogate d4-1,2-Dichloroethane was greater than the control limits in Sample TRIP BLANK. No action was required in any of the cases, as there were three other surrogates that were within control limits.

Internal Standards (VOC, SVOC, PAHs only)

Like the surrogate, an internal standard is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Internal standards are used only for the mass spectrometry (MS) instrumentation and are usually added to the sample aliquot after extraction has taken place. The internal standard should be analyzed at the beginning of a 12 hour sample run and the control limits for internal standard recoveries are -50% to +100% of the calibration standard. All internal standard recoveries were within the control limits.

Method Blanks and Trip Blanks

Method blanks are analyzed to assess whether laboratory procedures or reagents may have introduced measurable concentrations of the analytes of interest into project samples. Method blanks were analyzed with each batch of project samples, at a frequency of one per twenty samples.

Trip blanks are analyzed to assess whether field sampling or sample transport processes may have introduced measurable concentrations of volatile analytes of interest into project samples.

The following sample batches reported method blank contamination:

SDG QF64: *(SVOCs)* The laboratory reported bis(2-ethylhexyl)phthalate contamination in the method blank extracted on 1/20/10. The positive results for this compound were qualified as not-detected (U) in the associated samples.

SDG QF64: *(VOCs)* The laboratory reported acetone contamination in the method blank extracted on 1/18/10. The positive results for this compound were qualified as not-detected (U) in Samples EST9-8.5-9.5 and EST9-15-16.

SDG QF64 and QF83: *(Metals)* The laboratory reported zinc contamination in the method blank extracted on 1/18/10. No action was required as the associated sample concentrations were all greater than the action level for this compound.

SDG QG27 and QG48: *(VOCs)* The laboratory reported acetone contamination in the method blank extracted on 1/28/10. No action was required as the associated sample concentrations were all greater than the action level for this compound.

SDG QG00, QG27, and QG48: *(Metals)* The laboratory reported zinc contamination in the method blank extracted on 1/22/10. No action was required as the associated sample concentrations were all greater than the action level for this compound.

The laboratory also reported copper contamination in the method blank extracted on 1/25/10. No action was required as the associated sample concentrations were all greater than the action level for this compound.

SDG QH48, QH58, QH88: *(PAHs-SIM List)* The laboratory reported naphthalene contamination in the method blank extracted on 2/2/10. No action was required as the associated sample concentrations were all greater than the action level for this compound.

Matrix Spikes/Matrix Spike Duplicates (MS/MSD)

Because actual analyte concentration in environmental samples is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis. One aliquot of sample is analyzed in the normal manner, than a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery (%R) is calculated. Matrix spike duplicates (MSD) analyses are generally performed for organic analyses as a precision check. For some organic analytical methods, such as NWTPH-Dx, a laboratory

control sample/ laboratory control sample duplicate (LCS/LCSD) sample set is performed in lieu of a MS/MSD analysis.

For inorganics methods, the matrix spike (referred to as a "spiked sample") is typically followed by a post spike sample if any element recoveries were outside the control limits in the "spike sample". If the post spike %R values are with control limits, the outliers are attributed to matrix interference and no further action is required.

Matrix spike analyses should be performed once per analytical batch or every twenty field samples, whichever is more frequent. The recovery criteria for matrix spikes and laboratory control samples are specified in the laboratory documents as are the relative percent difference values. The frequency requirements were met for all analyses, and the %R/RPD values were within the proper control limits, with the following exceptions:

SDG QG00, QG27, and QG48:

(SVOCs) A MS/MSD sample set was performed on Sample EST11-7-8. There was no spiked recovery for the compounds benzoic acid (note: benzoic acid is typically considered a "poor performer") and 2,4-Dinitrophenol. As these compounds were within all other validation parameters, no action was taken on the basis of the MS/MSD outliers alone.

A MS/MSD sample set was performed on Sample EST12-8-9. There was no spiked recovery for the compounds benzoic acid or 2,4-Dinitrophenol (note: benzoic acid is typically considered a "poor performer"). As the compounds were within all other validation parameters, no action was taken on the basis of the MS/MSD outliers alone. The MS/MSD %R value was greater than the control limits for six other target analytes. Of these analytes, only carbazole maintained deficiencies in other validation parameters. For this reason, carbazole was qualified (J) in the parent sample.

A MS/MSD sample set was performed on Sample EST10-12-13. Ten target analyte results exceeded the linear range of the instrument. For this reason, this MS/MSD sample set was deemed inappropriate for the purposes of determining accuracy and precision of the spiked analytes.

(VOCs) A MS/MSD sample set was performed on Sample EST10-12-13. The %R values for chloroethane and bromoethane were greater than the control limits in this sample set. No action was taken as these outliers were indicative of a high bias, and there were no positive results for these compounds in the parent sample.

(Metals) A matrix spike sample was performed on Sample EST11-7-8. The %R value for antimony was less than the control limits, while the %R value for copper was greater than the control limits. The post spike sample digested in the same analytical batch was within control limits for these elements. No action was required.

A matrix spike sample was performed on Sample EST12-8-9. The %R value for antimony was less than the control limits. The post spike sample digested in the same analytical batch was within control limits for this element. No action was required.

A matrix spike sample was performed on Sample EST10-7.5-8.5. The %R values for antimony, lead, nickel, and zinc were outside of the control limits. The post spike sample digested in the same analytical batch was within control limits for these elements. No action was required.

SDG QF64 and QF83: *(Metals)* A matrix spike sample was performed on Sample EST14-9-10. The %R value for antimony was less than the control limits. There were no positive results for antimony in any of the associated samples. The post spike sample digested in the same analytical batch was within control limits for this element. No action was required.

A matrix spike sample was performed on Sample EST13-7-8. The %R values for antimony, copper, nickel, zinc were less than the control limits. The post spike sample digested in the same analytical batch was within control limits for these elements. No action was required.

Laboratory Control Samples/ Laboratory Control Sample Duplicates (LCS/LCSD)

A laboratory control sample is essentially a blank sample that is spiked with a known amount of analyte concentration and analyzed. It is to be treated much like a matrix spike, without the possibility for matrix interference. As there is no actual sample matrix in the analysis, the analytical expectations for accuracy and precision are usually more rigorous and qualification would apply to all samples in the batch, instead of the parent sample only.

Laboratory control sample analyses should be performed once per analytical batch or every twenty field samples, whichever is more frequent. The recovery criteria for laboratory control samples are specified in the laboratory documents as are the relative percent difference values. The frequency requirements were met for all analyses, and the %R/RPD values were within the proper control limits, with the following exceptions:

SDG QG00, QG27, and QG48: *(SVOCs)* The %R values for ten target analytes were greater than their respective control limits. The carbozole results were qualified (J) in Samples EST12-8-9, EST12-22.5-23.5, and DUP1-011910. The outlier was indicative of a high instrumental bias. No action was taken for non-detected compounds.

The %R values for five target analytes were greater than their respective control limits. The carbozole results were qualified (J) in Samples EST10-7.5-8.5 and EST10-12-13. The outlier was indicative of a high instrumental bias. No action was taken for non-detected compounds.

The LCSD %R value for chrysene was greater than the respective control limit. No action was taken, as the corresponding LCS %R value was within the control limit.

SDG QG27 and QG48: *(VOCs)* The LCS %R value for trans-1,2-Dichloroethene was less than the control limit in the LCS/LCSD extracted on 1/21/10. The LCSD %R value for vinyl chloride was greater than the control limit in the LCS/LCSD extracted on 1/25/10. The LCSD %R value for tetrachloroethane was greater than the control limit in the LCS/LCSD extracted on 1/26/10. No action was taken in any of the three cases, as the corresponding LCS or LCSD %R values for these compounds were within the control limits.

Laboratory Duplicates (Metals and Petroleum Hydrocarbons only)

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory, and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration greater than five times the reporting limit for that sample, the absolute difference is used instead of the RPD.

Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met in all cases, with the following exceptions:

SDG QG00, QG27, and QG48: ***(Metals)*** A laboratory duplicate was performed on Sample EST11-7-8. The RPD value for zinc was greater than the control limit of 20%. The positive results for zinc were qualified as estimated (J) in all associated samples.

A laboratory duplicate was also performed on Sample EST10-7.5-8.5. The RPD value for chromium, lead, and nickel were greater than the control limit of 20%. The positive results for these elements were qualified as estimated (J) in all associated samples.

SDG QH48, QH58, and QH88: ***(Metals)*** A laboratory duplicate was performed on Sample EST13-W-012810. The RPD value for total chromium was greater than the control limit of 20%. The positive results for chromium were qualified as estimated (J) in all associated samples.

Field Replicates/Duplicates

Field duplicate samples were collected and analyzed along with the reviewed sample batches. The duplicate samples were analyzed for the same parameters as the associated parent samples. As in laboratory duplicates the RPD is used as the criteria for assessing precision, unless one or more of the samples used has a concentration greater than five times the reporting limit for that sample. In this case, the absolute difference is used instead of the RPD.

SDG QG00, QG27, and QG48: Two sets of field duplicates, Samples EST12-8-9 & DUP1-011910 and EST7-12-13 & DUPE2-012110, were submitted to the laboratory. All RPD and absolute difference values were within the control limits, with the following exceptions:

- ***(SVOCs)*** In the EST12-8-9 / DUP1-011910 pair, the RPD/absolute difference values for naphthalene, 2-methylnapthalene, acenaphthene, dibenzofuran, fluorene, phenanthrene, carbazole, and 1-methylnapthalene were greater than the control limits of 50% and/or 2x the PQL. The positive results for these analytes were qualified as estimated (J) in both samples.

  In the EST7-12-13 / DUPE2-012110 pair, the RPD/absolute difference values for 4-methylphenol were greater than the control limits of 50% and/or 2x the PQL. The positive results for these analytes were qualified as estimated (J) in both samples.

- ***(NWTPH-Gx)*** In the EST7-12-13 / DUPE2-012110 pair, the RPD/absolute difference value for gasoline was greater than the control limit of 50% and/or 2x the PQL. The positive results for gasoline was qualified (J) in both samples.

- ***(Metals)*** In the EST7-12-13 / DUPE2-012110 pair, the RPD/absolute difference value for copper was greater than the control limit of 50% and/or 2x the PQL. The positive results for copper were qualified (J) in both samples.

SDG QG27 and QG48: One set of field duplicates, Samples EST7-12-13 & DUPE2-012110 was submitted to the laboratory. All RPD and absolute difference values were within the control limits.

SDG QH48, QH58, and QH88: One set of field duplicates, Samples EST10-W-012810 & DUP-W-012810, was submitted to the laboratory. All RPD and absolute difference values were within the control limits.

Dual Column Confirmations

The PCB Aroclor compounds are analyzed by two columns, a primary and a secondary column. The percent difference (%D) values for any positive results between the primary and secondary columns are assessed against a control limit of 40%. All positive results for Aroclors were properly confirmed by a secondary column with %D values less than 40%.

Initial Calibrations (ICALs)

All initial calibrations were conducted according to the laboratory methods, and consisted of the appropriate number of standards. For the organics analyses, all percent relative standard deviation (%RSD) values were less than +/- 30% and all relative response factors (RRF) were greater than 0.05.

Continuing Calibration (CCALs)

All continuing calibrations were conducted according to the laboratory methods, and consisted of the appropriate number of standards. For the organics analyses, all percent difference (%D) values were less than +/- 25% and all relative response factors (RRF) were greater than 0.05, with the following exceptions:

SDG QG00, QG27, QG48:

(SVOCs-Full List): The percent difference (%D) values for pentachlorophenol were less than the control limit of ±25% in the Continuing Calibration (CCAL) performed on laboratory instrument "NT6" on February 6, 2010. No action was required as there were no positive results for pentachlorophenol in the associated samples.

(VOCs-Full List): The %D for iodomethane was greater than the control limit of ±25% in the CCAL performed on laboratory instrument "FINN5" on January 21, 2010. The %D value for chloroethane and bromoethane were greater than the control limit of ±25% in the CCAL performed on laboratory instrument "FINN5" on January 28, 2010. The %D value for vinyl chloride, chloroethane and bromoethane were greater than the control limit of ±25% in the CCAL performed on laboratory instrument "FINN5" on January 29, 2010. No action was required as there were no positive results for these compounds in the associated samples.

SDG QH87:

(VOCs-Full List): The %D values for bromomethane, 1,1,2-Trichloro-1,2,2-Trifluoroethane, and iodomethane were less than the control limit of ±25% in the CCAL performed on laboratory instrument "NT5" on February 5, 2010. No action was required as these analytes were reported from a different continuing calibration date with passing %D values.

Sample Results

SDG QG00, QG27, QG48:

(SVOCs-Full List): The laboratory reported duplicate results for Sample EST10-12-13 because eleven compound results exceeded the linear range of the instrument during the initial analysis. The sample was both diluted and re-analyzed for this reason. The initial results (i.e., non-diluted sample analysis results) for the eleven compounds exceeding the linear range were flagged "E" by the laboratory and labeled as "not reportable" by the validator. However, the results for the remaining analytes from the initial analysis were reported. The results for the 11 compounds from the subsequent dilution and reanalysis were reported. All other compounds (i.e., compounds other than the 11 requiring dilution and reanalysis) resulting from the reanalysis were qualified as "not reportable" in the diluted analysis and not included in the sample results.

(VOCs-Full List): The laboratory reported duplicate results for Samples EST12-22.5-23.5 and EST10-12-13 because the 4-isopropyltoluene and naphthalene results exceeded the liner range of the instrument. The samples were both diluted and re-analyzed for this reason. The initial results (i.e., non-diluted sample analysis results) for 4-isopropyltoluene and naphthalene were flagged "E" by the laboratory and labeled as "not reportable" by the validator. However, the results for the remaining analytes from the initial analysis were reported. The results for 4-isopropyltoluene and naphthalene from the subsequent dilution and reanalysis were reported. All other compounds (i.e., compounds other than 4-isopropyltoluene and naphthalene requiring dilution and reanalysis) resulting from the reanalysis were qualified as "not reportable" in the diluted analysis and not included in the sample results

SDG QH48, QH58, QH88:

(SVOCs-Full List): The laboratory reported duplicate results for Samples EST10-W-012810 and DUP-W-012810 because the naphthalene results exceeded the liner range of the instrument. The samples were both diluted and re-analyzed for this reason. The initial naphthalene results (i.e., non-diluted sample analysis results) were flagged "E" by the laboratory and labeled as "not reportable" by the validator. However, the results for the remaining analytes from the initial analysis were reported. The results for naphthalene from the subsequent dilution and reanalysis were reported. All other compounds (i.e., compounds other than naphthalene requiring dilution and reanalysis) resulting from the reanalysis were qualified as "not reportable" in the diluted analysis and not included in the sample results

(PAHs List): The laboratory reported duplicate results for five samples because several analyte results exceeded the liner range of the instrument. The samples were both diluted (at least once) and re-analyzed for this reason. The initial high results (i.e., non-diluted sample analysis results)

were flagged "E" by the laboratory and labeled as "not reportable" by the validator. However, the results for the remaining analytes from the initial analysis were reported. The results from the subsequent dilutions and reanalyses for analytes that exceeded the linear range of the instrument in the initial sample analyses were reported. All other compounds (i.e., compounds not requiring dilution and reanalysis) resulting from the reanalysis were qualified as "not reportable" in the diluted analysis and not included in the sample results

(PCB List): The sample reporting limits (.02 ug/L) did not meet the specifications outlined in the QAPP (.01 ug/L). No other action was taken.

(Metals List): It was noted that the selenium "dissolved" results were greater than the selenium "total" results in several samples in this data set. No other action was taken.

SDG QH87:

(VOCs-Full List): The laboratory reported duplicate results for Samples EST10-W-012810, DUP-W-012810, and EST12-W-012810 because the naphthalene results exceeded the liner range of the instrument. The samples were all diluted and re-analyzed for this reason. The initial naphthalene results (i.e., non-diluted sample analysis results) were flagged "E" by the laboratory and labeled as "not reportable" by the validator. However, the results for the remaining analytes from the initial analysis were reported. The results for naphthalene from the subsequent dilution and reanalysis were reported. All other compounds (i.e., compounds other than naphthalene requiring dilution and reanalysis) resulting from the reanalysis were qualified as "not reportable" in the diluted analysis and not included in the sample results

OVERALL ASSESSMENT

As was determined by this Level 2B evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD %R values. Precision was acceptable, as demonstrated by the field duplicate, laboratory duplicate, LCS/LCSD and MS/MSD RPD and absolute difference values, with the exceptions noted above.

Data were qualified as estimated because of method blank contamination, LCS/LCSD %R outliers, MS/MSD outliers, laboratory duplicates, and field duplicate precision outliers.

All data are acceptable for use as qualified.

APPENDIX C
Cultural Resource Consultants, Inc. Technical Memorandum

Cultural Resource Consultants, Inc.

CRC Technical Memo 1001N-1

TO: Erik Gerking
FROM: Glenn Hartmann
DATE: January 25, 2010

RE: Assessment of possible archaeological materials at the Port of Everett Coring Location EST13

On Thursday, January 21, 2010 I visited the Port of Everett facility to inspect materials recovered during coring activities at the Port facility (Figure 1). Richard Young and Gene Inic, archaeological monitors from the Tulalip Tribe, had identified two possible pieces of fire-cracked rock at coring location EST13, near the shoreline of Port Gardner. The rocks had been found at a depth of 21.5 feet below ground surface, at the bottom of fill deposits and at the contact with native sediments. The Port requested CRC to provide a professional opinion regarding these potential archaeological materials.

Prior to my arrival on-site, the Port provided me with an opportunity to review the contractor's field notes and the draft coring log. I also reviewed DAHP online archaeological records, the 1884 General Land Office map, the 1884 Coast and Geodetic Survey map, and ethnographic information for the project area (coastsalishmap.org; Waterman ca. 1920, 1922, 2001). The historical maps indicated that the coring location would have been substantially offshore in the late 1800s (Figure 2). DAHP mapping indicated there are no recorded archaeological sites in proximity to the project and ethnographic data did not identify Native American settlements in the immediate vicinity. The absence of recorded cultural features does not necessarily indicate low archaeological potential for the project locale, as the mouth of nearby Pigeon Creek likely would have been a desirable location for settlement or fishing. Mr. Young indicated that the Tribe had some information indicating that a longhouse had been located somewhere along the shoreline here; however, information is apparently unclear regarding its precise location.

The possibility of submerged archaeological site also was considered a possibility. Sea levels have changed during the Holocene (Shipman 1989; Thorson 1981) and coring location EST13 was likely available for human use in the past during times of lower sea level. Bathymetric mapping indicates that Port Gardner is relatively shallow along the shoreline, deepening rapidly a few hundred feet offshore.

The Port and geologists from GeoEngineers provided the split-spoon core samples from coring location EST13 for inspection. Samples were still intact within the coring tubes and afforded the opportunity to see the possible fire-cracked rocks in their original depositional position (Figures 4 and 5). Figure 4 illustrates the sample from 21.5 feet below ground surface. Sediments above

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and around the possible fire-cracked rocks included wood fragments and grey sands. The sediments were modern fill as indicated by their unconsolidated nature, as well as the blows per foot count (n=2) when the sample was obtained. The surfaces of the two sub-rounded, golf ball-sized rocks were covered with what appeared to be iron stains, which was attributed to the fill matrix. There were no shells, bones, dark organic matrix, pieces of charcoal, or artifacts associated with the rocks, which might be expected if these were midden deposits or the remnant of a hearth.

Beneath the rocks (see Figure 5), there were several worm-eaten wood fragments underlain by compact grey sands. The coring blows per foot increased appreciably when this sample was obtained (n=17), indicating that the compact sands were native sediments. Excavations in this coring location were terminated at 24.5 feet below ground surface.

Although the rocks are not morphologically dissimilar to fire-cracked rock, there are several lines of evidence suggesting that the two rocks are probably not fire-cracked, or if they are, they are not in their original depositional context. First, the rocks were found at the bottom of fill sediments at the contact with the native sediments. Sediments shown in Figure 5 appear to be a thin deposit of fill beneath the rocks, but atop the native sediments. None of the wood fragments associated with the rocks appeared to be burned, which would have been expected if this were associated with a hearth feature. Further, it seems unlikely that there would be worm-eaten wood (the fragment shown in Figure 5) underlying a hearth feature. Also, there were no archaeological materials associated with the rock, such as charcoal, midden matrix or shell, which might suggest that these were cultural in nature. Lastly, it is possible that these rocks could have been translocated from somewhere else during emplacement of the fill; however, one might again expect additional archaeological materials to be present.

While at the Port facility I also observed excavations at coring location EST07, which provided the same deposition sequence documented for EST13. No archaeological materials or suggestions of archaeological sediments were observed.

At the conclusion of field investigations, and after consultations between the Port, Washington Department of Ecology, DAHP, the City of Everett, GeoEngineers, and tribal representatives, the rocks were returned to coring location EST13 at the bottom of the drill casing.

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Washington Department of Archaeology and Historic Preservation (DAHP)
2009 Washington Information System for Architectural and Archaeological Records Data (WISAARD). Electronic resource, https://secureaccess.wa.gov/dahp/wisaard/

Waterman, T. T.
c.1920 *Puget Sound Geography*. Manuscript No. 1864, National Anthropological Archives, Washington, D.C.
1922 Geographic Names Used by Indians of the Pacific Coast. *Geographical Review* 12:175-194.
2001 *sda?da? g^{w}eł dibeł lešucid ?acaciłtalbix^{w} Puget Sound Geography*. Vi Hilbert, Jay Miller, and Zalmai Zahir, contributing editors. Lushootseed Press, Federal Way, Washington.

Figure 1. Google Earth image showing location of coring location EST13.

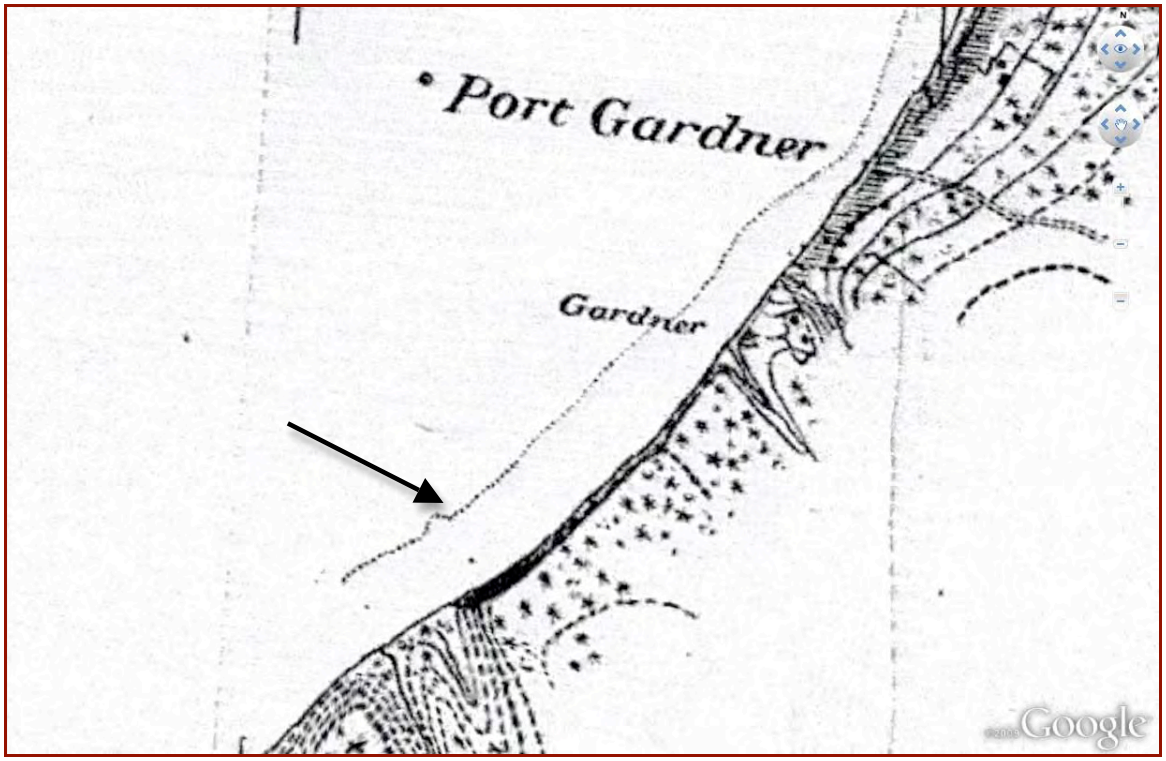

Figure 2. Geo-rectified 1884 T-sheet showing coring location EST13 superimposed on the Google Earth image depicted in Figure 1.

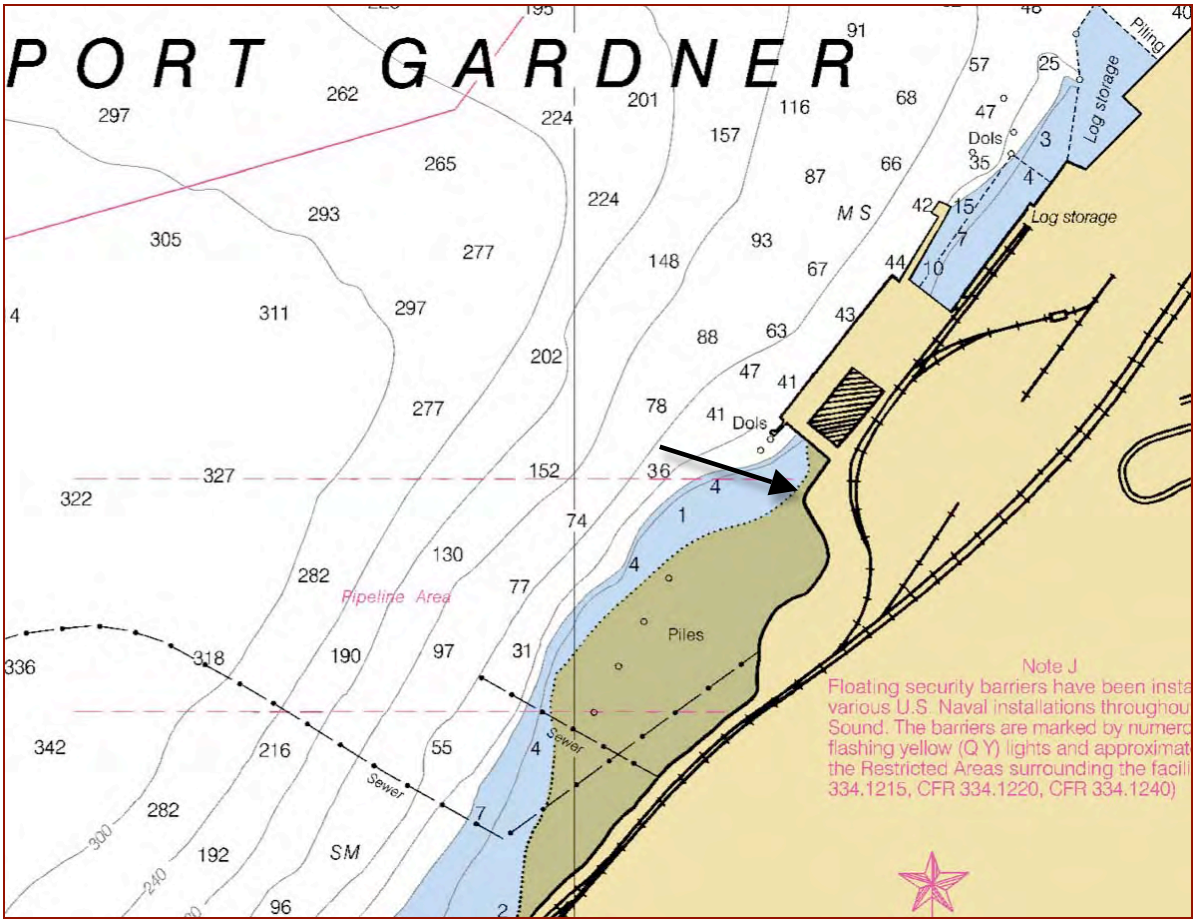

Figure 3. Portion of NOAA navigation chart Everett Harbor Mercator 18444 1:10,000 showing the approximate location of coring location EST13. Note that Port Gardner is relatively shallow water that deepens rapidly offshore.

Figure 4. Possible fire-cracked rock at the bottom of the core sample (right side of photo).

Figure 5. Sediments underlying the core sample illustrated in Figure 4. Bottom of this sample is to the right of the photo.

APPENDIX D
Report Limitations and Guidelines for Use

APPENDIX D
REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This appendix provides information to help you manage your risks with respect to the use of this report.

Environmental Services Are Performed For Specific Purposes, Persons and Projects

GeoEngineers has performed this in general accordance with the scope and limitations of our proposal. This report has been prepared for use by WorleyParsons and the Port of Everett. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and project site. No one except WorleyParsons and the Port of Everett should rely on this environmental report without first conferring with GeoEngineers. This report should not be applied for any purpose or project except the one originally contemplated.

This Environmental Report Is Based On a Unique Set of Project-Specific Factors

This report has been prepared for the Port of Everett South Terminal Weyerhaeuser Mill A Former Site. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

If important changes are made to the project or site after the date of this report, GeoEngineers should be retained to review our interpretations and recommendations and to provide written modifications or confirmation, as appropriate.

Reliance Conditions for Third Parties

If a lending agency or other parties intend to place legal reliance on the product of our services, we require that those parties indicate in writing their acknowledgement that the scope of services provided, and the general conditions under which the services were rendered including the limitation of professional liability, are understood and accepted by them. This is to provide our firm

[1] Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions.

Environmental Regulations are Always Evolving

Some substances may be present in the site vicinity in quantities or under conditions that may have led, or may lead, to contamination of the subject site, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substance, change or if more stringent environmental standards are developed in the future.

Site Conditions can Change

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, a Phase I ESA report is typically applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope instability or ground water fluctuations. Always contact GeoEngineers before applying this report so that GeoEngineers may evaluate reliability of the report to changed conditions.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical, Geologic and Environmental Reports Should Not be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention, or assessment of the presence of Biological Pollutants in or around any structure. Accordingly, this report includes no interpretations, recommendations, findings, or conclusions for the purpose of detecting, preventing, assessing, or abating Biological Pollutants. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.