Appendix F

TPH-G and Total Naphthalenes Screening Level Exceedances for the Soil-to-Indoor Air Pathway

Troy Bussey

From: Teel, Steve (ECY) <STEE461@ECY.WA.GOV>
Sent: Monday, March 09, 2015 10:29 AM
To: Troy Bussey
Cc: Alex Smith; Chris Waldron; Rose, Scott (ECY)
Subject: April 2014 VI Memo

Troy –
Thanks for your time in meeting with us last Friday. After further consideration, Ecology has no concerns with your April 11, 2014 soil-to-indoor air pathway (VI) memo. Please feel free to reference this memo in the upcoming RI/FS Report.
We also appreciate your willingness to change the date for groundwater sampling to later in the month. How soon will we receive the draft RI/FS Report?
Thanks,
Steve

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Memo

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to: Steve Teel (Ecology)

from: Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)

cc: Scott Rose (Ecology), Alex Smith (Port of Olympia), Eric Hielema (LOTT Clean Water Alliance), and Jay Burney (City of Olympia)

date: April 11, 2014

subject: TPH-G and Total Naphthalenes Screening Level Exceedances for the Soil-to-Indoor Air Pathway East Bay Redevelopment Site, Agreed Order DE5471, Ecology Facility/Site No. 6785176

The soil-to-indoor air pathway is a potentially complete exposure pathway at the East Bay Redevelopment Site (Site). Total petroleum hydrocarbons in the gasoline range (TPH-G) and total naphthalenes concentrations in Site soil pose a potential concern for the soil-to-indoor air pathway (PIONEER Technologies Corporation [PIONEER] 2013c; Washington State Department of Ecology [Ecology] 2013b, 2013c). The purpose of this memorandum is to present the locations where there are exceedances of soil-to-indoor air screening levels (SLs) for TPH-G and total naphthalenes that will need to be remedied pursuant to the pending Remedial Investigation/Feasibility Study (RI/FS) report. This memorandum will be included as an appendix in the RI/FS report.

1 Background

The approximately 15-acre Site is located in Olympia, Washington, on the southeast corner of the Port of Olympia peninsula adjacent to the East Bay of Budd Inlet. This Model Toxics Control Act (MTCA) Site is currently being addressed under Agreed Order DE5471. The soil-to-indoor air pathway, which addresses the potential migration of volatile constituents from subsurface soil to indoor air, is a pathway being evaluated at this Site.[1] The following is a chronological summary of key developments in the evaluation of the soil-to-indoor air pathway:

- A 2012 screening evaluation determined that TPH-G was the only constituent of interest that exceeded MTCA default soil SLs for the soil-to-indoor air pathway (PIONEER 2012).[2] The only TPH-G SL exceedances were at soil sampling locations DP06, DP24, and MW19. The 2012 screening evaluation concluded that further consideration of the soil-to-indoor air pathway was not necessary in accordance with Washington Administrative Code (WAC) 173-340-740(3)(b)(iii)(C) since the TPH-G soil concentrations at these three locations were not significantly higher than the MTCA default SL (PIONEER 2012).
- Ecology requested collection of additional soil and/or soil gas data to further support the conclusion reached in the 2012 screening evaluation (Ecology 2012).
- A data gap work plan was prepared to collect soil and soil gas samples from the two locations with the highest TPH-G concentrations in soil (PIONEER 2013a; Ecology 2013a). Soil sample locations SVP-1SO and SVP-2SO were co-located with MW19 and DP06, respectively. The samples were collected in 2013 and analyzed for TPH-G and other gasoline-related constituents (including naphthalene) pursuant to the work plan.

[1] Volatilization of constituents from groundwater is not a concern since concentrations of volatile constituents in groundwater did not exceed groundwater SLs (PIONEER 2011).
[2] Per WAC 173-340-740(3)(b)(iii)(C), default soil-to-groundwater SLs were used as surrogate SLs for the soil-to-indoor air pathway.



- The 2013 soil and soil gas results indicated that there were no longer elevated TPH-G and total naphthalenes concentrations in the vicinity of soil sampling locations MW19 and SVP-1SO, but that elevated TPH-G and total naphthalenes remained in the vicinity of soil sampling locations DP06 and SVP-2SO (PIONEER 2013b). The 2013 follow-up evaluation concluded that the TPH-G and total naphthalenes concentrations in the isolated area proximate to DP06 and SVP-2SO did not pose a concern for the potential soil-to-indoor air pathway based on the magnitude of the soil and soil gas concentrations, the limited size of the area containing elevated concentrations, and the nature of anticipated future land use in this area (PIONEER 2013b).
- Ecology disagreed with the conclusion in the 2013 follow-up evaluation (Ecology 2013b). As a result, the following approach will be used for the soil-to-indoor air pathway going forward (PIONEER 2013c; Ecology 2013c):
    - The soil-to-indoor air pathway will be evaluated by comparing TPH-G and total naphthalenes soil concentrations with MTCA default soil SLs (i.e., TPH-G SL of 100 mg/kg and total naphthalenes SL of 5 mg/kg, which are MTCA Method A soil cleanup levels).
    - The soil cleanup levels and remediation levels developed for TPH-G and total naphthalenes in the RI/FS report will be equal to these SLs.
    - The point of compliance (POC) for TPH-G and total naphthalenes in soil will extend from ground surface to the deepest measured groundwater elevation proximate to the TPH-G and total naphthalenes exceedance. In the vicinity of DP06 and SVP-2SO, the POC elevation is 6.8 feet National Geodetic Vertical Datum of 1929, which corresponds to a depth of approximately four to 4.5 feet below ground surface (bgs).

2 Summary of Soil-to-Indoor Air SL Exceedances

Table 1 and Figure 1 present the TPH-G soil concentrations relative to the 100 mg/kg SL. Table 2 and Figure 2 present the total naphthalenes soil concentrations relative to the 5 mg/kg SL. It should be noted that the TPH-G concentrations at two sampling locations exceeded the 100 mg/kg SL, but are not considered exceedances for the following reasons:

- The TPH-G concentration of 150 mg/kg in the DP24 sample collected from eight to 10 feet bgs is not an exceedance since the sample depth is significantly deeper than the POC in the vicinity of DP24.
- The TPH-G concentration of 220 mg/kg in a 2007 sample collected from MW19 is not an exceedance because this 2007 result has been replaced by the 2013 result from co-located sample location SVP-1SO.[3] The SVP-1SO sample results (TPH-G was not detected at a reporting limit of 5 mg/kg) indicate that TPH-G has likely naturally degraded in this location.[4]

Thus, the only soil sampling locations with TPH-G and/or total naphthalenes SL exceedances were DP06 and SVP-2SO. Based on these results, soil in the area around DP06 and SVP-2SO will need to be remedied pursuant to the pending RI/FS report.

3 References

Ecology 2012. Ecology Comments on the Screening Evaluation of the Potential Soil-to-Indoor Air Pathway, East Bay Redevelopment Site, June 13.

[3] The SVP-1SO soil sample was collected at a depth of three to five feet bgs rather than four to six feet bgs since wood was encountered between 5.5 to six feet bgs and the field team believed the three to five foot interval was more likely to be impacted by TPH-G than the four to six foot interval.

[4] This conclusion is also supported by soil gas concentrations in the co-located SVP-1SG sample (PIONEER 2013b).



Ecology 2013a. Approval of the Data Gap Work Plan for Soil-to-Indoor Air Pathway, East Bay Redevelopment Site, April 30.

Ecology 2013b. Ecology Comments on the Interim Action Work Plan for the Remaining Portions of the East Bay Redevelopment Site, and the Evaluation of the Potential Soil-to-Indoor Air Pathway for TPH-G, East Bay Redevelopment Site, October 14.

Ecology 2013c. Ecology Comments on the Response to Comments on (1) Interim Action Work Plan for the Remaining Portions of the East Bay Redevelopment Site, and (2) Evaluation of the Potential Soil-to-Indoor Air Pathway for TPH-G, East Bay Redevelopment Site, December 16.

PIONEER 2011. Final Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater, East Bay Redevelopment Site, May.

PIONEER 2012. Screening Evaluation of the Potential Soil-to-Indoor Air Pathway, East Bay Redevelopment Site, April 11.

PIONEER 2013a. Data Gap Work Plan for the Soil-to-Indoor Air Pathway, East Bay Redevelopment Site, April 12.

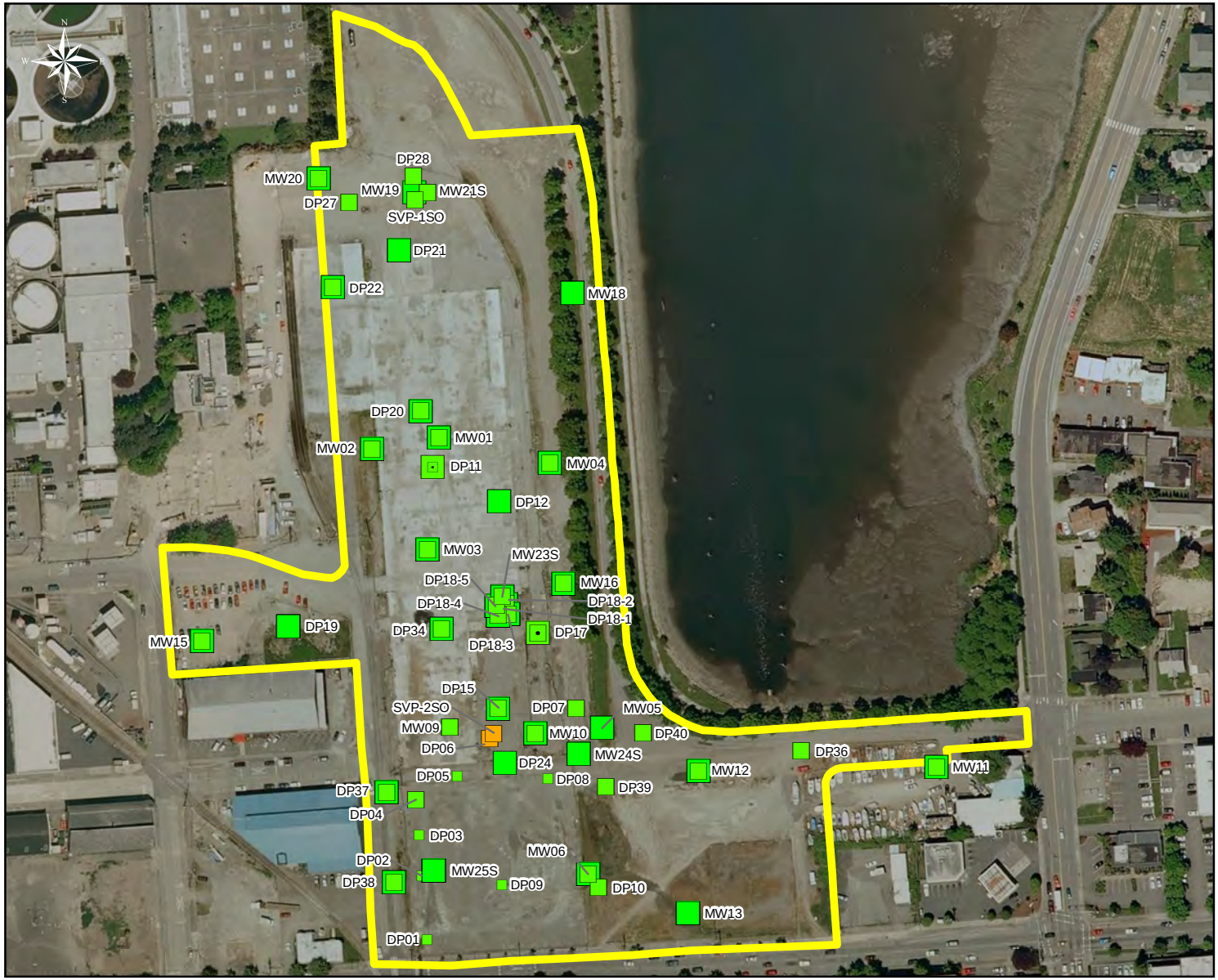
PIONEER 2013b. Evaluation of the Potential Soil-to-Indoor Air Pathway for TPH, East Bay Redevelopment Site, September 17.

PIONEER 2013c. Response to Comments on (1) Interim Action Work Plan for the Remaining Portions of the East Bay Redevelopment Site, and (2) Evaluation of the Potential Soil-to-Indoor Air Pathway for TPH-G, East Bay Redevelopment Site, November 21.

Attachments:

Figure 1: Location of TPH-G Soil Screening Level Exceedances
Figure 2: Location of Total Naphthalenes Soil Screening Level Exceedances
Table 1: TPH-G Concentrations in Soil
Table 2: Total Naphthalenes Concentrations in Soil

Figures





Legend

- Site Boundary

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- Soil Concentration > SL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- Soil Concentration > SL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- Soil Concentration > SL

Notes:
- Exceedances are displayed on top of samples that do not exceed the SL.
- Only on-site soil sample locations are displayed.
- Samples that are no longer in place are shown with a dot in the center.
- Sample depth breakouts are based on sample top depth.
- TPH-G concentrations greater than 100 mg/kg in samples collected from MW19 (4-6 feet bgs) and DP24 (8-10 feet bgs) are not considered exceedences (and are not shown on this figure) because the MW19 data was replaced by more recent co-located data from SVP-1SO, and the DP24 sample was collected from a depth deeper than the POC in the vicinity of DP24. Note that the MW19 and DP24 data displayed on this figure are results from different sample depths (i.e., MW19 sample at 8-10 feet bgs and DP24 sample at 10-12 feet bgs).

TPH-G Soil-to-Indoor Air SL: 100 mg/kg

0 100 200 300 Feet

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Location of TPH-G Soil Screening Level Exceedances
TPH-G and Total Naphthalenes Screening Level Exceedances for the Soil-to-Indoor Air Pathway
East Bay Redevelopment Site

Figure 1

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Legend

- Site Boundary

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- Soil Concentration > SL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- Soil Concentration > SL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- Soil Concentration > SL

Notes:
- Exceedances are displayed on top of samples that do not exceed the SL.
- Only on-site soil sample locations are displayed.
- Samples that are no longer in place are shown with a dot in the center.
- Sample depth breakouts are based on sample top depth.

Total Naphthalenes Soil-to-Indoor Air SL: 5 mg/kg

0 100 200 300 Feet

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Location of Total Naphthalenes Soil Screening Level Exceedances TPH-G and Total Naphthalenes Screening Level Exceedances for the Soil-to-Indoor Air Pathway East Bay Redevelopment Site

Figure 2

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Tables

Table 1: TPH-G Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (feet bgs)	Result (mg/kg)	Qualifier
DP01	9/25/2006	1-3	2.5	J
DP02	9/25/2006	1-3	24	
DP03	9/25/2006	1-3	1.7	J
DP04	9/25/2006	1-3	1.6	J
		4-6	13	
DP05	9/25/2006	1.5-3.5	0.78	J
DP06	9/26/2006	3-5	**290**	
DP07	9/26/2006	4.5-6.5	2.1	
DP08	9/26/2006	1-3	60	
DP09	9/25/2006	1-3	0.82	J
DP10	9/26/2006	2-4	8.7	
DP11	1/2/2007	0-2	7.6	J
		8-10	13	J
DP12	1/2/2007	0-2	0.92	UJ
		8-10	1.0	UJ
DP15	1/15/2007	2-4	15	U
		10-12	73	U
DP17	8/3/2007	4-6	72	U
		10-12	51	U
DP18	8/3/2007	2-4	11	
		10-12	37	U
DP18-1	11/8/2010	15	6.9	
DP18-2	11/8/2010	2	6.3	U
		10	66	U
		13	13	U
DP18-3	11/8/2010	2	36	
		10	45	U
		13.5	17	U
DP18-4	11/8/2010	2	6.9	U
		10	61	U
		13	59	U
DP18-5	11/8/2010	2	4.3	U
		10	61	U
		13.5	15	U
DP19	8/3/2007	6-8	73	
		10-12	17	U
DP20	8/3/2007	2-4	8.5	U
		10-12	23	U
DP21	8/3/2007	6-8	11	U
		10-12	53	U
DP22	8/3/2007	4-6	8.4	U
		10-12	10.0	U
DP24	8/3/2007	8-10	**150** (1)	
		10-12	4.4	J
DP27	11/4/2008	3-4	5.0	U
DP28	6/10/2009	1-2	5.0	U
		3.5-5	5.0	U
DP34	11/4/2008	4-6	5.0	U
		7.5-9.5	5.0	U
DP36	11/4/2008	5-6	5.0	U
DP37	6/10/2009	2-3.5	5.0	U
		6-7.5	5.0	U
DP38	11/4/2008	5-6	5.0	U
		6-7	5.0	U

Table 1: TPH-G Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (feet bgs)	Result (mg/kg)	Qualifier
DP39	6/10/2009	0.5-2	5.0	U
		3-5	5.0	U
DP40	11/4/2008	1-2	5.0	U
		3-4	5.0	U
		5-6	5.0	U
MW01	1/2/2007	4-6	5.4	U
		10-12	5.6	U
MW02	1/2/2007	2-4	2.5	UJ
		8-10	9.8	J
MW03	1/2/2007	4-6	4.6	U
		8-10	1.3	UJ
MW04	1/2/2007	2-4	3.0	UJ
		14-16	0.73	UJ
MW05	1/15/2007	10-12	31	
MW06	1/15/2007	2-4	7.2	U
		10-12	34	
MW09	1/17/2007	2-4	6.5	U
		4-6	7.2	U
MW10	1/15/2007	2-4	11	U
		10-12	15	U
MW11	8/1/2007	2-4	10.0	U
		10-12	9.6	U
MW12	8/1/2007	4-6	9.0	U
		10-12	8.7	U
MW13	8/1/2007	6-8	14	
		10-12	24	
MW15	8/3/2007	4-6	8.5	U
		10-12	37	U
MW16	7/31/2007	4-6	7.8	U
		16-18	10.0	U
MW18	8/2/2007	8-10	10.0	U
		10-12	7.5	U
MW19	8/1/2007	4-6	**220** [(1)]	
		8-10	21	U
MW20	8/2/2007	2-4	11	U
		6-8	30	U
MW21S	6/12/2009	2.5-4	5.0	U
MW23S	6/12/2009	5-6	5.0	U
		9-10.5	5.0	U
MW24S	6/12/2009	6.5-8	5.0	U
		9-10	5.0	U
MW25S	6/12/2009	6.5-7.5	5.0	U
		10.5-12	5.0	U
		12.5-14	5.0	U
SVP-1SO	5/7/2013	3-5	5.0	U
SVP-2SO	5/7/2013	4-6	**1,100**	

Notes:

J: estimated value

U: not detected at shown concentration

Shaded samples were removed during previous interim actions.

Bolded results exceed the SL.

TPH-G Soil-to-Indoor Air SL: 100 mg/kg

Results are shown as two significant in standard notation with the exception that numbers greater than 100 are rounded to a whole number.

[(1)] TPH-G concentrations greater than 100 mg/kg in samples collected from MW19 and DP24 are not considered exceedances because the MW19 data was replaced by more recent co-located data from SVP-1SO, and the DP24 sample was collected from a depth deeper than the POC in the vicinity of DP24.

Table 2: Total Naphthalenes Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (feet bgs)	Result (mg/kg)	Qualifier
BC_TP02	10/9/2008	2.0	0.0089	U
		4.0	0.0078	U
DP01	9/25/2006	1-3	0.037	U
DP02	9/25/2006	1-3	0.26	J
DP03	9/25/2006	1-3	0.036	J
DP04	9/25/2006	1-3	0.035	J
		4-6	0.050	J
DP05	9/25/2006	1.5-3.5	0.035	U
DP06	9/26/2006	3-5	**142**	
DP07	9/26/2006	4.5-6.5	0.035	U
DP08	9/26/2006	1-3	0.36	
DP09	9/25/2006	1-3	0.037	U
DP10	9/26/2006	2-4	0.037	U
DP11	1/2/2007	0-2	0.46	
		8-10	0.40	J
DP12	1/2/2007	0-2	0.089	
		8-10	0.0049	U
DP15	1/15/2007	2-4	0.046	U
		10-12	0.033	
DP17	8/3/2007	4-6	0.19	J
		10-12	0.34	U
DP18	8/3/2007	2-4	0.090	U
		10-12	0.26	U
DP19	8/3/2007	6-8	0.068	U
		10-12	0.12	U
DP20	8/3/2007	2-4	0.072	U
		10-12	0.16	U
DP21	8/3/2007	6-8	0.051	J
		10-12	0.36	U
DP22	8/3/2007	4-6	0.072	U
		10-12	0.083	U
DP26	6/10/2009	1-2	0.030	
		3-4	0.030	
DP27	11/4/2008	0-1	0.044	
		3-4	0.0050	U
		4-5	0.026	
DP28	6/10/2009	1-2	0.025	
		3.5-5	0.090	
DP29	6/10/2009	1-2	0.083	
		13-14	0.015	U
		7-8	0.58	
DP30	11/4/2008	3-4	0.0050	U
DP32	11/4/2008	4-5	0.0050	U
DP33	11/4/2008	1-2	0.0050	U
		3-4	0.017	
		5-6	0.0050	U
		7-8	0.32	
DP34	11/4/2008	4-6	0.074	
		7.5-9.5	0.081	
DP37	6/10/2009	2-3.5	0.060	
DP38	11/4/2008	1-2	0.023	
		5-6	0.29	
		6-7	0.033	

Table 2: Total Naphthalenes Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (feet bgs)	Result (mg/kg)	Qualifier
DP39	6/10/2009	0.5-2	0.020	
		3-5	0.18	
DP40	11/4/2008	1-2	0.016	
		3-4	0.027	
		5-6	0.0050	U
DP43	9/16/2009	2-3	0.38	U
		6-7	0.38	U
		9-10	1.6	
DP44	9/16/2009	2-3	0.38	U
		6-7	0.38	U
		9-10	0.38	U
DP45	9/16/2009	1-2	0.38	U
		6-7	0.38	U
		9-10	0.38	U
MW01	1/2/2007	4-6	0.0036	U
		10-12	0.0039	U
MW02	1/2/2007	2-4	0.064	J
		8-10	0.0039	U
MW03	1/2/2007	4-6	0.0037	U
		8-10	0.0041	U
MW04	1/2/2007	2-4	0.052	
		14-16	0.0044	U
MW05	1/15/2007	10-12	0.0049	U
MW06	1/15/2007	2-4	0.0039	U
		10-12	0.018	
MW09	1/17/2007	2-4	0.037	U
		4-6	0.039	U
MW10	1/15/2007	2-4	0.056	U
		10-12	0.065	U
MW11	8/1/2007	2-4	0.079	U
		10-12	0.082	U
MW12	8/1/2007	4-6	0.032	J
		10-12	0.072	U
MW13	8/1/2007	6-8	0.13	J
		10-12	0.41	
MW15	8/3/2007	4-6	0.071	U
		10-12	0.27	U
MW16	7/31/2007	4-6	0.042	U
		14-16	0.10	U
		16-18	0.054	U
MW18	8/2/2007	8-10	0.080	U
		10-12	0.066	U
MW19	8/1/2007	4-6	0.25	
		8-10	0.15	U
MW20	8/2/2007	2-4	0.084	U
		6-8	0.13	J
MW21S	6/12/2009	0.5-1.5	0.14	
MW23S	6/12/2009	5-6	0.015	U
		9-10.5	0.29	
MW24S	6/12/2009	6.5-8	0.11	
		9-10	0.20	
MW25S	6/12/2009	10.5-12	0.048	
		12.4-14	0.015	U
		6.5-7.5	0.23	

Table 2: Total Naphthalenes Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (feet bgs)	Result (mg/kg)	Qualifier
P-1-B	2/9/2012	7.0	0.050	U
P-1-E	2/9/2012	2.5	0.010	U
P-1-N	2/9/2012	3.0	0.026	
P-1-S	2/9/2012	3.0	0.064	
P-1-W	2/9/2012	2.5	0.010	U
SVP-1SO	5/7/2013	3-5	0.42	
SVP-2SO	5/7/2013	4-6	**150**	

Notes:

J: Estimated value

U: Not detected at shown concentration

Shaded samples were removed during previous interim actions.

Bolded results exceed the SL.

Total Naphthalenes Soil-to-Indoor Air SL: 5 mg/kg

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number.

Appendix G

Overview of the Conceptual Site Exposure Model

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OVERVIEW OF THE CONCEPTUAL SITE EXPOSURE MODEL

A CSEM was developed in order to present a conceptual, site-wide understanding of all potential exposure pathways at the Site based on current and anticipated future land use. The exposure scenarios in the CSEM are reasonable maximum exposure scenarios that are protective of other similar exposure scenarios. The CSEM is presented in Figure 2-13 of the main text. The following text lists the complete exposure pathways, and discusses why certain pathways in the CSEM were considered potentially complete or incomplete. It should be noted that some portions of the Site have already been remediated and redeveloped (i.e., the infrastructure corridor and Parcels 4 and 5), while other portions of the Site are awaiting remediation and redevelopment (e.g., Parcels 2, 3, 6, 7, and 9, the portion of the Site northwest of Parcel 7).

In addition to exposure scenarios based on current and anticipated future land use, the CSEM also includes two baseline no action scenarios to be consistent with MTCA default exposure scenarios. The receptors for the two baseline no action scenarios are single-family residents and commercial workers. These baseline no action scenarios assume the Site is allowed to be developed without any controls or further remedial action, even though this is not a realistic assumption. These baseline no action scenarios were used to develop more protective SLs and RLs. Specifically, the SLs developed in the RI were based on single-family residential land use (i.e., unrestricted land use) even though there is no current residential land use and zoning does not allow future single-family residential land use. Likewise, the protective exposure assumptions for commercial workers were used as surrogates for construction/utility worker exposures and utility maintenance worker exposures during the development of soil RLs.

Complete Exposure Pathways

The complete exposure pathways at the Site are:

- Direct contact (incidental ingestion and dermal contact) with soil by:
  - Construction/utility workers during the remediation and redevelopment construction phase.
  - Utility maintenance workers during the post-remediation and post-redevelopment phase.
- Inhalation of particulates by:
  - Construction/utility workers during the remediation and redevelopment construction phase.
  - Utility maintenance workers during the post-remediation and post-redevelopment phase.

In addition, the following baseline no action pathways were considered complete:

- Direct contact (incidental ingestion and dermal contact) with soil by single-family residents and commercial workers.
- Inhalation of particulates by single-family residents and commercial workers.
- Inhalation of vapors by single-family residents and commercial/industrial workers. This pathway is only complete for TPH-G and total naphthalenes (PIONEER 2014a).

Potentially Complete Exposure Pathways

The following exposure pathways were considered potentially complete for the following reasons:

- Direct contact (incidental ingestion and dermal contact) with soil by trespassers during the pre-remediation and pre-redevelopment phase. Although potentially complete, these pathways were not considered complete given existing fencing, existing exposure barriers, and the general lack of trespassers in the portion of the Site still awaiting redevelopment. Specifically, a perimeter chain-link fence surrounds Parcels 2, 3, 6, 7, and 9, clean gravel covers the portion of the Site northwest of Parcel 7, and clean topsoil and grass covers the landscaped area east of Parcels 4 through 7. For these same reasons, these pathways were considered insignificant compared to the complete exposure pathways in the determination of soil SLs.
- Direct contact (incidental ingestion and dermal contact) with soil and inhalation of particulates by trespassers during the remediation and redevelopment construction phase. Although potentially complete, these pathways were not considered complete given the engineering controls (e.g., Site control measures, dust monitoring) that will be required for remediation and redevelopment construction activities. For these same reasons, these pathways were considered insignificant compared to the complete exposure pathways in the determination of soil SLs.
- Direct contact (incidental ingestion and dermal contact) with on-site surface water (i.e., ponded groundwater in Parcels 2 and 3) by trespassers during the pre-remediation and pre-redevelopment phase. Although potentially complete, these pathways were not considered complete given existing Site fencing around Parcels 2 and 3, the lack of groundwater SL exceedances in the MWs (MW06 and MW22S) located immediately adjacent to on-site surface water (PIONEER 2011a), and the general lack of trespassers in this portion of the Site. For these same reasons, these pathways were considered insignificant compared to other potentially complete exposure pathways in the determination of groundwater SLs.
- Direct contact (incidental ingestion and dermal contract) with on-site surface water (i.e., ponded groundwater in Parcels 2 and 3) and groundwater by construction/utility workers during the remediation and redevelopment construction phase and utility maintenance workers during the post-remediation and post-redevelopment phase were considered potentially complete given the institutional and engineering controls that will be required for construction activities (e.g., required health and safety measures such as personal protective equipment), and the low constituent concentrations in Site groundwater (PIONEER 2009, 2011a).
- Direct contact (incidental ingestion and dermal contact) with surface water and sediment in the East Bay of Budd Inlet by recreators, subsistence fishers, and aquatic organisms during all land use phases. These pathways are only potentially complete for arsenic, TPH-D, and TPH-HO (PIONEER 2011a). Although potentially complete, these pathways were not considered complete for a variety of reasons such as lack of public water access facilities (e.g., designated public beach, swimming facility, shellfish harvesting area) within the portion of Budd Inlet located downgradient of the Site and the general lack of groundwater SL exceedances in the Site groundwater being discharged to downgradient surface water (PIONEER 2009, 2011a). Nonetheless, these pathways were incorporated in the determination of soil and groundwater SLs

for arsenic, TPH-D, and TPH-HO to ensure protection of human health and the environment.

- Consumption of seafood from the East Bay of Budd Inlet by recreators, subsistence fishers, and aquatic organisms during all land use phases. These pathways are potentially complete for arsenic, TPH-D, and TPH-HO only (PIONEER 2011a). Although potentially complete, these pathways were not considered complete for a variety of reasons such as lack of resident fish populations due to the daily presence of tidal mud flats, limited migratory salmon fishing potential, existing restrictions on recreational shellfish harvesting and commercial shellfish growing in Budd Inlet, lack of public water access facilities, and the general lack of groundwater SL exceedances in the Site groundwater being discharged to downgradient surface water (PIONEER 2009, 2011a). Nonetheless, these pathways were incorporated in the determination of soil and groundwater SLs for arsenic, TPH-D, and TPH-HO to ensure protection of human health and the environment.

Incomplete Exposure Pathways

The following exposure pathways were considered incomplete for the following reasons:

- All exposure pathways for on-site recreators during the pre-remediation and pre-redevelopment phase and the remediation and redevelopment construction phase were considered incomplete because these receptors are not present at the Site during these phases.
- Direct contact (incidental ingestion and dermal contract) with soil, inhalation of particulates, and direct contact (incidental ingestion and dermal contract) with on-site surface water/groundwater were considered incomplete for the following receptors because of the cover that will be installed during redevelopment:
  - Urban residents during the post-remediation and post-redevelopment phase.
  - Commercial workers during the post-remediation and post-redevelopment phase.
  - On-site recreators during the post-remediation and post-redevelopment phase.
- Inhalation of particulates by trespassers during the pre-remediation and pre-redevelopment phase was considered incomplete because dust is not being generated during this phase.
- Inhalation of vapors were considered incomplete for the following receptors provided that soils with TPH-G and total naphthalene RL exceedances are removed:
  - Trespassers during the pre-remediation and pre-redevelopment phase and remediation and redevelopment construction phase.
  - Construction/utility workers during the remediation and redevelopment construction phase.
  - Commercial workers during the post-remediation and post-redevelopment phase.
  - Urban residents during the post-remediation and post-redevelopment phase.
  - Utility maintenance workers during the post-remediation and post-redevelopment phase.
  - On-site recreators during the post-remediation and post-redevelopment phase.
- Direct contact (incidental ingestion and dermal contract) with on-site surface water (i.e., ponded groundwater in Parcels 2 and 3) by trespassers during the remediation and redevelopment construction phase was considered incomplete given the engineering controls (e.g., Site control

measures) that will be required for remediation and redevelopment construction activities, the lack of groundwater SL exceedances in the MWs (MW06 and MW22S) located immediately adjacent to on-site surface water (PIONEER 2011a), and the general lack of trespassers in this portion of the Site. Likewise, this pathway was considered incomplete for the hypothetical, baseline no action scenarios (i.e., single-family residents and commercial workers).

- Ingestion and dermal contract with groundwater as a drinking water source were considered incomplete for all receptors since there is no current or anticipated future land use of drinking water on Site or downgradient of the Site. More importantly, a suitable drinking water well could not be installed in shallow groundwater on Site or downgradient of the Site per WAC 173-340-720(2)(b)(i) given the regulatory requirements of Chapter 173-160 WAC and Chapter 246-290 WAC, the extremely shallow depth to water, the low sustainable yield available from shallow groundwater, and proximity to salt water (PIONEER 2009).
- Exposure pathways for terrestrial organisms were considered incomplete because of the cover being installed as part of remediation/redevelopment activities. In other words, the Site is excluded from a terrestrial ecological evaluation per WAC 173-340-7491(1)(b).
- By definition, on-site exposure pathways are incomplete for off-site receptors, and off-site exposure pathways are incomplete for on-site receptors.

Appendix H

RIWP and Data Gap Investigation Work Plans

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2. October 2011 Data Gap Investigation Work Plan Regarding the Site Boundary Determination and P-1 Anomaly
3. April 2013 Data Gap Investigation Work Plan Regarding the Soil-to-Indoor Air Pathway
4. June 2014 Data Gap Investigation Work Plan Regarding POC GWM
5. September 2016 Data Gap Investigation Work Plan Regarding Methane in Soil Gas

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OCTOBER 2008
RIWP

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

September 21, 2009

Ms. Joanne Snarski,
Environmental Program & Project Manager
Port of Olympia
915 Washington Street NE
Olympia, WA 98501

Re: Approval of Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia, Olympia, Washington, Ecology Facility/Site No. 5785176, Agreed Order DE5471.

Dear Ms. Snarski:

As we discussed in our meeting on September 17, 2009, the Department of Ecology (Ecology) and the Port of Olympia (Port) both agree that the recent debate regarding additions to the scope of the Remedial Investigation (RI) Work Plan should be halted. This will enable the Port to focus on completing the draft RI Report for Ecology review as soon as possible. **Therefore, Ecology considers the RI Work Plan to be approved.**

Ecology has previously expressed their concerns and identified areas that require clarification through past communications with the Port. We look forward to seeing these issues addressed in the draft RI Report. If Ecology determines that further RI work, including work on issues previously discussed, is needed after reviewing the draft RI Report, then that work will be identified in the Supplemental RI process to be performed as indicated in the Agreed Order.

If you have any questions, please contact me at (360) 407-6247 or via e-mail at stee461@ecy.wa.gov.

Sincerely,

SSTeel

Steve Teel, LHG
Site Manager/Hydrogeologist
Toxics Cleanup Program
Southwest Regional Office

ST/ksc:comments PORT RI Workplan response

By certified mail: (7007 2560 0000 6214 5476)

cc: Mr. Kevin Dragon, Port of Olympia
Mr. Troy Bussey, Senior Professional Engineer, PIONEER Technologies Corporation
Mr. Tom Morrill – City Attorney, City of Olympia
Mr. Chris Cleveland, Brown and CaldwellMr.
Rick Dougherty – City of Olympia, Public Works Department
Margaret Lee – Goodstein Law Group
Ivy Anderson – Office of the Attorney General
Rebecca Lawson – Department of Ecology
Scott Rose – Department of Ecology
Mohsen Kourehdar – Department of Ecology
Meg Bommarito – Department of Ecology

Port of Olympia

Commissioners
Bill McGregor
Paul Telford
George Barner

October 22, 2008

Mr. Steve Teel, LHG
Department of Ecology
Toxics Cleanup Program, SW TCP
PO Box 47775
Olympia, Washington 98504-7775

Dear Mr. Teel:
Attached please find a copy of the Final Remedial Investigation Work Plan (RI Work Plan). The RI Work Plan is submitted to you in compliance with Section VII(C) of the subject Agreed Order (Order) between the Port of Olympia (Port) and Ecology.

The Final RI Work Plan addresses your September 22, 2008 comments on the September 3, 2008 Ecology Review Draft RI Workplan. We have submitted a comment response letter under separate cover that documents our response to each comment. The most significant changes to the RI Workplan in response to your comments include:

- Incorporated the additional analytical testing requested in your September 22, 2008 comment letter.
- Clarified wording on exposure routes and pathways.
- Added information on artesian wells and technical approach to locate them.
- Clarified schedule for groundwater monitoring and decision criteria for installing new shallow groundwater monitoring wells.
- Revised the SAP to discuss evaluation of potential groundwater seeps and added tables summarizing the analytical target reporting limits.

We appreciate your responsiveness and cooperation during this process.

Respectfully,

Joanne Snarski, Environmental Program & Project Manager
Port of Olympia

cc: Tom Morrill, City of Olympia
Chris Cleveland, Brown and Caldwell
Kimberly A. Seely

REMEDIAL INVESTIGATION WORK PLAN
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA
OLYMPIA, WASHINGTON
ECOLOGY FACILITY/SITE NO. 5785176
AGREED ORDER NO. DE5471

OCTOBER 22, 2008

FOR
PORT OF OLYMPIA

GeoEngineers

Remedial Investigation Work Plan
East Bay Redevelopment
Olympia, Washington
File No. 0615-034-07

October 22, 2008

Prepared for:

Port of Olympia
915 Washington Street NE
Olympia, Washington 98501-6931

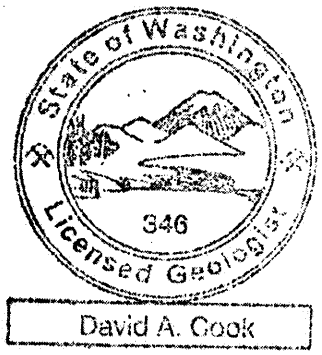
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LIST OF ACRONYMS AND ABBREVIATIONS

AO	Agreed Order
BGS	Below ground surface
CAP	Cleanup action plan
CLARC	Cleanup Levels and Risk Calculations database
COPCs	Contaminants of potential concern
cPAHs	Carcinogenic polycyclic aromatic hydrocarbons
CSM	Conceptual Site Model
CSEM	Conceptual Site Exposure Model
CSCT	Conceptual Site Contaminant Transport Model
CUL	Cleanup Level
CSL	Cleanup Screening Level
D/F	Dioxns/Furans
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FS	Feasibility study
GPS	Global positioning system
HASP	Health and Safety Plan
LNAP	Light Non-Aqueous Phase Liquid
LOTT	LOTT Alliance
ug/L	Micrograms per liter
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
MHHW	Mean higher high water

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

MLLW	Mean lower low water
MTCA	Model Toxics Control Act
ng/kg	Nanograms per kilogram
NOAA	U.S. National Oceanic and Atmospheric Administration
OC	Organic carbon
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PID	Photoionization detector
Port	Port of Olympia
PVC	Polyvinyl chloride
QAPP	Quality assurance project plan
RI	Remedial investigation
SAP	Sampling and analysis plan
SVOCs	Semivolatile organic compounds
TEF	Toxicity equivalency factor
TEQ	Toxicity equivalent quotient
TOC	Total organic carbon
TPH	Total petroleum hydrocarbons
VCP	Voluntary Cleanup Program
VOCs	Volatile organic compounds
WAC	Washington Administrative Code

REMEDIAL INVESTIGATION WORK PLAN
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA
OLYMPIA, WASHINGTON
FOR
PORT OF OLYMPIA

1.0 INTRODUCTION

This document is a work plan for conducting a Remedial Investigation (RI) at the Port of Olympia's (Port's) 13-acre East Bay Redevelopment Site (Site) located at 315 Jefferson Street NE in Olympia, Washington. The Site is an area in transition from historical lumber milling activity that began in the late 1800s to that of future commercial uses. The Site lies on the south end of the Port Peninsula adjacent to the East Bay of Budd Inlet. The location of the Site relative to surrounding physical features is shown in Figure 1.

This work plan was prepared in compliance with Agreed Order (AO) No. DE5471 and satisfies the requirements for an RI work plan in Chapter 173-340 Washington Administrative Code (WAC). The work plan outlines planned sampling and analysis activities associated with the RI and summarizes results of previous sampling and testing activities. Previous environmental site characterization activities have been completed at the Site and presented to Washington State Department of Ecology (Ecology). Additional information is needed to more fully understand the nature and extent of contamination and the potential risks to human health and the environment, and to evaluate cleanup actions.

The planned elements outlined in this RI work plan will supply the information necessary to move this project forward so that the first phase of redevelopment can be completed. That phase includes an interim action and infrastructure construction (roads and utilities) planned for spring of 2009. This RI work plan relies on (a) past site characterization results (previously presented to Ecology) and (b) newly developed information such as fill histories , geologic cross sections, and groundwater characteristic information to develop the sampling and analysis approach for this RI.

1.1 SITE DESCRIPTION

The East Bay Redevelopment area includes part of Parcel 1 and all of Parcels 2, 3, 4, 5, 6, 7 and 9 and associated near-by infrastructure areas. The Site is shown in Figure 2. As defined in Model Toxics Control Act (MTCA) and stated in the AO, the Site is defined by the extent of contamination caused by the release of hazardous substances at the subject property.

The West and East Bays of Budd Inlet have been dredged, and dredge spoils have been placed as fill on the peninsula since the late 1800s (Figure 3). Most of the Site is situated on fill material. Fill sources or types include dredge spoils, debris derived from historical lumber milling operations (such as wood debris and shredded wood), construction debris (such as concrete, bricks and dimensional lumber), and roadway fill for Marine View Drive and Olympia Avenue.

The Site is relatively flat, with ground surface elevations ranging from approximately 10 to 12 feet (National Geodetic Vertical Datum [NGVD] 29). The northern and western portions of the Site are paved with asphalt, and the southern and eastern portions are covered with crushed rock and bare land vegetated with low grasses. Most of the Site is currently fenced. A rail spur runs along Jefferson Street NE, and a

crude road runs along the eastern side of a large former mill warehouse building, which was recently demolished.

1.2 PURPOSE AND OBJECTIVES

The Site is currently under an AO with Ecology. This RI work plan provides a summary of site characterization results completed to date and outlines proposed additional study for the purposes of:

- Characterizing the nature and extent of contamination at the Site;
- Assessing the potential risk to human and ecological receptors; and
- Providing the information that will allow evaluation and selection of cleanup action alternatives.

The project objectives are:

1. Completion of an RI report in general accordance with Chapter 173-340 WAC and AO No. DE-08-TCPSR-5471 and in accordance with Section VII (C) of the AO;
2. Preparation of an interim action work plan and completion of an interim action in accordance with Section VII (A) of the AO that will facilitate infrastructure development (roads and utilities) around the Site; and
3. Preparation of a Feasibility Study (FS) and Cleanup Action Plan (CAP) to facilitate redevelopment of the subject property. Although the information obtained in this (and any subsequent) RI will be used to complete a FS and CAP, a FS and CAP are not part of this AO. A separate AO or consent decree will be negotiated between Ecology and the Port.

1.3 WORK PLAN ORGANIZATION

As described previously, a significant amount of study has been completed at the Site. However, this RI work plan is being used as a document not only to plan for additional study, but also provides new information, such as fill history maps, geologic cross sections, and groundwater monitoring information that supplements the last subsurface characterization (December 20, 2007). For example supplemental groundwater monitoring information and dioxin/furan groundwater testing from MW-16 are summarized below (Section 4.3.2) and included in Appendices A and C.

This work plan includes sections that summarize historical site use, current and future land use, site subsurface conditions, contaminant transport and exposure models and a preliminary conceptual site model (CSM) (Sections 2 through 6, respectively). The information contained in these sections and their associated figures were used to establish the supplemental RI data objectives and tasks described in Section 7. Section 7 and Tables 1 through 3 describe proposed new soil and groundwater explorations and testing. After the supplemental soil and groundwater data are acquired, a risk assessment will be performed to develop cleanup levels and remediation levels as appropriate as outlined in Section 8. References are included in Section 9. This RI work plan also includes a sampling and analysis plan (SAP), quality assurance project plan (QAPP), and health and safety plan (HASP) in Appendices D and E.

1.4 REGULATORY FRAMEWORK

Ecology identified the Port as a "potentially liable person" (PLP) for the Site under RCW 70.105D.020 (21) and RCW 70.105D.040. AO No. DE5471 between Ecology and the Port was issued October 3, 2008 and requires completion of an RI and Interim Action for the Site. The AO was developed cooperatively between the Port and Ecology. The AO outlines the work to be performed and ensures that the Site will

be investigated and cleanup alternatives evaluated in a timely fashion in accordance with applicable laws and regulations. The Port performed investigative studies under the MTCA on a voluntary basis with oversight by Ecology prior to and during development of the AO.

2.0 SITE HISTORY

Detailed information describing the Site, including its known history, current uses, existing property features, soil and groundwater conditions and a summary of environmental investigations completed at the Site between 1888 and the present, is presented in a Phase I ESA of the Site (GeoEngineers, March 2007), a Supplemental Site Use History and Soil and Groundwater Sampling Clarifications Report (GeoEngineers, August 2007) and a Draft RI/FS and Conceptual CAP, dated December 20, 2007 (GeoEngineers, December 2007). As outlined in these documents and summarized in the AO, the site history is as follows:

- Historical documents provided to Ecology show that the earliest documented activities on portions of the Site were related to several types of lumber milling operations (such as sawmill, planing mill, shingle mill and veneer/plywood manufacture). Lumber milling operations were conducted under various owners/operators from at least 1888 until about 1968. Historical owners/operators included the St. Paul & Tacoma Lumber Company (mid-1940s through early 1970s, Parcels 2 through 7); Olympia Veneer Company (1924 to mid-1940s, Parcels 1 through 5); Olympia Planing Mill (owned/operated by Springer and White, 1888-1891, Parcel 3); Olympia Sawmill (owned/operated by Allen & Harknes, 1888, Parcel 3); G.S. Allen's Saw Mill (1891, Parcel 3); Olympia Door and Lumber Company's planing mill and the East Side Lumber Company's saw mill (1896, Parcel 3); H.G. Richardson's Shingle Mill (1908, Parcel 3); the Olympia Door Company Sash and Door Factory (1908-1924, Parcel 9); Puget Sound Pipe Company (wooden pipes, 1888-1896, Parcel 1); and the National Wood Pipe Company (1908, Parcels 3 through 6).
- Based on historical maps, the lumber milling operations included various support facilities that included: machine/electrical/repair shops, dry kilns, veneer driers, power plants, hog fuel boilers, transformers, engine rooms, bulk fuel storage areas, blacksmith shops and tar dipping tanks. Also, historical aerial photographs show that logs were rafted in the bay, presumably for transport along Budd Inlet to various sawmills.
- Historical documents also revealed that dredged spoils from Budd Inlet have been placed on the peninsula since 1892. For example, a Sanborn Map dated 1888 indicated that several buildings were present. These buildings were likely constructed on piers that extended over the water and/or mudflats that existed prior to significant filling operations that occurred from 1896 to 1911. The newly reclaimed land is currently known as the Port Peninsula.
- Since lumber milling operations ceased in 1968, the Port and its tenants have used portions of the Site for commercial and light industrial activities and/or storage.

As noted in the AO and previously prepared reports submitted to Ecology, past operations on property that is part of the Site have resulted in the contamination of soil and/or groundwater at levels that exceed the MTCA cleanup standards for all of the following constituents: total petroleum hydrocarbons (TPH), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans (dioxins/furans [D/F]), polychlorinated biphenyls (PCBs) and metals. Additional details regarding the magnitude and extent of these contaminants are provided in later sections of this RI work plan.

Figure 4 shows where these past historical operation areas were located on the Site, and Figure 5 groups the historical operation areas into areas of concern relative to historic shorelines (past fill history). Figure 5 also outlines chemicals of potential concern (COPC) that may be associated with the historic operational areas.

3.0 CURRENT AND FUTURE LAND USE

Current and future land use for the Site can be divided into three general time categories: 1) Current Land Use, 2) Construction Phase, and 3) Future Land Use – Post Construction. Currently the Site is mostly vacant and unused, although boats are currently being stored on a portion of the Site. The construction phase will be temporary and will include excavation and activities typically associated with major development construction projects. Future development plans by the Port and City of Olympia call for construction of buildings, pavement and may include other engineered barriers on top of existing Site soil. The Port recently initiated short platting of the Site into eight parcels (1 through 7 and 9) for sale or lease for redevelopment. Proposed development uses for these parcels are presented in the table below.

East Bay Redevelopment Parcel Details

Parcel Number	Parcel Area (acres)	Proposed Development Use
1	1.6	Mixed Use/Commercial
2	1.2	Mixed Use/Commercial
3	2.7	Mixed Use/Commercial
4	0.83	Public Plaza (Sale to LOTT Alliance pending)
5	1.8	Hands on Children's Museum (HOCM) (Sale to HOCM pending)
6	0.9	Mixed Use/Commercial
7	0.9	Mixed Use/Commercial
9	0.5	Mixed Use/Commercial
Infrastructure	2.5	Roadway and Utility Improvements
Total Area	12.9	—

The area of each parcel is based on drawings provided by Skillings Connolly, dated February 2008, and is subject to change.

Additionally, as outlined in the AO, the Site is immediately west of the LOTT Alliance Wastewater Treatment Plant Expansion ("LOTT Expansion") Site. The LOTT Expansion Site includes the area of the existing LOTT Alliance Budd Inlet Wastewater Treatment Plant (500 Adams Street NE), the parking lot south of the plant, and Parcel 8, as shown in Figure 2. The LOTT Expansion Site is currently enrolled in Ecology's Voluntary Cleanup Program (VCP) because of residual soil and groundwater contamination from former lumber mills (VCP identification number SW0933). Former lumber mill operators on the LOTT Expansion Site include the Olympia Door Company and the Springer Mill Company. Available historical information does not conclusively indicate whether the operational area of the St. Paul & Tacoma Lumber Company (one of the former operators of the Site) included the LOTT Expansion Site. Also, it is not currently believed that contamination from the LOTT Expansion Site and the Site are commingled. Therefore, the LOTT Expansion Site (Parcel 8) is not included in the scope of the AO and

is not part of the Site. However, if Ecology determines in writing that adequate evidence exists to support combining the two sites, the LOTT Expansion Site will become part of the Site.

4.0 SITE SUBSURFACE CONDITIONS

4.1 SITE GEOLOGY

Understanding of the geology and fill history beneath the Site is well understood based on compiled data from multiple sources, including historic aerial photographs, Sanborn Fire Insurance Maps, U.S. Army Corps of Engineers dredging maps, and the 65 explorations advanced at the Site by GeoEngineers and others. The approximate locations of the explorations completed at the Site to date (including those completed by others) are shown on Figures 3, 5 and 6. The Site is underlain by fill that varies in thickness from approximately 5 to 15 feet. Native sand, silts, and clays underlie the fill. Locations of geologic cross sections are shown in Figure 6 (cross section locations overview) and Figures 7a to 7f to illustrate the geology beneath the Site.

4.1.1 Fill Materials (Lithologies and Fill Type and Timeframe)

There are four principal fill lithologies beneath the Site that are generally (but not in all cases) listed below from youngest to oldest; or from highest to lowest in the geologic section:

- Silty gravel associated principally with the post-1975 fill. This gravel is exposed along the shoreline bluff where the Site adjoins Budd Inlet.
- Light colored coarse- to fine-grained sand with a trace of silt and occasional gravel, construction debris and localized pockets of wood debris. The wood debris is composed of burnt wood, wood chips, shredded wood and decomposed wood related to former sawmill and log rafting activities.
- Dark colored coarse- to fine-grained sand with wood debris. The wood debris is more prevalent in this fill unit than the light sand fill unit.
- Beneath some portions of the Site, disturbed silt with wood debris separates the fill from the underlying undisturbed native sediments. This is thought to be silt deposited at the base of East Bay in tidal flats and/or by Moxlie Creek, and subsequently mixed with wood debris by natural erosion/deposition and filling activities by humans. This silt could be categorized as both fill and/or native.



Gravel from the post-1975 fill forms the shoreline adjacent to Budd Inlet.

The lithology of fill beneath the Site varies laterally and vertically depending on the age of the fill (the time interval when fill was placed). The fill was placed in five main episodes, with the last fill placed after 1975. Figures 3and 6 show the lateral extent of fill from the five main fill episodes, based on aerial photographs. The principal lithologies associated with the fill episodes are summarized from oldest to youngest below.

- Pre-1891: This fill is present beneath the southwest portion of the Site and appears to consist mostly of the dark sand lithology with some pockets of wood debris and pockets of silt.

- 1891 to 1908: This fill is present beneath much of the central portion of the Site (Figures 3 and 6). Based on historical records, this fill is material dredged from Budd Inlet to deepen the marine channel and consists of a dark brown to black coarse to fine sand.
- 1908 to 1948: This fill is present beneath the northwest portion of the Site and appears to consist mostly of the light sand with pockets of wood debris and pockets of gravel.
- 1948 to 1975: This fill is present beneath the eastern portion of the Site and appears to consist mostly of the light colored sand with pockets of wood debris.
- Post-1975: This fill is present along the eastern portion of the Site along the bay front and appears to consist of a silty sandy gravel.

4.1.2 Native Sediments

Underlying the disturbed silt and is fine- to medium-grained sand that varies in thickness from about 5 to 25 feet and greater. Below the sand is a thick deposit of silt and clay that forms the regional aquitard. The aquitard is not being studied as part of this RI but was described by Pacific Groundwater Group (2007) as part of their study for a nearby property. In that report, the aquitard is described as 45 to 95 feet of fine-grained sediments which, because of its relatively low permeability, is classified as an aquitard. In addition, three deep (75 to 100 feet bgs) cone penetrometer borings were drilled on the Site for geotechnical purposes and confirmed the presence of the aquitard which was at least 30 to 35 feet thick beneath Parcel 3. Two of these borings that were drilled to 89 and 65 feet below ground surface are shown in the geologic cross sections C-C' and E-E' (Figures 7c and 7e).

4.2 SITE HYDROGEOLOGY

4.2.1 Groundwater Occurrence

Groundwater beneath the Site occurs in a shallow unconfined aquifer. Depth to groundwater varies from 1 to 9 feet below ground surface (bgs) based on measurements from a groundwater monitoring well network consisting of 20 wells. The shallow aquifer is separated from deeper artesian aquifers by a thick (45- to 95-foot) layer of lower permeable silts and clays that compose the regional aquitard. Because the natural water flow direction in the artesian aquifers is generally upward (Robinson & Noble, Inc., 1999 and Pacific Groundwater Group, 2005) and the aquitard physically separates the aquifers (Pacific Groundwater Group 2007), groundwater in the shallow aquifer does not impact water quality in the deeper aquifers. Therefore, the deeper aquifers are not part of the RI.

4.2.2 Shallow Groundwater Flow

Groundwater flow was evaluated based on groundwater monitoring events completed by GeoEngineers in August 2007 and by Greylock Consulting LLC (Greylock) on July 16, 2008. Greylock's monitoring was associated with a tidal influence study. Greylock's technical memorandum describing this study with tables showing groundwater measurements and groundwater elevation contour figures are included in Appendix A. Groundwater elevations based on these monitoring events are summarized in Table 1 of Appendix A. Interpolated groundwater elevation contours for the GeoEngineers August 2007 monitoring event and the Greylock July 16, 2008 event are shown in Figures included in Appendix A.

Groundwater flow patterns at low tide and high tide are similar, with the exception of a steeper gradient near the shoreline during low tide. Most of the groundwater flow across the Site is towards Budd Inlet. However, a groundwater mound is present at both low and high tide at the southwest portion of the Site near two monitoring wells (MW14 and MW06). Because of this mound, some groundwater in this

portion of the Site flows away from Budd Inlet. A groundwater high was also present around offsite monitoring well MW17, on Parcel 8, near the northwestern portion of the Site, during both high and low tides. Greylock postulated that these groundwater highs are likely caused by leakage from artesian wells that are alleged to be present in these vicinities based on conversations with old-timers in the area and artesian well maps provided by the City of Olympia. Artesian wells on Site are discussed further in Appendix B and potential locations of artesian wells are shown on Figure 4. The horizontal groundwater gradient varied from about 0.003 feet per foot in the portion of the Site not affected by tides to approximately 0.08 feet per foot in the area affected by tides near the shoreline.

All of the groundwater monitoring events occurred during drier months, and additional monitoring is proposed to collect data representative of wetter months in order to evaluate seasonal fluctuations in groundwater elevations.

Four potential groundwater seeps along the shoreline were identified by Greylock during a low tide on July 16, 2008. The locations of the seeps were surveyed and are shown on the groundwater flow maps in Appendix A. The seeps are thought to represent areas where shallow groundwater discharges to the East Bay of Budd Inlet, immediately west of the Site. Verification of the potential groundwater seeps as groundwater, rather than surface water leakage or discharge from buried pipes, will be conducted as part of the RI. Methods for evaluating the seeps are presented in the SAP (Appendix D).

4.2.3 Tidal Influence Studies

Two tidal influence studies have been completed at the Site:

- A tidal influence study using downhole transducers and data loggers at Parcel 3 was completed by GeoEngineers in February 2007. This study was completed over an approximately 72-hour period and involved monitoring wells MW05, MW06, MW07 and MW09. The results of that study indicated that shallow groundwater beneath the southwestern portion of the Site does not appear tidally influenced (GeoEngineers, April 2007).
- Greylock completed a tidal study by measuring water levels in groundwater monitoring wells at low tide and at high tide on July 16, 2008. Comparing the low tide and high tide groundwater elevations provides a basis to evaluate what portions of the Site are affected by tidal fluctuations. The low tide was -1.4 Mean Lower Low Water (MLLW) and the high tide was +14.4 MLLW. During this 15.5-foot tidal fluctuation, only two (MW12 and MW18) of the twenty wells showed greater than one foot of change in groundwater elevation between low tide and high tide. MW12 and MW18 are screened in the silty gravel post-1975 fill that borders the entire Site adjacent to Budd Inlet. Both wells are located within 110 feet of the shoreline. Greylock concluded that tidal influence on groundwater elevations is limited to the area of coarse fill within 110 feet of the shoreline.

4.2.4 Groundwater Use

There are no shallow aquifer groundwater supply wells located on the Site. At this time, shallow groundwater at the Site is not thought to be potable. The potential use of shallow groundwater at the Site as potable water will be discussed further in the RI/FS reports.

4.3 SUMMARY OF PREVIOUSLY COLLECTED CHEMISTRY DATA

4.3.1 Soil

Soil chemistry data have been collected from 122 soil samples obtained from 45 explorations (DP-01 through DP-25 and MW-01 through MW-20) and four soil samples obtained from four test pits (TP-01 to TP-04). The findings of the studies completed to date indicate that chemicals of potential concern (COPCs) appear to be associated with previous activities at the Site (for example, lumber milling operations such as fueling, machining, maintenance and other related industrial activities). According to previous environmental studies, soil contamination is present on Parcels 1, 2, 3, 4, 5 and 7 and portions of the infrastructure parcel.

Gasoline-, diesel- and motor oil-range petroleum hydrocarbons, naphthalene, bis(2-ethylhexyl)phthalate (BEP), arsenic, cadmium, cPAHs (Toxicity Equivalent Concentration[1] [TEQ]) and D/F (TEQ) were detected in soil at one or more locations at concentrations greater than MTCA Method A and/or Method B screening levels. The petroleum hydrocarbons, cPAHs and metals concentrations exceeding these MTCA screening levels in soil are presented in Figures 8 through 11. The magnitude and extent of the soil with concentrations greater than the MTCA screening levels appears localized to areas adjacent to historical sources of COPCs (Figure 5).

Soil chemical analytical data are also graphically presented on the geologic cross sections on Figures 12a through 12f. The figures illustrate the thoroughness of sample testing in each lithologic unit and across the Site. These figures were used to evaluate the sample density in different fill types and episodes and identify where additional samples are needed.

4.3.2 Groundwater

Groundwater chemical data have been collected from 19 monitoring wells. Impacted groundwater has been observed beneath Parcels 2 and 5. However, additional groundwater monitoring is necessary to further evaluate groundwater conditions at the Site. Arsenic, petroleum hydrocarbons and bis(2-ethylhexyl) phthalate[2] are the only three COPCs that have been detected at elevated concentrations in groundwater samples obtained from shallow groundwater monitoring wells. Groundwater chemical analytical results from 2006 and 2007 are included in Figure 13. The following additional groundwater testing was conducted in July 2008 to evaluate the presence of D/F at MW16:

- **Sampling of MW16:** A groundwater sample was obtained from monitoring well MW16 on July 29, 2008, and tested for D/F, semivolatile chemicals and selected metals. This sample was obtained to support a National Pollutant Discharge Elimination System (NPDES) permit application related to the future discharge of water during an infrastructure improvement project. Monitoring well MW16 is located close to test pit TP02 where the highest measured D/F concentration in soil was identified. Additionally, MW16 is a downgradient well located at an historic potential D/F source location (former boiler house). The analytical reports are included in Appendix C.

[1] Regulatory evaluation of cPAHs and D/F are completed using Ecology's toxicity equivalency methodology. This methodology is completed by multiplying the detected concentrations of specific analytes (for cPAHs) and congeners (for D/Fs) by their respective toxicity equivalency factors (TEFs). The results of the calculations are then added to produce a toxicity equivalency concentration.

[2] Bis(2-ethylhexyl) phthalate was detected in MW06, MW08 and MW10 on January 18, 2007, and was likely the result of lab or sampling error.

- **Results:**
  - The sample was analyzed for D/F by U.S Environmental Protection Agency (EPA) Method 1613B. This testing was performed by Columbia Analytical Services. Of the 17 congeners tested, only two (OCDD and OCDF) were detected. MTCA requires evaluation of dioxin and furan results based on toxicity equivalent (TEQ) methodology. Using the TEQ approach, the TEQ for this sample is 0.00381 picograms per liter (pg/L).
  - The groundwater sample was also analyzed for semivolatile compounds and metals by EPA Methods 8270C, 6020, and 7470A. This testing was performed by TestAmerica Laboratories. All of the results were less than MTCA Method A and/or Method B screening levels.

4.4 NATURE AND EXTENT OF CONTAMINATION BASED ON PREVIOUS RI DATA

This section summarizes the nature and extent of contamination based on data that has been collected to-date. These data show that contamination is proximate to specific historical sources of contamination and is not widespread.

4.4.1 On-Site Soils

The highest concentration and most impacted soil on the Site is located on Parcel 3, which has had the longest use. In addition, isolated areas of impacted soil were identified throughout the Site (Parcels 2, 4, 5, and 7) as identified in specific borings and test pits. Locations and depths of samples where COPCs were detected in soil at concentrations above the screening levels are shown in Figures 8 through 11, and on cross-sections in Figures 12a through 12f.

The borings and test pits that are impacted with various COPCs in soil are as follows:

- **Petroleum-impacted soil:** MW02, MW06, DP02, DP04, DP06, DP08, DP13, DP15 and DP24 (Parcel 3); DP17 and DP18 (Parcel 4); DP21 and MW19 (Parcel 7); MW15 and DP19 (Parcel 9).
- **Metals-impacted soil:** arsenic and cadmium at DP04 and cadmium at MW05 (Parcel 3); lead at DP11 (Parcel 5); arsenic at DP17 (Parcel 4); arsenic at DP21 (Parcel 7), and; lead at Delta Consultants boring B-2 (Parcel 1).
- **Semivolative organic compound (SVOC)-impacted soil (naphthalene only):** DP06 (Parcel 3).
- **cPAH-impacted soil:** DP02, DP06, DP08, DP14, DP15, DP16, MW05 and MW10 (Parcel 3); DP16 (Parcel 4); DP11 and MW04 (Parcel 5).
- **D/F-impacted soil:** TP01 and TP02 (Parcel 4); TP03 and TP04 (Parcel 3).

The nature and extent of soil contamination at the Site has largely been defined. In some areas, additional information is needed for vertical and horizontal delineation of COPCs. In addition, data is needed to plan the management of soil that will be excavated as part of the infrastructure improvements planned for early 2009. These data gaps are the purpose for this supplemental RI. Objectives for supplemental sampling are discussed in Section 7.0 below.

4.4.2 Groundwater

Over an 18-month period, one complete round of groundwater monitoring from the well network has been completed. Groundwater analytical results are presented on Figure 13. COPC concentrations exceeding

MTCA Method A cleanup levels were detected in groundwater from only two of the 19 on-site monitoring wells located on the Site in this sampling:

- MW04 (arsenic), Parcel 5
- MW13 (diesel and arsenic) Parcel 2

Arsenic exceeding screening levels was also identified in off-site well MW17, located on the adjacent LOTT property (Parcel 8).

The nature and extent of groundwater contamination appears to be limited to isolated locations of arsenic and diesel range hydrocarbons identified in one well (concentration identified in this well was equal to the MTCA Method A cleanup level for diesel-range hydrocarbons but did not exceed it). However, additional groundwater monitoring is proposed in this supplemental RI to confirm the nature and extent of COPCs in groundwater.

5.0 CONCEPTUAL SITE CONTAMINANT TRANSPORT MODEL

A conceptual site contaminant transport model (CSCTM) was developed to show the historical release(s) of hazardous substances at the Site and the subsequent potential migration of those hazardous substances in environmental media. The model was developed to help direct the RI exploration program. A separate conceptual model related to potential exposure pathways is presented in Section 6.0.

The CSCTM is shown graphically in Figure 14 and possible contaminant sources and transport mechanisms are summarized below:

- Former sawmills and other industries directly discharged contaminants to the ground surface as a result of leaks, spills and operational discharges. These discharges were to the ground surface at the time an industry was operating ("historical working surface"), and that ground surface has now been covered by more recent fill.
- Airborne contaminated particles emitted from on-site sources (such as the hog fuel burner or the power house on Parcels 3-4), off-site sources (such as hog burners, forest fires, and/or the refuse fire area on Parcel 8) were deposited on the historical ground surfaces across the entire Site.
- As the Site was filled with dredged material, potential sources of contamination such as burnt wood were incorporated into the fill. Some of this material now exists in the subsurface below the Site.
- Some dredged material that was used as fill in the Site may contain contaminants.
- Stormwater and general surface runoff while industries were operating transported contaminants to areas being filled at that time.
- Some contaminants in soil leach into groundwater and are transported as dissolved chemicals in groundwater.
- Petroleum hydrocarbons might have been discharged in sufficient quantities to accumulate as free product on top of the groundwater table (shown as a hypothetical oil spill on Figure 14).
- Groundwater flows towards Budd Inlet, where it discharges through seeps in the shoreline bluff.
- Water from deeper aquifers may move upward through the aquitard into the shallow aquifer or Budd Inlet. The upward movement of water prevents contaminated water in the shallow aquifer from moving downward.

- Some of the recharge to the shallow aquifer comes from surplus water from artesian wells that is discharged directly onto the ground surface and leakage through artesian well casings.

6.0 CONCEPTUAL SITE EXPOSURE MODEL

As part of the development of this work plan, PIONEER Technologies Corporation developed a Conceptual Site Exposure Model (CSEM) for the Site (Figure 15). The CSEM evaluated potentially exposed populations (receptors) and exposure pathways[3] as summarized below. The CSEM is based on current Site data (GeoEngineers 2007), Site land use presented in Section 3.0 and the CSCTM presented in Section 5.0. The CSEM will be refined as necessary once more data are collected pursuant to this RIWP. It should be noted that reasonable maximum exposure scenarios were used to represent and be protective of all possible exposure scenarios as mentioned in this section and the Figure 15 footnotes.

6.1 HUMAN HEALTH EXPOSURE PATHWAYS

Potential receptors and exposure pathways were identified and evaluated in the CSEM for the following three distinct land uses at the Site:

- Current Land Use (that is, prior to redevelopment of the Site)
- Construction Phase (that is, during redevelopment of the Site)
- Future Land Use (that is, following redevelopment of the Site)

In accordance with WAC 173-340-740, the following potential soil-based exposure pathways were evaluated for human health at the Site:

- Direct Contact with Soil
- Soil to Outdoor Air (dust)
- Soil to Indoor Air (vapor intrusion)
- Soil to Surface Water (runoff)
- Soil to Groundwater

In accordance with WAC 173-340-720, the following potential groundwater-based exposure pathways were evaluated for human health at the Site:

- Groundwater as Drinking Water
- Groundwater to Indoor Air (vapor intrusion)
- Groundwater to Surface Water/Sediment

6.1.1 Current Land Use

This former industrial property is currently being prepared for redevelopment. As such, the Site is mostly vacant and unused, although boats are currently stored on a portion of the Site. Most of the Site is

[3] A complete exposure pathway is comprised of: (1) a source of COPCs and a release to the environment (e.g., a spill), (2) an environmental transport medium for the release COPCs (e.g., soil), (3) an exposure point (i.e., the point of potential human contact with the affected medium), and (4) an exposure route (e.g., ingestion). In order for a COPC to pose a risk to human health a complete exposure pathway must be present.

currently fenced. A small amount of ponded water (suspected to be from below grade artesian wells) is currently present on-site, but should be eliminated in the near-term with the planned decommissioning of artesian wells. One CSTCM component that should be reiterated here is the historical working surface, which is the historical grade where industrial buildings were located and operations were conducted on the Site prior to later filling and grading. In general, the historical working surface (which is where site releases would have occurred) is approximately 1 to 4 feet below existing grade.

The Site is bounded by existing commercial and/or industrial land use to the north, west and south. A recreational walking path is located immediately east of the Site. The East Bay of Budd Inlet is also located east of the Site.

Potential human receptors that were considered for current land use were residents, commercial/industrial workers, trespassers and recreators (for example, recreational users of the adjacent walking path and the East Bay of Budd Inlet). Based on the CSEM, complete or potentially complete exposure pathways (pending further evaluation) for these potential receptors during current land use are:

- **Trespassers**:
  - Incidental ingestion of soil
  - Dermal contact with soil
  - Inhalation of vapors
  - Dermal contact with suspected ponded groundwater
- **Recreators**:
  - Incidental ingestion of off-site surface water
  - Dermal contact with off-site surface water
  - Consumption of seafood from East Bay

Based on existing information, other potential exposure pathways are not complete in the CSEM during current land use for the following reasons:

- All of the exposure pathways are incomplete for residents and commercial/industrial workers under current land use since there are no residents or regular commercial/industrial workers on-site currently. Nor will there be any residential or commercial/industrial land uses prior to redevelopment. It should be noted that the current trespasser exposure scenario is more conservative and therefore protective for other current receptor scenarios, such as a scenario for people who access boats that are currently stored on a portion of the site.
- Inhalation of particulates by on-site trespassers, off-site recreators, and other potential off-site receptors are incomplete pathways because the historical working surface (which is where site releases would have occurred) is approximately 1 to 4 feet below existing grade.
- All of the on-site pathways (for instance, incidental ingestion of soil, dermal contact with soil, inhalation of vapors, dermal contact with suspected ponded groundwater) are incomplete for recreators because there is no on-site recreational land use prior to redevelopment.
- Soil to surface water is an incomplete pathway for all potential receptors since storm water generally infiltrates rather than runs off (see soil to groundwater pathway for leaching scenarios) and the historical working surface (which is where site releases would have occurred) is approximately 1 to 4 feet below existing grade.

- The soil to groundwater and groundwater as drinking water pathways are incomplete for all potential current receptors since there are no current drinking water wells in shallow groundwater on-site or downgradient of the site, and the confined aquifer in which existing on-site artesian wells are completed is not impacted by a release from the site. Furthermore, existing artesian wells are not usable since they are completed below ground surface and will be decommissioned.
- Incidental ingestion of suspected ponded groundwater is an incomplete pathway for all potential receptors since this pathway is based on activities in which water is routinely near the mouth (for instance, swimming).
- The surface water as drinking water pathway is incomplete for all receptors since the marine water in the East Bay of Budd Inlet is not suitable for use as a domestic water supply in accordance with WAC 173-340-730(2)(b)(ii).
- The groundwater to surface water/sediment pathway is not applicable for residents, commercial/industrial workers or trespassers because the exposure routes (incidental ingestion of surface water, dermal contact with surface water and consumption of seafood) are based on recreational pursuits. In addition, the current recreator exposure scenario is more conservative and therefore protective for other current human receptor scenarios with respect to the groundwater to surface water/sediment pathway.

6.1.2 Construction Phase

During the temporary construction phase of Site redevelopment, land use will be typical of a major construction project and will include utility infrastructure excavations and other significant earthwork. Standard construction practices such as fencing and site control will be in place to limit site access for recreators and other members of the public during the construction phase. In addition, site-specific construction plans will incorporate best management practices and worker safety programs appropriate for the presence of COPCs in soil.

Potential human receptors that were considered for construction phase land use were utility installation workers, utility installation trespassers, building construction workers, building construction trespassers, and off-site recreators. Based on the CSEM, complete or potentially complete exposure pathways (pending further evaluation) for these potential receptors during the construction phase are:

- **Utility Installation Workers and Utility Installation Trespassers**:
  - Incidental ingestion of soil
  - Dermal contact with soil
  - Inhalation of particulates
  - Inhalation of vapors
  - Dermal contact with on-site groundwater in a utility excavation
- **Building Construction Workers and Building Construction Trespassers**:
  - Incidental ingestion of soil
  - Dermal contact with soil
  - Inhalation of particulates
  - Inhalation of vapors

- **Recreators**:
  - Incidental ingestion of off-site surface water
  - Dermal contact with off-site surface water
  - Consumption of seafood from East Bay

The soil to surface water, soil to groundwater, groundwater as drinking water, and groundwater to surface water/sediment pathways are not complete in the CSEM for all construction phase workers and trespassers for the same reasons given above in the current land use discussion. Incidental ingestion of on-site groundwater in a utility excavation is an incomplete pathway for all construction phase workers and trespassers since this pathway is based on activities in which water is routinely near the mouth (for instance, swimming). Dermal contact with on-site groundwater in a utility excavation is an incomplete pathway for building construction workers and trespassers since these receptors will not be accessing on-site shallow groundwater in a utility excavation. All of the on-site pathways are incomplete for construction phase recreators for the same reasons given above in the current land use discussion.

6.1.3 Future Land Use

Future land use is described in Section 3.0. There is little uncertainty about the imminent redevelopment of the Site given the nature of existing plans, agreements and commitments made by Port leadership, City of Olympia leadership and other stakeholders.

Potential human receptors that were considered for future land use were urban residents (for instance, condominium or apartment dwellers living above ground-level retail), commercial workers (for instance, workers in ground-level retail), utility maintenance workers (for instance, workers conducting maintenance on existing utilities), and recreators (for instance, recreational users of the Hands On Children's Museum, the public plaza, and the East Bay of Budd Inlet). It should be noted that the future urban residential exposure scenario is more conservative and therefore protective for the other similar exposure scenarios such as hotel guests. It should also be noted that trespassers are not potential receptors because access to the Site after redevelopment will not be restricted. Based on the CSEM, complete or potentially complete exposure pathways (pending further evaluation) for these potential receptors during future land use are:

- **Urban Residents**:
  - Incidental ingestion of soil
  - Dermal contact with soil
  - Inhalation of particulates
  - Inhalation of vapors
  - Ingestion of drinking water from on-site groundwater wells
  - Dermal contact with drinking water from on-site groundwater wells
- **Commercial Workers**:
  - Incidental ingestion of soil
  - Dermal contact with soil
  - Inhalation of particulates

    - Inhalation of vapors
    - Ingestion of drinking water from on-site groundwater wells
    - Dermal contact with drinking water from on-site groundwater wells
- **Utility Maintenance Workers**:
    - Incidental ingestion of soil
    - Dermal contact with soil
    - Inhalation of particulates
    - Inhalation of vapors
    - Ingestion of drinking water from on-site groundwater wells
    - Dermal contact with on-site groundwater in a utility excavation
- **Recreators**:
    - Incidental ingestion of soil
    - Dermal contact with soil
    - Inhalation of particulates
    - Inhalation of vapors
    - Ingestion of drinking water from on-site groundwater wells
    - Incidental ingestion of off-site surface water
    - Dermal contact with off-site surface water
    - Consumption of seafood from East Bay

Based on existing information, other potential exposure pathways are not complete in the CSEM during future land use for the following reasons:

- Soil to surface water is an incomplete pathway for all potential receptors following redevelopment since it is expected that the Site will be covered by buildings, pavement, and other features that minimize transport from soil to surface water.
- Dermal contact with drinking water from on-site groundwater wells is an incomplete pathway for utility maintenance workers and recreators since this pathway is based on routine showering with water from on-site drinking water wells.
- Incidental ingestion of on-site groundwater in a utility excavation is an incomplete pathway for all potential receptors since this pathway is based on activities in which water is routinely near the mouth (for instance, swimming).
- Dermal contact with on-site groundwater in a utility excavation is an incomplete pathway for urban residents, commercial workers, and recreators since these receptors will not be accessing on-site shallow groundwater in a utility excavation.
- The surface water as drinking water pathway is incomplete for all receptors since the marine water in the East Bay of Budd Inlet is not suitable for use as a domestic water supply in accordance with WAC 173-340-730(2)(b)(ii).

- The groundwater to surface water/sediment pathway is not applicable for urban residents, commercial workers or utility maintenance workers because the exposure routes (incidental ingestion of surface water, dermal contact with surface water and consumption of seafood) are based on recreational pursuits. In addition, the future recreator exposure scenario is more conservative and therefore protective for other future human receptor scenarios with respect to the groundwater to surface water/sediment pathway.

6.2 ECOLOGICAL EXPOSURE PATHWAYS

The potential pathways for ingestion, dermal contact, and inhalation of COPCs by terrestrial ecological organisms are potentially complete pending further evaluation. The potential pathways for ingestion and dermal contact of COPCs by aquatic ecological organisms are potentially complete pending further evaluation of future groundwater and seep data.

7.0 SUPPLEMENTAL REMEDIAL INVESTIGATION DATA OBJECTIVES AND TASKS

Based on data gaps identified from evaluating preliminary RI data and comments received from Ecology, additional data is required to complete the RI. This section and Tables 1 through 3 describe the collection of this additional data. The details of the proposed exploration locations, sample selection and testing rationale are summarized in Tables 1 and 2 (soil and groundwater, respectively). Table 3 outlines rationale for additional groundwater monitoring at existing and proposed Site monitoring wells. These tables have specific references and responses to Ecology comments (Ecology February 5, 2008). Locations of proposed soil explorations and monitoring wells are shown on Figures 16 and 17, and are shown on Figure 18 relative to potential historic source areas, COPCs, and historic shorelines. Figure 19 shows the planned maximum depths of excavation for installing infrastructure (sewer, storm and water lines) at the Site. The proposed depths of the utilities and width of the infrastructure are also presented on the geologic cross-sections (Figures 7a through 7f). The reader is referred to these tables and figures to understand the details of the sampling and testing program. The locations of explorations and samples may change, with Ecology's approval, based on results after completing the first phase of explorations (see Section 7.2). The remainder of this section outlines the objectives and tasks associated with this supplemental RI.

Proposed New Soil Explorations Include
• 22 Direct-push Borings • Up to five new monitoring wells (part of 22 direct-push borings) • Testing D/F from 12 borings • Eight Phase I explorations to be completed Fall 2008 to support development of Infrastructure Interim Action Plan

The supplemental remedial investigation has seven main objectives:

1. Provide a direct response to Ecology's concerns regarding additional characterization of soil contamination at specific locations. Because of gaps in the existing data, there is some uncertainty regarding the nature and extent of identified soil contamination at some locations. The supplemental soil sampling will provide data to characterize the horizontal and vertical extent of soil contamination at these locations.
2. Locate suspected artesian wells and obtain information necessary to evaluate feasibility, costs and approach to decommission these wells. Suspected locations of these artesian wells are identified on Figures 4 and 20 and discussed in Appendix B. Actual decommissioning of confirmed artesian wells will be discussed in the IAP or a separate plan that will be submitted to Ecology for

approval. The affect of decommissioning artesian wells on the shallow aquifer will be assessed by measuring ground water levels and sampling/testing of groundwater.

3. Use additional soil characterization to supplement existing information regarding fill history and soil types.

4. Provide additional information on the extent of D/F concentrations that have been detected in shallow soil at the Site. The supplemental sampling locations were selected to provide D/F data that will be used to:

    - Evaluate the vertical and horizontal extent of D/F in soil;
    - Characterize soil in the infrastructure corridor; and
    - Additionally characterize soil on Parcels 2, 3, 4, 5, 6, 7 and 9.

5. Conduct quarterly groundwater monitoring for at least one year. More than one year of monitoring may be needed, depending on the length of time it takes for water levels to stabilize after artesian wells are decommissioned. Sampling of groundwater and seeps will not start until water levels have stabilized following decommissioning of the artesian wells. If the artesian wells are not located, quarterly groundwater monitoring will start after installation of the new monitoring wells.

Proposed Groundwater Monitoring, Sampling, and Testing Includes
• At least one year of quarterly groundwater monitoring. • Sampling of 17 (plus 5 new wells, if installed) Groundwater Monitoring Wells for all COPCs in first sample event after artesian wells are decommissioned. • Verify if four seeps represent groundwater. If deemed to be groundwater seeps, the seeps will be sampled. • Monitoring shallow groundwater wells for the presence of LNAPL.

    Each quarterly monitoring event will include measuring the depth to groundwater, evaluating the groundwater flow direction, and obtaining groundwater samples for chemical analytical testing. Groundwater analytical testing will consist of an initial round for all COPCs from all wells. The number of wells and COPCs analyzed will be reduced during subsequent monitoring events based on the results from the previous sampling events to focus ion potential compliance wells and wells where COPCs exceed the screening criteria. Evaluating the potential for floating free-phase product (light nonaqueous phase liquids [LNAPL]) in areas where petroleum concentrations in soil exceed screening criteria is part of the groundwater monitoring program.

    If, after the artesian wells are abandoned, water levels do not drop below the top of the well screens in monitoring wells located in these areas, it may be necessary to install new monitoring wells with shallower screen intervals. This Workplan includes the installation of up to five new shallow-screened monitoring wells.

6. Provide data necessary to assess the risks to human and ecological receptors.

7. Provide information to facilitate evaluation of cleanup action alternatives in the FS.

7.1 IDENTIFICATION OF DATA NEEDS

Data gaps identified from preliminary RI sampling locations indicate the need for additional data as follows:

- Horizontal and vertical delineation of existing contaminant exceedances in soil.
- Additional soil chemical analytical coverage on parcels with limited data.
- Characterize the nature and extent of D/F in soil.
- Impact of leakage from artesian wells on groundwater flow and quality in shallow aquifer.

The supplemental data will be used to:

1. Complete and augment the CSMs for contaminant transport and site exposure pathways.
2. Provide information to evaluate COPC fate and transport. This information will include testing for soil physical properties such as total organic carbon (TOC) and grain size.
3. Complete and augment understanding of groundwater, including groundwater flow direction, gradient and fluctuations, and groundwater chemistry before and after decommissioning of the artesian wells.
4. Complete the risk modeling, using additional soil chemical analytical data, soil physical properties and groundwater data as above.
5. Provide information to support infrastructure construction project planned for early 2009.
6. Provide information to support a future feasibility study and cleanup action(s).

7.2 PROJECT PLANNING AND SCHEDULE

Field work for the supplemental RI will be conducted in phases. The initial phase of the RI will be completed in Fall 2008 in order to provide data critical to the planning of the infrastructure improvement project. The initial phase includes completing eight explorations located in or near the infrastructure corridor. The initial eight exploration locations include borings DP27, DP30, DP32, DP33, DP34, DP36, DP38, and DP40, which are also highlighted on Table 1. The initial phase will also include locating suspected artesian wells, as described in Appendix B. All proposed exploration locations and infrastructure corridors are shown on cross-sections A through F (Figures 12a - 12f) and Figures 16 and 17. A health and safety plan (HASP) for use by GeoEngineers field personnel is included as Appendix E of this RI work plan. Subsequent phases of field work will be completed after data from the first phase has been evaluated and after decommissioning of the artesian wells.

Phase I field work is expected to take one week to complete. It will take an additional four weeks for chemical testing and validation of test results.

Phase II (explorations not included in Phase I and all new monitoring wells) is expected to take two weeks to complete plus four weeks to receive and validate analytical results.

The first groundwater monitoring event will occur after water levels have stabilized following decommissioning of the artesian wells. Each monitoring event is expected to take one week to complete, plus four weeks to receive and validate analytical results.

7.3 SAMPLE COLLECTION AND ANALYSIS

Sampling methods and procedures are presented in the Sampling and Analysis Plan (SAP) included as Appendix D. The SAP includes the quality assurance project plan (QAPP).

7.3.1 Quality Assurance/Quality Control

Quality assurance/quality control (QA/QC) procedures and standards that will be implemented during the supplemental RI and subsequent compliance groundwater monitoring activities are presented in the SAP/QAPP (Appendix D). The purposes of the SAP and QAPP are to describe sampling protocol, analysis and quality control procedures that will be implemented to produce chemical and field data that are representative, valid and accurate for use in evaluating the effectiveness of the data collection.

8.0 DEVELOPMENT OF CLEANUP LEVELS AND REMEDIATION LEVELS

To-date MTCA Method A or Standard Method B cleanup levels have been used as a reference for evaluating analytical chemistry results. However, as part of the RI Report, PIONEER Technologies Corporation will develop Site soil cleanup levels, Site soil remediation levels and groundwater screening levels based on an updated CSEM that accounts for data collected pursuant to this RIWP. Input parameters for cleanup level and remediation level calculations will be obtained from Ecology's Cleanup Levels and Risk Calculations (CLARC) database, as appropriate.

8.1 IDENTIFICATION OF COPCS

COPCs will be identified based on analytes that are detected in at least one soil or groundwater sample above MTCA cleanup levels based on unrestricted land use, and are not attributable to off-site sources.

Based on existing data (GeoEngineers 2007), the on-site COPCs are:

- arsenic
- benzo[a]pyrene
- cadmium
- lead
- 2,3,7,8-tetrachloro dibenzo-p-dioxin (2,3,7,8-TCDD)
- total naphthalenes
- TPH-D
- TPH-G
- TPH-MO

Regarding the above COPC list, it should be noted that:

- Bis (2-ethylhexyl) phthalate, which is a ubiquitous plasticizer that has been detected in some soil and groundwater samples to date (GeoEngineers 2007), is not be considered a COPC because its presence is most likely the result of sample collection and analysis procedures rather than a release from the Site.
- The cleanup and screening levels for total cPAHs and total D/F will be calculated based on TEFs relative to acceptable levels for benzo[a]pyrene and 2,3,7,8-TCDD, respectively, in accordance with WAC 173-340-708(8).
- TPH-G cleanup and screening levels will likely be based on TPH-G without benzene because benzene has not been detected in any soil or groundwater sample to date above its MTCA Method A cleanup levels in Table 740-1 or Table 720-1 (GeoEngineers 2007).
- Additional COPCs may be identified based on data collected pursuant to this RIWP.

8.2 SOIL CLEANUP LEVELS BASED ON UNRESTRICTED LAND USE

MTCA regulations require implementation of an institutional control (IC) remedy at a minimum whenever COPCs are present above MTCA cleanup levels based on an unrestricted land use exposure scenario. As a result, soil cleanup levels based on an unrestricted land use exposure scenario will be developed for Site COPCs in accordance with WAC 173-340-740 even though an unrestricted land use exposure scenario is not consistent with the CSEM presented in Section 6. It is anticipated that this tier of Site soil cleanup levels will be used to delineate which portions of the Site do not require further action and which portions will require a formal cleanup remedy (for example, an IC remedy at a minimum).

8.3 SOIL CLEANUP LEVELS AND REMEDIATION LEVELS

Risk-based soil cleanup levels and/or remediation levels will be developed for the Site based on an updated CSEM that accounts for data collected pursuant to this RIWP. These levels will be calculated for Site COPCs using procedures in WAC 173-340-357, -708, -740, and -745 with reasonable maximum exposure assumptions for receptors exposed via complete exposure pathways. It is anticipated that this tier of Site soil cleanup levels will be used to determine whether certain remedial alternatives are protective of human health and the environment based on actual land use. In addition, these risk-based levels will likely be used as remediation levels for determining locations in which certain remedial actions are required.

8.4 GROUNDWATER SCREENING LEVELS

Arsenic and TPH-D are the only potential groundwater exceedances to date (GeoEngineers 2007), and the single TPH-D detection at the Site (MW13) may be from an off-site source. MTCA Method A groundwater cleanup levels (which are not necessarily the same as the lookup values in MTCA Table 720-1) will be calculated in accordance with WAC 173-340-720(3) and -730(2) for use as groundwater screening levels. These screening levels will assist in the evaluation of potential exposure pathways (for example, soil to groundwater, groundwater as drinking water, vapor intrusion and groundwater to surface water) in the RI Report. If necessary, Site groundwater cleanup levels will also be developed.

9.0 REFERENCES

Robinson & Noble, Inc in Association with Brown and Caldwell. March 26, 1999, Technical Memorandum 1204 LOTT Wastewater Resource Management Plan.

Thurston County Health Department and Pacific Groundwater Group for Friends of the Artesians. June 2005, Proposed City of Olympia Artesian Well Background Information on Groundwater Flow and Quality in Downtown Olympia Report Prepared in response to Well Site Permit Denial.

Pacific Groundwater Group. October 11, 2007, Deep Aquifer Hydrogeology Cascade Pole Site, Olympia, WA, Port of Olympia.

GeoEngineers, Inc. March 14, 2007. Phase I ESA, Port of Olympia East Bay Redevelopment. Prepared for the Port of Olympia.

GeoEngineers, Inc. April 24, 2007. RI/FS CAP [now known as the RI/FS IA], Port of Olympia East Bay Redevelopment, City Hall lot. Prepared for The Rants Group.

GeoEngineers, Inc. August 3, 2007. Supplemental Site Use History and Soil and Groundwater Sampling Clarifications, Port of Olympia East Bay Redevelopment. Prepared for the Port of Olympia.

GeoEngineers, Inc. December 20, 2007. Draft Remedial Investigation/Feasibility Study and Conceptual Cleanup Action Plan East Bay Redevelopment, Port of Olympia.

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses								Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
				NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]		
1. Additional characterization is needed to define the extent of soil contamination at the site. The aerial and vertical extent of soil contamination needs to be further defined in the vicinity of DP02 and DP04 (including westward beneath Jefferson Street and on adjacent offsite parcels if necessary) and north of DP18.	TPH-D, TPH-MO, arsenic, and cadmium in the 2-6 feet interval were the only COPC exceedances at DP04. These COPCs have been delineated laterally in this interval to the northeast and south with MW08 and DP03, respectively. A new soil boring will be advanced northwest of DP04 to complete the lateral delineation of COPC screening level exceedances in the 2-6 feet interval. Soil samples will also be obtained from beneath existing railroad tracks to be removed during infrastructure construction activities. The railroad tracks are currently embedded in the asphaltic pavement along Jefferson Street and we expect that the section beneath the pavement will consist of railroad ties supporting the rail and ballast material (typically 3 feet of crushed rock) supporting the ties. Soil samples will be collected at the soil/ballast interface. We will analyze soil collected beneath the ballast material for cPAHs (using EPA Method 8270C), TPH, and metals to assess potential residual soil contamination associated with the ties.	DP37	0-2										
			2-6	x [a]	X	X	x		x	X			light sand fill
			6-10	X	X	X	x			X			dark sand fill
	TPH-MO in the 2-6 feet interval was the only significant COPC exceedance at DP02. This COPC has been delineated laterally in this interval to the north and southeast with DP03 and DP16, respectively. A new soil boring will be advanced southwest of DP02 to complete the lateral delineation of the TPH-MO screening level exceedance in the 2-6 feet interval. A sample from 10 to 14 feet from the monitoring well boring for MW25S will be tested for TPH-MO to evaluate the vertical extent of this COPC identified in previous samples from DP02. Proposed shallow screen interval for MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04. Soil samples from below the railroad tracks will also be collected and analyzed from DP38 and analyzed for PAHs. PAHs will be tested in sample from 10 to 14 foot depth interval in the boring for MW25S to evaluate the vertical extent of this COPC identified previously at DP02 and DP16. One sample from DP38 will be tested for dioxins/furans to evaluate soil within the infrastructure corridor.	DP38	1-3				x		x				
			4-6	x	X	X	x	x	x		x		light sand fill
			6-10	X	X	X	x	x	x		x	9	Silt or dark sand fill
		MW25S	0-2										
			2-6										
			6-10	x	X	X	X		X				Silt or dark sand fill
			10-14	x	X	X	X		x				Silt or dark sand fill
	TPH-MO in the 10-14 feet interval was the only significant potential COPC exceedance at DP18. This COPC has been delineated latreally in the vadose zone and saturated zone with MW03, MW16, and DP17 but has not been delineated laterally north of DP18. Soil samples from the boring for MW23S will provide this information. Proposed screen interval for MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18. TPH-MO will be tested in MW-23S at the 6 to 10 and 10 to 14 foot intervals to evaluate the vertical extent of TPH-MO identified previously at DP18.	MW23S	0-2										
			2-6										
			6-10	x [a]	X	X	X		X				light sand fill
			10-14	x	X	X	X		X				light sand fill
2. Additional characterization is needed to define the extent of soil contamination at the site. The vertical extent of contamination needs to be defined in the vicinity of DP06 and DP08.	TPH-G in the 2-6 feet interval was the only significant potential COPC exceedance at DP06 and needs to be defined at depth and to the south. TPH-D and TPH-MO in the 2-6 feet interval were the only significant potential COPC exceedances at DP08. TPH-D and TPH-MO exceedance was identified in the 2-6 feet interval in DP-13. The vertical extent of gasoline, diesel and oil contaminated soil has been delineated with DP24, DP15, DP14, MW-5, MW-8 and MW-10. MW24S, along with the other proposed and existing wells, will be used to evaluate the leaching to groundwater pathway via empirical demonstration per WAC 173-340-747(9) an (10)(c). Proposed shallow screen interval for MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	MW24S	4-6	X	X	X	X		X				
			6-10	X	X	X	X		X				
	Evaluate lateral extent of TPH-D and MO identified previously at DP08 and DP13. Evaluate lateral extent of gasoline exceedance at DP08 and DP13.	DP39	0-2	X	X	X	X		X				
			2-6	x [a]	X	X	X		X				dark sand fill
	Lateral and vertical extent of dioxins/furans by TP03. Evaluate thickness of pre-1891 fill. Collect data to support management of soil that will be excavated as part of the infrastructure improvements. DP40 will also help evaluate the extent of diesel and oil contamination previously observed in DP13 and DP08 at 2-6 feet.	DP40	0-2	x	X	X	x	x	x				light sand fill
			2-4	x	X	X	x	x	x		x		light sand fill
			4-6	x	X	X	x	x	x		x	3.5	dark sand fill
3. Additional characterization is needed to define the extent of soil contamination at the site. The aerial extent of contamination has not been defined in the vicinity of MW19.	TPH-G in the 2-6 feet interval was the only potential COPC exceedance at MW19. Two soil borings (DP28 and the boring for MW21s) will be located near MW19 to evaluate the aerial extent of the screening level exceedance of TPH-G at MW19 in the 2-6 feet interval. The proposed screen interval (2 to 7 feet bgs) for MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19. Moreover, a soil boring advanced to the west of MW19 in response to Ecology Comment #7 (i.e. DP27) will also be sampled for TPH-G in the 2-6 feet interval to provide lateral delineation to the west. To address Ecology comment 7, if evidence of burned wood or ash is observed in boring DP28, which is located on the northern edge of parcel 1 near the former Refuse Fire Area, a sample of this material will be analyzed for dioxins and furans.	DP28	0-2	X	X	X	X						
			2-6	X	x	X	X						light sand fill
		MW21S	0-2										
			2-6		x [a]								light sand fill

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
4. Additional characterization is needed to define the extent of soil contamination at the site. Area of Concern (AOC) #16 (pad mounted transformer) needs to be evaluated. Soil samples should be collected from this area for petroleum hydrocarbons and PCBs. The location of well MW04 does not appear to be close enough to this AOC to be adequate.	One new boring will be advanced and sampled within AOC 16 as recommended by Ecology. The targeted depth for the soil sample collected from this boring is the elevation of the former transformer pad located in AOC 16. The sample from this boring will be analyzed for PCBs and mineral oil range petroleum hydrocarbons (NWTPH-Dx).	DP35	0-2										
			2-6	x						x			gravel fill
5. Parcel 1 needs to be assessed. AOCs #43 through 48 and #50 have not been adequately assessed. Also, the northern portion of Parcel 1 needs to be assessed.	The first sentence of this comment does not apply because the East Bay Redevelopment Project Area only includes the northwest portion of Parcel 1. A new boring (DP36) located in the right-of-way of Olympia avenue adjacent to the northwest portion of Parcel 1will address Ecology's concern regarding the northern portion of Parcel 1. However, the primary purpose of this boring is to evaluate soil conditions to assist in planning of future infrastructure improvements in this area and evaluate residual concentrations of COPCs in an area where historical sources were not located.	DP36	1-3					x					gravel fill
			2-6	x	x	X	x	X					silt
			6-10					X				9	silt
6. Additional characterization of dioxins/furans is needed. As shown in the report, concentration of dioxins/furans that exceed the MTCA Method B Soil Cleanup Level of 11 nanograms per kilogram (ng/kg) or parts per trillion (ppt), expressed as a Total Toxicity Equivalency Factor (TEF), were observed at all four locations tested for this constituent. The reported TEF values from these locations range from 57.9 to 645 ng/kg. Because the highest concentration (TP02) is near the east property line and near an adjacent public walking path and grassy area, additional samples for dioxins/furans should be collected in this adjacent area. Also, an analysis of wind direction should be performed to help predict locations that may show higher dioxin concentrations.	New boring DP33 will provide vertical profile of dioxins/furans concentrations near TP2. Selection of sample locations based on prediction of wind direction is not necessary because the proposed dioxins/furans sample locations (as outlined in this table) provide spatial coverage across the site.	DP33	0-2					x	x	x			gravel fill
			2-4				x	x	x		x		gravel fill
			4-6				x	x	x				light sand fill
			6-8					x				9	light sand fill
7. Additional characterization of dioxins/furans is needed. Parcel 7 is located adjacent to the Refuse Fire Area (Area of Concern #1), which is a potential source of dioxins/furans contamination. Additional soil samples for dioxins/furans analyses should be performed in Parcel 7. These samples will provide additional dioxins/furans data for the site and may help to determine whether AOC #1 was a source.	Additional samples which address Ecology's comment 7 will be collected and tested for dioxins/furans from a boring advanced near AOC 1 (DP27) and a boring advanced at the northern edge of Parcel 7 (DP28). In addition, DP27 will be sampled for TPH-G to address gasoline contamination identified in soil at MW-19 (see response to Ecology Comment #3). Samples from boring DP27 will also be analyzed for PAHs to evaluate the lateral and vertical extent of cPAHs identified in soil samples from MW-20, near the Refuse Fire Area. Note that Parcel 8, which is adjacent to the northwest portion of the Site, is being addressed by LOTT Alliance through Ecology's Voluntary Cleanup Program.	DP27	0-2					x	x	x			light sand fill
			2-4		x	X	x	x	x		x		light sand fill
			4-6				x	x	x		x		silt
			6-8				x	x				3	silt

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
8. Additional characterization of dioxins/furans is needed. Section 4.3.1 states that "dioxin testing appears to indicate that the historical working surface (depth of about 2 feet below existing grade) is impacted." Please provide more detail on what is meant by "historical working surface" and how it is distinguished. According to the Supplemental Site Use History report, the boiler house (AOC #17) operated circa 1932 and the power house (AOC #22-24) operated from at least 1941 through 1958. Was 2.0 feet below current grade the historical grade for these facilities? If so, what evidence is there for this? Dioxin samples were collected at the 2.0 foot depth at AOC #17, at the 3.5 depth at AOC #22-24, and at the 1.5 and 2.0 foot depths at the two randomly selected locations. It is recommended that additional samples be collected at AOC #17 so that a concentration verses depth profile can be determined.	The "historical working surface" is the sometimes woody and compacted historical grade where industrial buildings were located and operations were conducted on the property prior to later filling and grading. Based on our review of historical information the working surface is located about 1 to 4 feet below existing grade, however it can be difficult to identify in borings due to similarity in lithology of fill in this depth interval. Because of Ecology's questioning of the historical working surface and difficulty in determining its exact location in borings, a more appropriate rationale for the location of explorations where vertical profiles for dioxins/furans testing is as follows:1) complete a profile (DP33) adjacent to previous sample with high dioxins concentrations (TP02) and 2) complete a profile that represents temporal fill sequences.	See DP 33 (Comment 6) and borings and "Additional Explorations" rationale below.										
9. Additional characterization of groundwater contamination, flow direction, and gradient is needed. Groundwater monitoring wells MW-1 through MW·11 and MW-14 were installed with their screened interval submerged below the water table. Wells that monitor for light non-aqueous phase liquids (LNAPL, such as petroleum hydrocarbons) should be completed so that their screen straddles the water table. Therefore, to accurately evaluate whether groundwater is contaminated from LNAPL constituents, it will be necessary to install additional groundwater monitoring wells with screens that extend above the water table at selected locations where the existing monitoring wells are not adequate. Please present your proposed new well locations to us for review and approval.	Given the general lack of dissolved-phase petroleum constituent detections in the groundwater samples collected from existing MWs (as well as the relatively low TPH soil concentrations detected in soil samples collected from areas with suspected hydrocarbon contamination), it is unlikely that the typical placement of the screened intervals straddling the water table would result in measurable LNAPL thicknesses or even a screening level TPH exceedance at any MW at this site. Nonetheless, five shallow MWs (MW21S through MW25S) with screens straddling the water table are proposed to address this comment. MW21S and MW24S are discussed in the responses to Ecology Comments #2 and #3, respectively. Proposed MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06. MW23S and MW25S are discussed in the response to Ecology Comment #1. This Ecology comment is further addressed by in the Groundwater Monitoring Plan. Based on recent comments from Ecology (9/22/08 Ecology comment letter and subsequent discussion), because artesian wells at the Site may be influencing shallow groundwater, an attempt will be made to locate and decommission or otherwise mitigate leakage from the artesian wells. If the artesian wells are found and decommissioned, water levels and the need for shallow monitoring wells will be reevaluated.	MW22S	No analysis of soil samples unless field observations indicate the presence of contamination. Anticipated screened interval is 1-6 feet bgs.									
Additional Explorations													
Additional explorations to evaluate the nature and extent of contamination, including dioxins/furans. These explorations will provide data related to: a) regional area background concentrations of dioxins/furans and metals not related to a site release, b) management of soil that will be excavated as part of the infrastructure improvements, and c) evaluation of COPC distribution in different fill types and spatial coverage related to general extent of COPCs.	Evaluate extent of lead and PAHs at DP11.	DP29	0-2						x				light sand fill
			2-6				x						silt or gravel
			6-10				x						silt or gravel
			10-14						x				silt or gravel
	Evaluate dioxins/furans in fill (1891 to 1908 time interval), evaluate dioxins/furans in soil within the infrastructure corridor, and provide additional sampling data for parcel 9.	DP30	0-2				x	x					light sand fill
			2-4				x	x	x				light sand fill or silt
			6-8				x	x (if silt)				9	light sand fill or silt

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration	Sampling Depth Interval (ft bgs)[1]	Soil Analyses								Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
		Boring (DP) Well (MW)		NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]		
	Locations DP31 and DP41 are selected to obtain dioxins/furans data from soil not associated with any AOC source. This data will be used to evaluate dioxins/furans concentrations related to regional dioxin sources and regional background levels as it is possible that detected concentrations of dioxins/furans and metals in soil samples collected to date are attributable to an area or regional background rather than a site release. DP31 is located on parcel 6 in an area where no historical sources (AOCs) were located and the underlying fill is from the 1948 to 1975 time period. DP41 is located on parcel 2 in an area where no historical sources (AOCs) were located and the underlying fill is from the post 1975 time period.	DP31	0-2					x					light sand fill
			2-6	x			x	x					light sand fill
		DP41	0-2					x					gravel fill
			2-6				x	x					silt
	Evaluate dioxins/furans in post-1975 fill within the infrastructure corridor. These data will assist with evaluating background conditions as well as inform waste characterization and disposal associated with the excavated infrastructure corridor soils.	DP32	0-2					x			x		gravel fill
			2-6				x	x	x		x		gravel fill
			6-9					x				9	gravel fill
	Evaluate dioxins/furans in fill (1891 to 1908 time interval) near infrastructure corridor and on Parcel 4.	DP34	0-2					x					light sand fill
			2-6	X	X	X	x	x	x		x		light sand fill
			8-10	X	X	X	x	x	x			10	light sand fill or gravel
	These borings are located on Parcel 4 and the locations were selected to gather information to support soil characterization during construction activities associated with the Children's Hands on Museum.	DP26	0-2				X	x	X				light sand fill
			2-6					x	X				silt or light sand fill
			6-10				X	X					
		DP42	0-2				X	x					gravel fill
			2-6				X	x					light sand fill
			6-10				X	X					

Notes:

Blank boxes (no X) indicate that soil samples will be collected from the specified depth intervals and held for potential analyses by the analytical laboratory

Shaded cells indicate explorations and samples that will be collected in first phase of investigation

[1] Samples will be collected approximately every 2 feet in soil borings for field screening and potential chemical analyses. Discrete soil samples will be obtained from within the depth intervals shown in this column (rather than composite samples.) The depth ranges represent the intervals that a sample will be analyzed for the COPCs identified in the Soil Analyses columns. Additional samples may be analyzed if field observations indicate the presence of contamination.

[2] The metals listed; arsenic, cadmium and lead, represent metals that had concentrations exceeding screening levels in one or more locations. Some soil samples collected from the infrastructure corridor may also be analyzed for "RCRA 8" metals to provide data needed by soil disposal facilities. The RCRA metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium & silver.

[3]TOC= total organic carbon. TOC and other physical soil properties such as grain size may also be analyzed at various locations for the possibility of establishing site specific Method B cleanup levels.

[a] Also analyze for EPH.
[b] Also analyze for total organic carbon
x = sample collected for analytical testing. Red X = additional analytical testing requested by Ecology in it's September 22, 2008 comment letter.
As = Arsenic, Cd = Cadmium, Pb = Lead
PCBs = Polychlorinated biphenyls
HCID = Hydrocarbon Identification test (NWTPH-HCID)
NWTPH-Dx = Diesel-range and motor oil-range total petroleum hydrocarbons
TPH-MO = motor oil-range petroleum hydrocarbons
D/F = Dioxins and furans
NWTPH-G = Gasoline-range total petroleum hydrocarbons

TABLE 2
PROPOSED NEW MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
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				Existing Well Data[2]		
Well I.D.	**Purpose**	**Installation Method/Well Diameter**	**Proposed Well Screen Interval (BGS-feet)[1]**	**Nearest Existing well**	**Highest DTW**	**Lowest DTW**
MW21s	MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19.	Direct push/1-inch	2 to 7	MW19	3.47	3.78
MW22s	MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06.	Direct push/1-inch	1 to 6	MW6	0.84	1.14
MW23s	MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18.	Direct push/1-inch	4 to 9	MW16	5.41	6.35
MW24s	MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	Direct push/1-inch	2.5 to 7.5	MW10	3.48	3.8
MW25s	MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04	Direct push/1-inch	2 to 7	MW7 and MW8	5.0 & 2.55	5 & 2.62

Notes:

Based on recent comments from Ecology, because artesian wells at the Site may be influencing groundwater levels, an attempt will be made to locate and decommission the artesian wells. If the artesian wells are found and decommissioned, the need for shallow monitoring wells will be reevaluated.

[1]Across water table with one foot of screen above predicted high water table elevation and four feet of screen below this elevation, subject to approval by Ecology and issuance of well construction variance.

[2] Based on depth to water measurements collected August 2007 and July 2008 during low and high tides.

bgs=below ground surface

DTW = depth to water in feet as measured from top of well casing. Top of well casings for referenced wells is approximately at ground surface.

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TABLE 3
PROPOSED GROUNDWATER MONITORING AND CHEMICAL ANALYTICAL TESTING PLAN
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Well No.[3,4,5]	Associated Historic Source Area/Concern and Contaminant of Potential Concern (COPC)	Past Groundwater Monitoring and Sampling Events												Proposed Future Groundwater Monitoring									
		Last Sampling Events			Chemical Analytical Testing Completed									Physical Parameter Monitoring		Chemical Analytical Testing Proposed							
		Jan-07	Jun-07	Aug-07	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs	Total PP Metals	SVOCs (and PAHs)[6]	PCBs[7]	Dioxins/Furans[8]	Previous Exceedance of Screening Level (MTCA A or B)	Depth to Water	Conductivity, pH, ORP, Turbidity, DO, Salinity, Fe^{2+} (using a Horiba U-10 flow through cell)	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs (BETX and HVOCs)	Total RCRA Metals	PAHs[6]	PCBs[7]	Dioxins/Furans[8]
MW01	Oil House (TPH)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW02	Machine Shops (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x [1]	x	--	--
MW03	Tar Dipping Tank (TPH, PAHs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW04	Near former Transformers (PCBs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	x	--
MW05 [2]	Power House Area (TPH, metals, VOCs, D/F)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	x	x
MW06	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW22s (if MW22s is not installed, MW06 wil be sampled for parameters planned for MW22s)							
MW07	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW08	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW09	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW10	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW24s (if MW24s is not installed, MW10 wil be sampled for parameters planned for MW24s)							
MW11	None: downgradient from offsite gasoline station	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW12 [2]	Power House Area (TPH, metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW13	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic, diesel**	x	x	x	x	x	x	x [1]	x	--	--
MW14	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	N	N	N	N	N	N	N	N	N	N/A	x	x	x	x	x	x	x	x	--	--
MW15 [2]	None	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW16 [2]	Boiler House Area (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	x (tested Aug-08)
MW17	Shops (TPH, PAHs, Metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	--	--
MW18 [2]	None: downgradient well near Marine View Drive	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW19	Panel Oiling (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW21s (if MW21s is not installed, MW19 wil be sampled for parameters planned for MW21s)							
MW20	Refuse Fire Area (TPH, metals, PAHs, D/F)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
Proposed Wells and/or Sampling Locations																							
MW21s (paired with MW19)[9]	Panel Oiling (TPH, PAHs)													x	x	x	x	x	x	x	x	--	--
MW22s (paired with MW06)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW23s (paired with MW16)[9]	Boiler House Area (TPH, PAHs)													x	x	x	x	x	--	--	--	--	--
MW24s (paired with MW10)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW25s (no pairing)	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
Seep 1[10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 2 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 3 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 4 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--

Notes:

[1]Dissolved metals to be tested in addition to total metals at locations where metals exceedances have been measured. Also test these samples for aluminum and iron (Al and Fe^{3+}) to represent suspended clay particles. Results to potentially be used for evaluating sorption of COPCs.

[2]MW05, MW12, MW16 and MW18 are downgradient wells between the subject property and East Bay. These wells will be considered for potential future compliance wells.

[3]MW04, 05, 06, 07, 08, 10 were sampled and tested July 13, 2007 for diesel-range hydrocarbons only.

[4]MW01 through MW10 were installed in January 2007. MW11 through MW20 were installed in July and August 2007.

[5]MW14 was not sampled in 2007 because other monitoring wells surrounding MW14 were sampled and tested.

[6]Note on SVOCs. The only SVOC exceedances were cPAHs, therefore only cPAHs will be analyzed, rather than the full SVOC list.

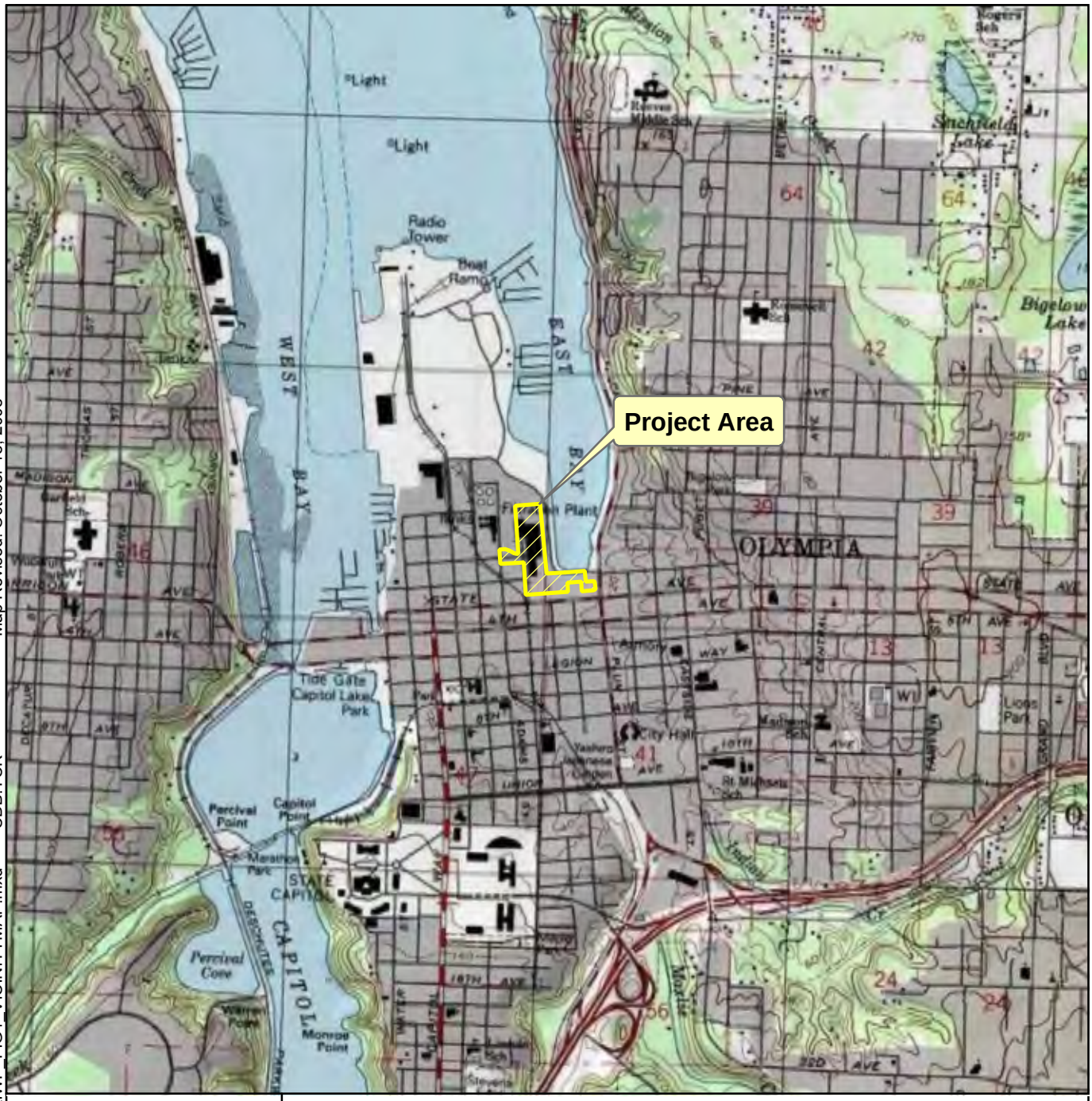
[7]Note on PCBs. PCBs have not been detected in any of the groundwater samples obtained from MW01 through MW20 at the site; nor have they been detected above soil screening levels. Therefore PCBs will only be tested at locations where low level detections of PCBs were detected in soil on Parcel 3 and near the former transformer location (MW04).

[8]Note on Dioxins/Furans. Dioxin/Furans were not detected in a groundwater sample obtained and tested from MW16 in August 2008. Dioxin sampling and testing approach is based on obtaining samples from potential source area wells that are also downgradient compliance wells (MW05 and MW16). If dioxins/furans are detected in groundwater at MW05 or MW16, then additional testing will be conducted at the other compliance wells (MW04, MW11, MW12

[9]This well will not be installed if water levels drop sufficiently after the artesian wells are decommissioned if the existing paired monitoring well screen is not totally submerged.

[10]Water from this seep area will only be sampled if it is determined to represent groundwater (see Section 5.4.2 of Sample and Analysis Plan)

x = sample collected for analytical testing
Y = Yes; N = No; NA = not applicable; "--" = Not tested
TPH-Gasoline by Ecology Method NWTPH-Gx
TPH-Diesel and Oil by Ecology Method NWTPH-Dx
VOCs (volatile organic compounds) by EPA Method 8260B
RCRA Metals (As, Ba, Cd, Cr, Pb, Ag, Se, Hg) by EPA Methods 6000/7000
PAHs (polycyclic aromatic hydrocarbons) by EPA Method 8270sim
PCBs (polychlorinated biphenyls) by EPA Method 8082
Dioxins/Furans by EPA Method 1613B
ORP = Oxidation Reduction Potential
DO = Dissolved Oxygen
Fe = Iron
Al = Aluminum
COPCs = contaminants of potential concern



Notes:
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3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: Interstates, state routes, and roads from TIGER 2000. County boundaries, cities, and waterbodies from Department of Ecology. U.S. topographic map from National Geographic Society.

Lambert Conformal Conic, Washington State Plane North, North American Datum 1983

Vicinity Map

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 1

Office: TAC Path: P:\0\0615034\02\GIS\0615034O7_RIWP_FIG1_VICINITYMAP.mxd CDB:TCK Map Revised: October 18, 2008

Office:TAC Path: P:\0\0615034\07\GIS\061503407_RIWP_FIG2_SITEPLAN.mxd CDB:TCK Map Revised: October 22, 2008



Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N W E S

150 0 150

Feet

Site Plan

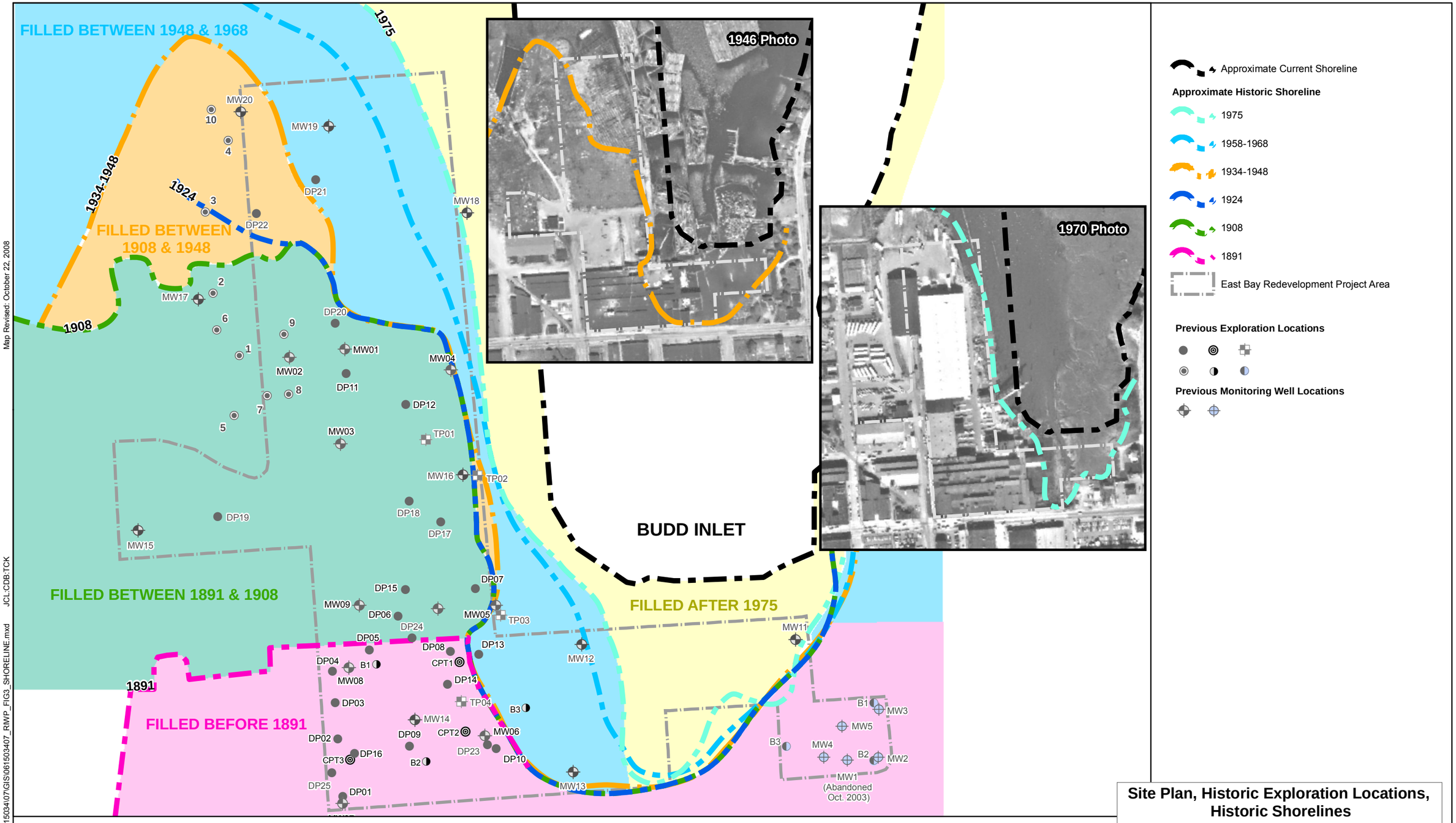
East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 2

Reference: Parcel boundaries are based on information provided by the Port of Olympia. Approximate Infastructure Improvement Corridor per Skillings Connolly Drawing. Aerial Photo (dated April 2008) from Skillings Connolly.

Notes:
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Approximate Current Shoreline

Approximate Historic Shoreline

1975

1958-1968

1934-1948

1924

1908

1891

East Bay Redevelopment Project Area

Previous Exploration Locations

Previous Monitoring Well Locations

Reference: Historic shoreline (1975) from "Proposed Dredging, Fill & Marina Facilities in Budd Inlet, Plate No. 1," revised April 7, 1975.
Historic shorelines (1888, 1908, 1924, 1958 and 1968) digitized from Sanborn maps.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for infomation 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.

N W E S

150 0 150

Feet

Site Plan, Historic Exploration Locations, Historic Shorelines

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 3

Map Revised: October 22, 2008

Path: P:\0061503407\GIS\0615034O7_RWP_FIG3_SHORELINE.mxd JCL:CDB:TCK

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Office:TAC Path: P:\0\0615032\02\GIS\061503407_RIWP_FIG4_HISTORIC_OPERATIONS.mxd CDB:TCK Map Revised: October 21, 2008



Springer Sawmill (1924-1947)

Olympia Door Co. Sawmill (1908)

Olympia Door Co. Sash and Door Factory (1908-1924)

Hyak Lumber Co. Millwork (1946-1968)

Potential Location of Artesian Wells as reported by others

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

H.G. Richardson's Shingle Mill (1908)

Olympia Veneer Co. (1924)

Planing Mill & Sawmill (1888-1896)

St. Paul and Tacoma Lumber Co. (1942 - 1968)

N W E S

150 0 150

Feet

Reference: Historic features were identified from Sanborn maps (dates ranging from 1888 to 1968) and air photos (dates ranging from 1934 to 1996). Aerial photograph (dated April 2008) from Skillings Connolly. East Bay Redevelopment Site and Parcel Boundaries are provided by Port of Olympia.

Notes: 1. Only primary mill facilities are shown. Lumber sheds, outbuildings and lumber storage areas are not shown.
2. The locations of all features shown are approximate.
3. This drawing is for infomation 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.

Extent of Historic Operations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 4

Office:TAC Path: P:\0\0615034\07\GIS\061503407_RIWP_FIG5_AOCs.mxd CDB:TCK Map Revised: October 22, 2008



Test Pit (GeoEngineers, Inc. - Oct. 2007)

Monitoring Well (GeoEngineers, Inc. - Jan. & July 2007)

Direct-Push Boring (GeoEngineers, Inc. - Sept. 2006, Jan. & July 2007)

Direct-Push Boring (GeoEngineers Inc.Sept. 2006, Jan. 2007)

Monitoring Well (GeoEngineers, Inc. Jan. 2007)

Direct-Push Boring (Brown and Caldwell - Nov. 2006, Jan. & Feb. 2007)

Historic Operation Areas

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

Cone Penotrometer Test (Landau - May 2007)

Boring (Landau - May 2007)

Monitoring Well (Delta Environmental - June 2003)

Direct-Push Boring (Northwest Testing Company, Oct. 2006)

East Bay Redevelopment Project Area

TPH = Total Petroleum Hydrocarbons
PAHs - Polycyclic Aromatic Hydrocarbons
METALS = Total or Dissolved Metals
VOCs = Volatile Organic Compounds
PCBs = Polychlorinated Biphenyls
D/F = Dioxins/Furans

150 0 150
Feet

N
W E
S

Potential Historical Source Areas

East Bay Redevelopment Project Area
Olympia, Washington

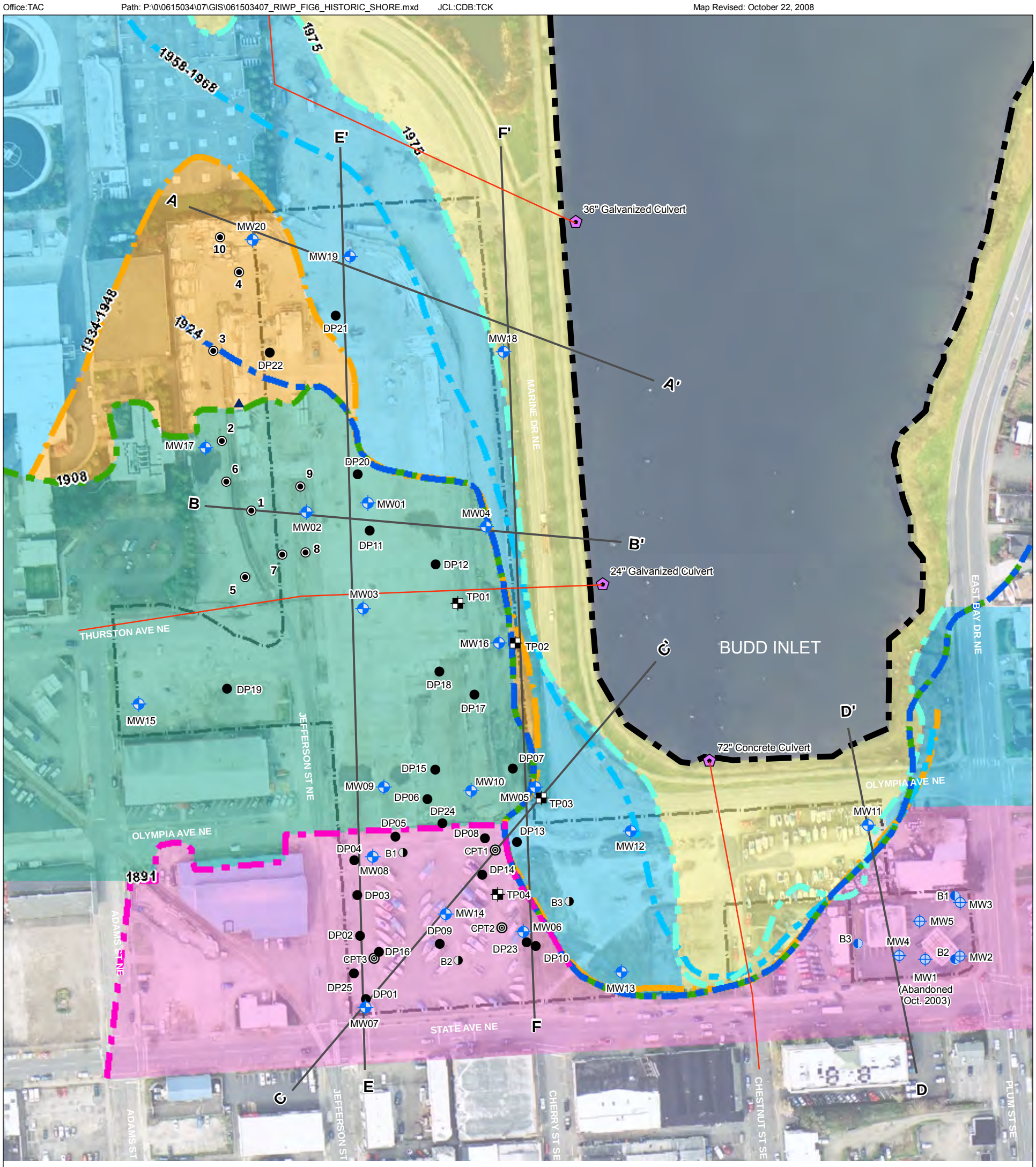
GeoEngineers

Figure 5

Reference: Historic features were identified from Sanborn maps (dates ranging from 1888 to 1968) and air photos (dates ranging from 1934 to 1996). Aerial photograph (dated April 2008) from Skillings Connolly. Parcel boundaries are based on information provided by the Port of Olympia.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for infomation purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record oth this communication.

Office:TAC Path: P:\0\0615034\07\GIS\061503407_RIWP_FIG6_HISTORIC_SHORE.mxd JCL:CDB:TCK Map Revised: October 22, 2008



- Test Pit (GeoEngineers, Inc. - Oct. 2007)
- Monitoring Well (GeoEngineers, Inc. - Jan. & July 2007)
- Direct-Push Boring (GeoEngineers, Inc. - Sept. 2006, Jan. & July 2007)
- Direct-Push Boring (Brown and Caldwell - Nov. 2006, Jan. & Feb. 2007)
- Artesian Well (Maintained by Port)
- Outfall Locations
- Monitoring Well (Delta Environmental - June 2003)
- Direct-Push Boring (Northwest Testing Company, Oct. 2006)
- Cone Penotrometer Test (Landau - May 2007)
- Boring (Landau - May 2007)
- Storm Drainage System
- East Bay Redevelopment Project Area
- A — A' Cross-Section Location

Approximate Current Shoreline

Approximate Historic Shoreline

- 1975
- 1958-1968
- 1934-1948
- 1924
- 1908
- 1891

Historic Shoreline - Fill Areas

- Post-1975
- 1948 - 1975
- 1908 - 1948
- 1891 - 1908
- Pre-1891

N W E S

150 0 150

Feet

Reference: Artesian Well locations and Storm Drainage data are based on information provided by the Port of Olympia. Historic shoreline (1975) from "Proposed Dredging, Fill & Marina Facilities in Budd Inlet, Plate No. 1," revised April 7, 1975. Historic shorelines (1888, 1908, 1924, 1958 and 1968) digitized from Sanborn maps. Aerial photo (dated April 2008) from Skillings Connolly.

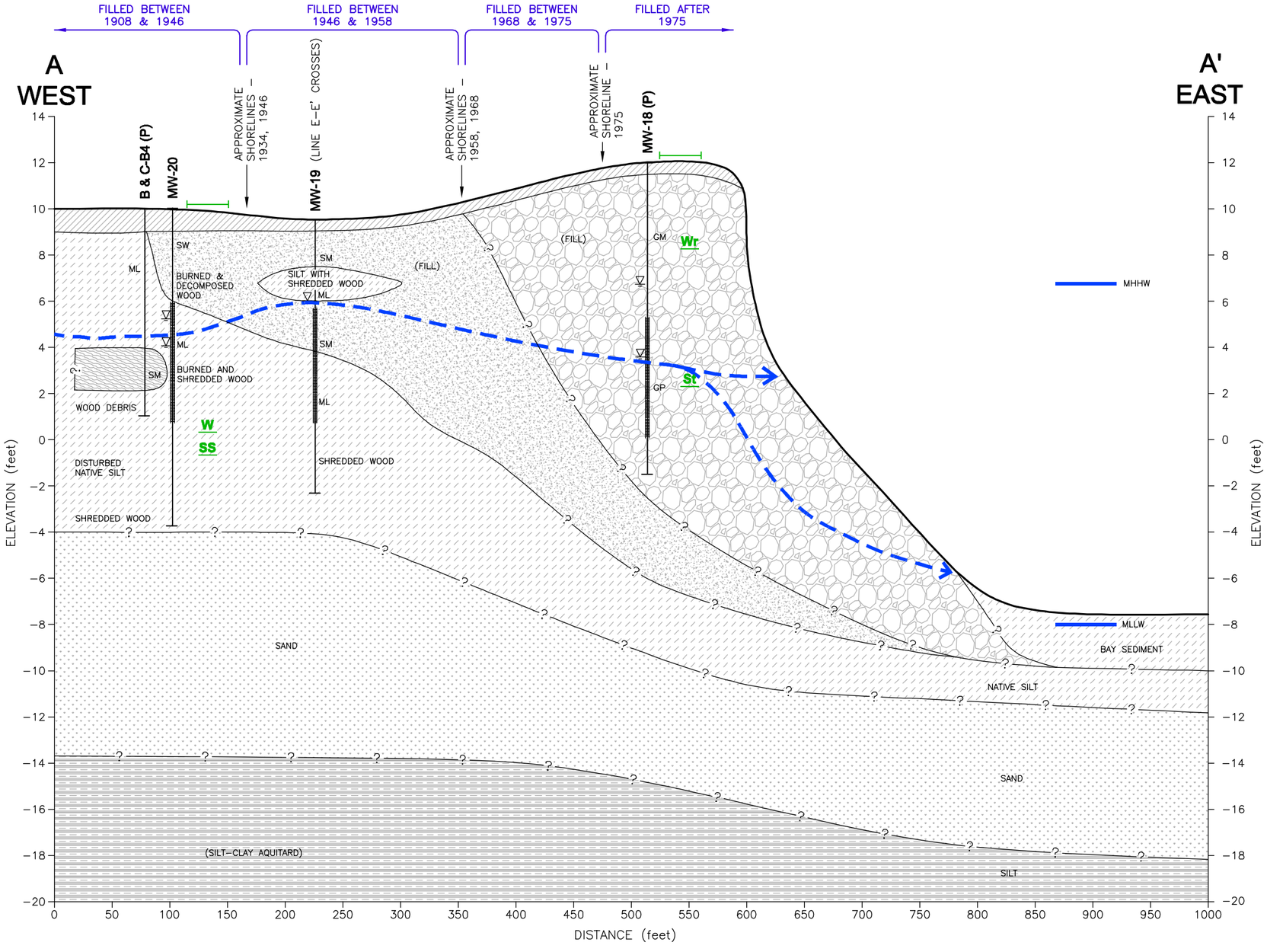
Notes: 1. The locations of all features shown are approximate.
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Site Plan, Historic Shorelines, Cross-Section Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 6



PROPOSED UTILITY LINES

- = Approximate Location of Infrastructure Corridor
- Wr = Water (Reclaimed Line)
- W = Water
- SS = Sanitary Sewer
- St = Storm
- = Approximate Depth of Proposed Utility

LEGEND

FILL
- Pavement Surface (Gravel, Asphalt, Concrete)
- Sand (Light Colored with Construction Debris)
- Wood Debris
- Gravel
- Silt

NATIVE
- Sand (Native)
- Clay

(P) = Projected
= DTW During Drilling
= DTW (MWs) – Aug 07
= Interpreted Groundwater Table

EXPLANATION

DP18 BORING NUMBER AND APPROXIMATE LOCATION

Soil Contact

Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

Notes:
1. The locations of all features shown are approximate.
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Reference: Drawing created from sketch provided by GeoEngineers' personnel.

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

Cross Section A-A'

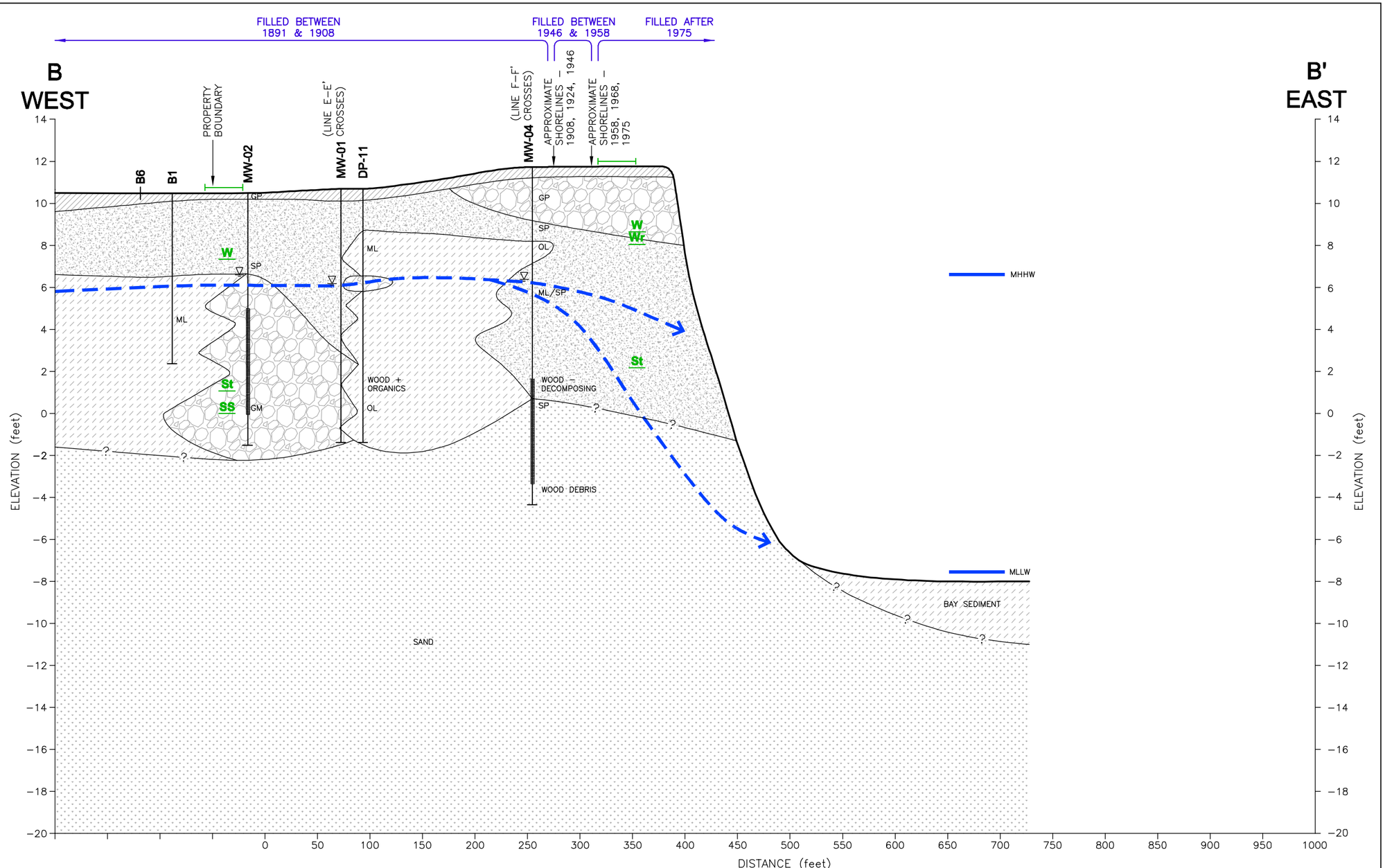
East Bay Redevelopment Project
Olympia, Washington

GeoEngineers

Figure 7A

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PROPOSED UTILITY LINES

- Approximate Location of Infrastructure Corridor
- Wr = Water (Reclaimed Line)
- W = Water
- SS = Sanitary Sewer
- St = Storm
- Approximate Depth of Proposed Utility

LEGEND

FILL
- Pavement Surface (Gravel, Asphalt, Concrete)
- Sand (Light Colored with Construction Debris)
- Gravel

NATIVE
- Silt (Disturbed)
- Sand (Native)
- Clay

(P) = Projected
▽ = DTW During Drilling
▽ = DTW (MWs) – Aug 07
= Interpreted Groundwater Table

EXPLANATION

DP18 BORING NUMBER AND APPROXIMATE LOCATION

Soil Contact

Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

Notes:
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Reference: Drawing created from sketch provided by GeoEngineers' personnel.

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VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

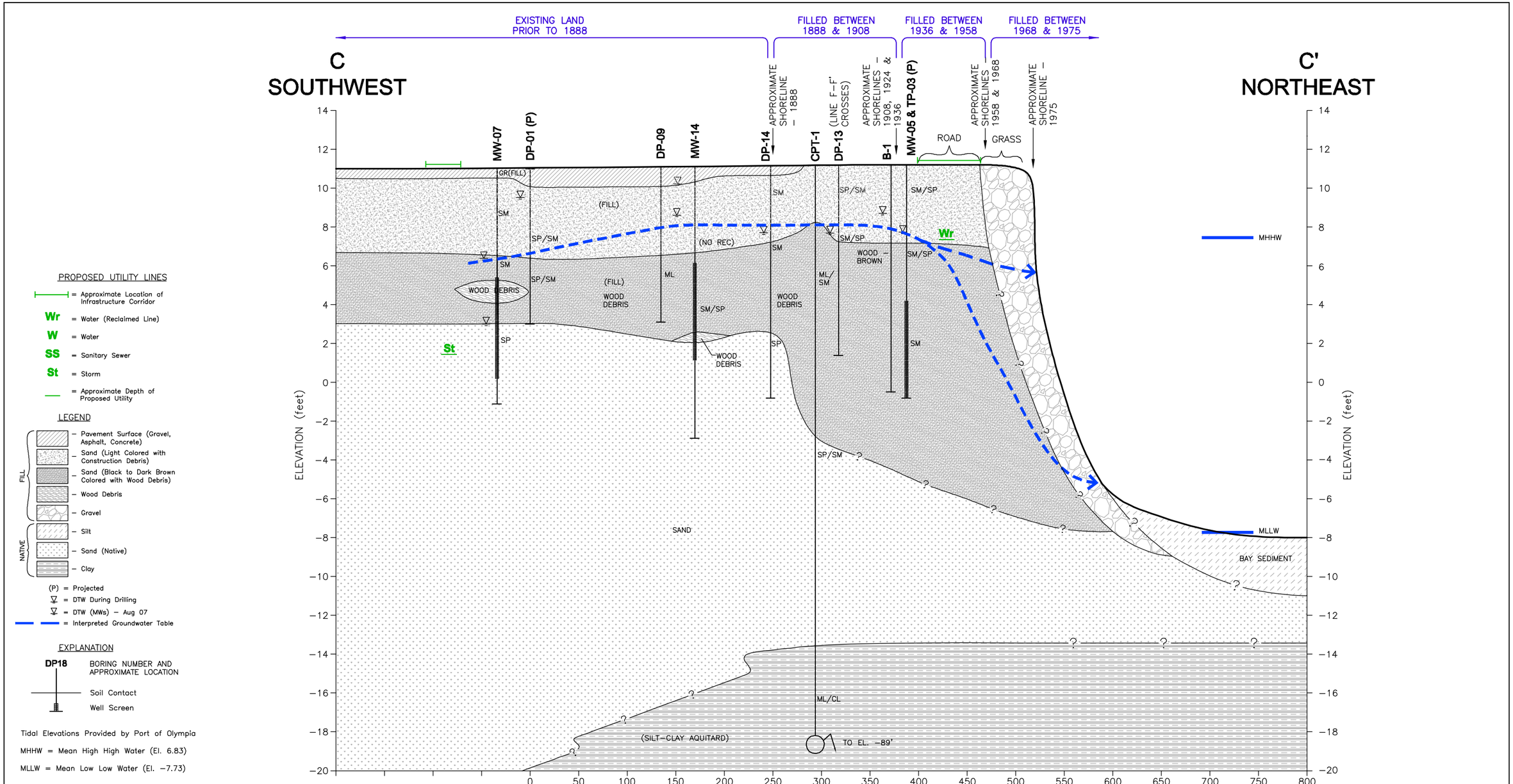
Cross Section B-B'

East Bay Redevelopment Project
Olympia, Washington

GeoEngineers

Figure 7B

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PROPOSED UTILITY LINES

- = Approximate Location of Infrastructure Corridor
- Wr = Water (Reclaimed Line)
- W = Water
- SS = Sanitary Sewer
- St = Storm
- = Approximate Depth of Proposed Utility

LEGEND

FILL
- Pavement Surface (Gravel, Asphalt, Concrete)
- Sand (Light Colored with Construction Debris)
- Sand (Black to Dark Brown Colored with Wood Debris)
- Wood Debris
- Gravel

NATIVE
- Silt
- Sand (Native)
- Clay

(P) = Projected
▽ = DTW During Drilling
▽ = DTW (MWs) – Aug 07
= Interpreted Groundwater Table

EXPLANATION

DP18 BORING NUMBER AND APPROXIMATE LOCATION
Soil Contact
Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

Notes:
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Reference: Drawing created from sketch provided by GeoEngineers' personnel.

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

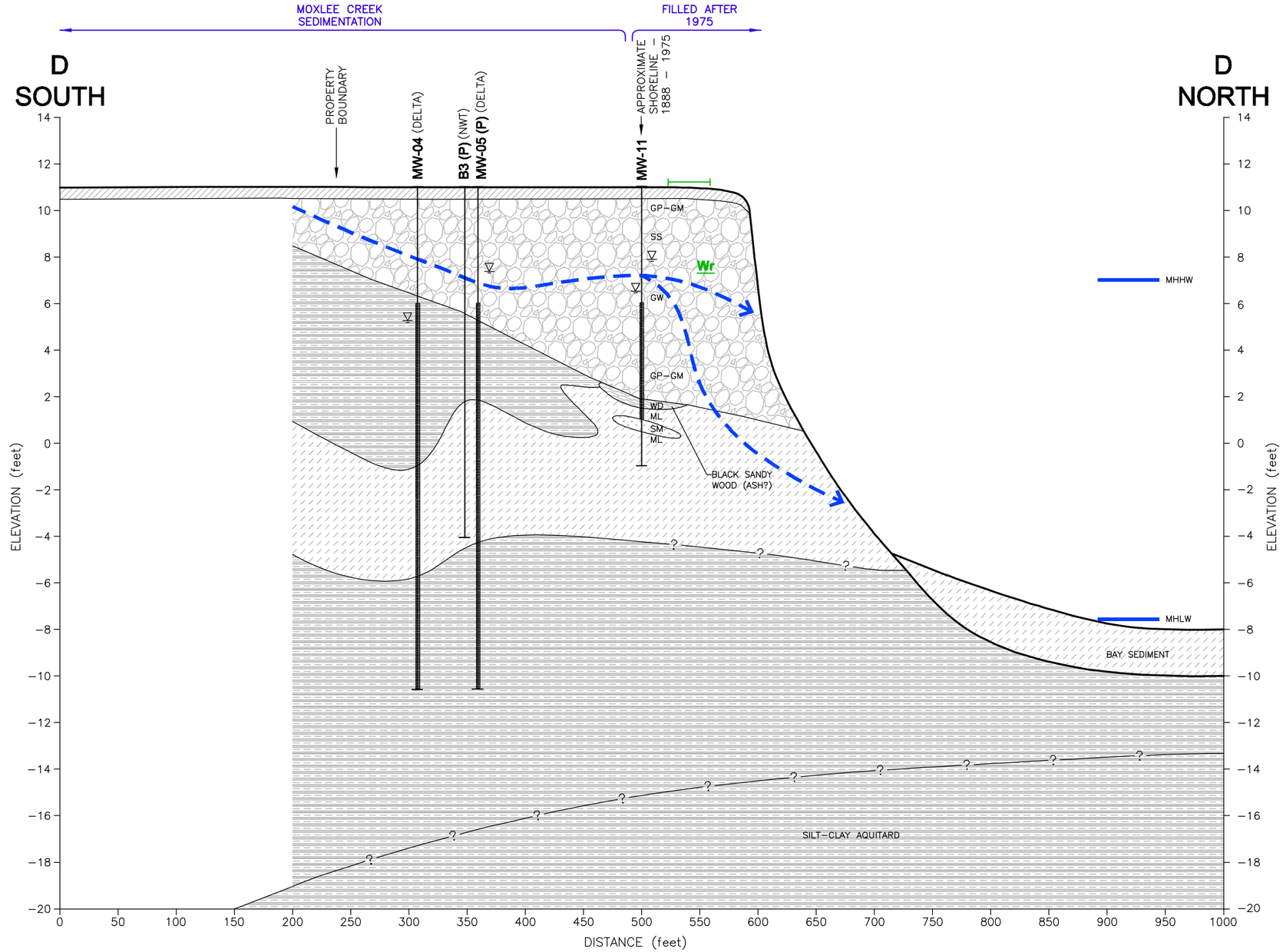
Cross Section C-C'

East Bay Redevelopment Project
Olympia, Washington

GeoEngineers

Figure 7C

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PROPOSED UTILITY LINES

- = Approximate Location of Infrastructure Corridor
- Wr = Water (Reclaimed Line)
- W = Water
- SS = Sanitary Sewer
- St = Storm
- = Approximate Depth of Proposed Utility

LEGEND

- FILL – Pavement Surface (Gravel, Asphalt, Concrete)
- FILL – Wood Debris
- FILL – Gravel
- NATIVE – Silt
- NATIVE – Sand (Native)
- NATIVE – Clay
- (P) = Projected
- = DTW During Drilling
- = DTW (MWs) – Aug 07
- = Interpreted Groundwater Table

EXPLANATION

- DP18 – BORING NUMBER AND APPROXIMATE LOCATION
- Soil Contact
- Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. −7.73)

Notes:
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Reference: Drawing created from sketch provided by GeoEngineers' personnel.

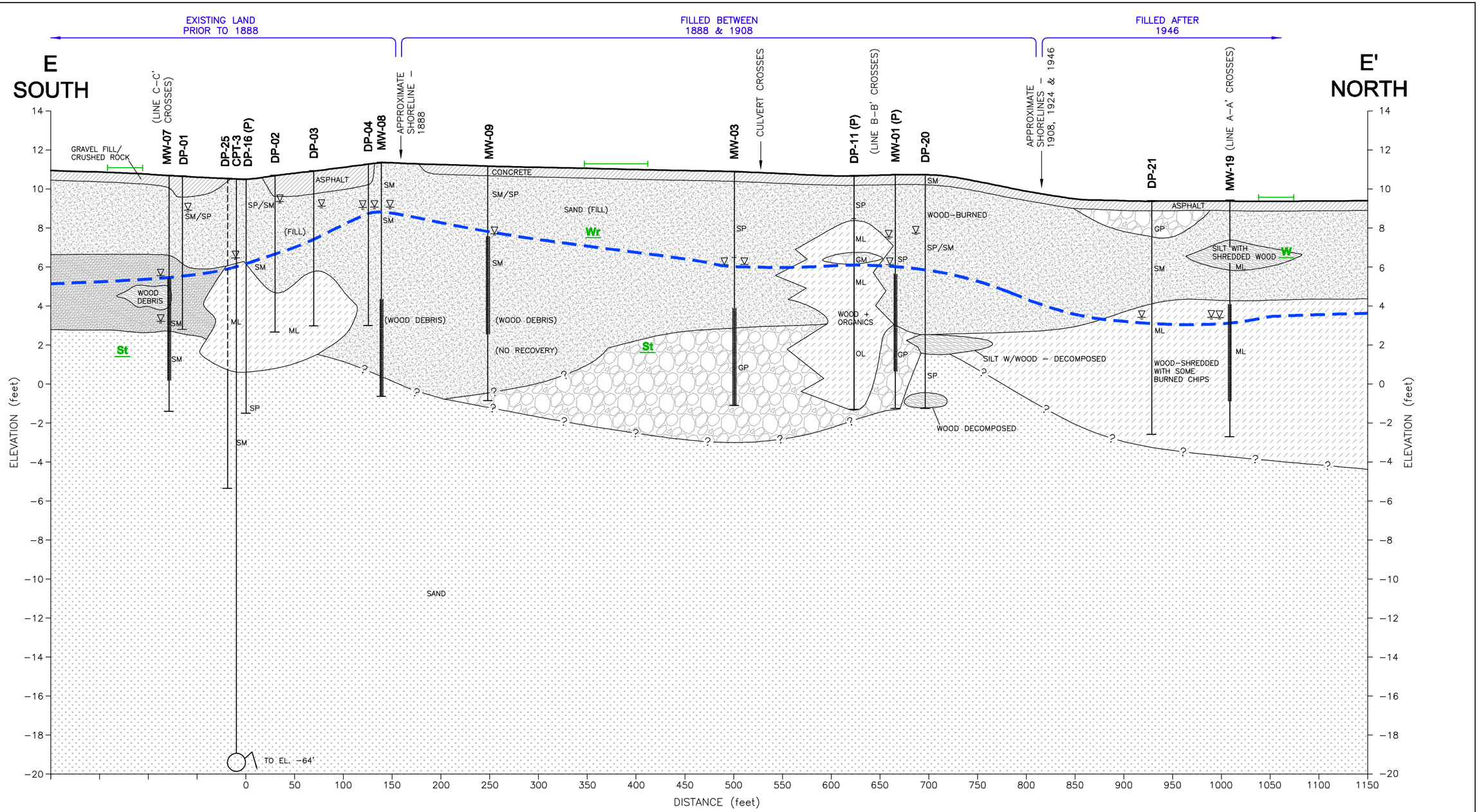
HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

Cross Section D-D'

East Bay Redevelopment Project
Olympia, Washington

GeoEngineers

Figure 7D



LEGEND

FILL
- Pavement Surface (Gravel, Asphalt, Concrete)
- Sand (Light Colored with Construction Debris)
- Sand (Black to Dark Brown Colored with Wood Debris)
- Wood Debris
- Gravel

NATIVE
- Silt (Disturbed Native)
- Sand (Native)
- Clay

(P) = Projected
▽ = DTW During Drilling
▽ = DTW (MWs) – Aug 07
= Interpreted Groundwater Table

EXPLANATION

DP18 BORING NUMBER AND APPROXIMATE LOCATION

Soil Contact

Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

PROPOSED UTILITY LINES

= Approximate Location of Infrastructure Corridor

Wr = Water (Reclaimed Line)

W = Water

SS = Sanitary Sewer

St = Storm

= Approximate Depth of Proposed Utility

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

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.

Reference: Drawing created from sketch provided by GeoEngineers' personnel.

Cross Section E-E'

East Bay Redevelopment Project
Olympia, Washington

GeoEngineers

Figure 7E

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FILLED PRIOR TO 1908

FILLED BETWEEN 1946 & 1958

FILLED AFTER 1975

F SOUTH

F' NORTH

(LINE B–B' CROSSES)

(LINE C–C' CROSSES)

(LINE A–A' CROSSES)

APPROXIMATE SHORELINES – 1908, 1924, 1934 & 1946

APPROXIMATE SHORELINES – 1958, 1968 & 1975

DP-10 DP-23 MW-06 DP-13 MW-05 DP-07 DP-17 (P) MW-16 MW-04 MW-18

CRUSHED ROCK

TOPSOIL

GRAVEL FILL/ CRUSHED ROCK

ASPHALT

TOPSOIL

SM/SP

SP/SM

Wr

SM/SP

SM/SP

WOOD DEBRIS + BRICK

SAND (FILL)

SM

St

ASH

WOOD – SHREDDED

WOOD – BLACK SHREDDED

ML

WOOD (CHUNKS)

CLAY

SP

ML/SP

GRAVEL (FILL)

GM

GP

SAND (FILL)

WOOD – DECOMPOSING

(PRESERVATIVE ODOR)

SM SAND (FILL)

WOOD DEBRIS

SILT

SAND

(SILT–CLAY AQUITARD)

ELEVATION (feet)

DISTANCE (feet)

LEGEND

FILL
- Pavement Surface (Gravel, Asphalt, Concrete)
- Sand (Light Colored with Construction Debris)
- Sand (Black to Dark Brown Colored with Wood Debris)
- Gravel

NATIVE
- Silt
- Sand (Native)
- Clay

(P) = Projected

▽ = DTW During Drilling

▽ = DTW (MWs) – Aug 07

= Interpreted Groundwater Table

EXPLANATION

DP18 BORING NUMBER AND APPROXIMATE LOCATION

Soil Contact

Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

PROPOSED UTILITY LINES

= Approximate Location of Infrastructure Corridor

Wr = Water (Reclaimed Line)

W = Water

SS = Sanitary Sewer

St = Storm

= Approximate Depth of Proposed Utility

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

Notes:
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Reference: Drawing created from sketch provided by GeoEngineers' personnel.

Cross Section F-F'

East Bay Redevelopment Project
Olympia, Washington

GeoEngineers

Figure 7F

Office:TAC Path: P:\0615034\GIS\061503407_RIWP_FIG8_TPH.mxd CDB:TCK Map Revised: October 22, 2008

Legend

MTCA Method A Cleanup Level:
Gasoline = 100 mg/kg
Diesel = 2,000 mg/kg
Motor Oil = 2,000 mg/kg

Total Petroleum Hydrocarbon Exceedances in Soil
Depth (feet below ground surface [fbgs])

0 - 2 fbgs

2 - 6 fbgs

6 - 10 fbgs

10 - 14 fbgs

No Total Petroleum Hydrocarbon Exceedances in Soil
Depth (fbgs)

0 - 2 fbgs

2 - 6 fbgs

6 - 10 fbgs

10 - 14 fbgs

Gasoline = 220 mg/kg
Motor Oil = 3,800 mg/kg
Motor Oil = 4,500 mg/kg
Motor Oil = 9,900 mg/kg
Motor Oil = 4,600 mg/kg
Gasoline = 150 mg/kg
Gasoline = 290 mg/kg
Motor Oil = 8,800 mg/kg
Diesel = 7,300 mg/kg
Motor Oil = 7,200 mg/kg
Diesel = 3,900 mg/kg
Motor Oil = 21,000 mg/kg
Diesel = 2,900 mg/kg
Motor Oil = 9,900 mg/kg
Motor Oil = 2,200 mg/kg

PARCEL 1
PARCEL 2
PARCEL 3
PARCEL 4
PARCEL 5
PARCEL 6
PARCEL 7
PARCEL 8
PARCEL 9

MW01 MW02 MW03 MW04 MW05 MW06 MW08 MW09 MW10 MW11 MW12 MW13 MW14 MW15 MW16 MW17 MW18 MW19 MW20
DP01 DP02 DP03 DP04 DP05 DP06 DP07 DP08 DP09 DP10 DP11 DP12 DP13 DP14 DP15 DP16 DP17 DP18 DP19 DP20 DP21 DP22 DP23 DP24 DP25
B1 B2 B3
1 2 3 4 5 6 7 8 9 10

THURSTON AVE NE
OLYMPIA AVE NE
STATE AVE NE
MARINE DR NE
EAST BAY DR NE
ADAMS ST NE
ADAMS ST SE
JEFFERSON ST SE
CHERRY ST SE
CHESTNUT ST SE
PLUM ST SE

Blue box indicates sample was analyzed but the analyte(s) was not detected or was detected at concentrations less than applicable cleanup levels.

Red box indicates the analyte(s) was detected at a concentration greater than applicable cleanup levels.

Clear box indicates no sample tested and/or analyzed.

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N W E S

150 0 150
Feet

Extent of Petroleum Hydrocarbons in Soil

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 8

Reference: Aerial photograph (dated April 2008) from Skillings Connolly. Short plat parcel boundaries are based on information provided by the Port of Olympia. Approximate Infastructure Improvement Corridor per Skillings Connolly Drawing.

Notes:
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Office:TAC Path: P:\0615034\GIS\061503407_RIWP_FIG9_METALS.mxd CDB:TCK Map Revised: October 22, 2008



Blue box indicates sample was analyzed but the analyte(s) was not detected or was detected at concentrations less than applicable cleanup levels.

Red box indicates the analyte(s) was detected at a concentration greater than applicable cleanup levels.

Clear box indicates no sample tested and/or analyzed.

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N W E S

150 0 150

Feet

Extent of Metals in Soil

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 9

Reference: Aerial photograph (dated April 2008) and Approximate Infastructure Improvement Corridor from Skillings Connolly.
Short plat parcel boundaries are based on information provided by the Port of Olympia.

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Office:TAC Path: P:\0615034\GIS\061503407_RIWP_FIG10_CPAH.mxd CDB:TCK Map Revised: October 22, 2008

Legend

MTCA Method A Cleanup Level:
Toxicity Equivalency Quotient = 0.1 mg/kg

cPAHS-Toxicity Equivalency Exceedances in Soil
Depth (feet below ground surface [fbgs])

- 0 - 4 fbgs
- 4 - 8 fbgs
- 8 - 12 fbgs
- 12 - 18 fgbs

No cPAHS-Toxicity Equivalency Exceedances in Soil
Depth (feet below ground surface [fbgs])

- 0 - 4 fbgs
- 4 - 8 fbgs
- 8 - 12 fbgs
- 12 - 18 fbgs

TEQ = 0.76 mg/kg
TEQ = 1.01 mg/kg
TEQ = 0.11 mg/kg
TEQ = 0.17 mg/kg
TEQ = 0.14 mg/kg
TEQ = 0.11 mg/kg
TEQ = 0.24 mg/kg
TEQ = 0.54 mg/kg
TEQ = 0.14 mg/kg
TEQ = 0.10 mg/kg
TEQ = 0.10 mg/kg
TEQ = 0.20 mg/kg
TEQ = 0.20 mg/kg
TEQ = 0.14 mg/kg

PARCEL 1
PARCEL 2
PARCEL 3
PARCEL 4
PARCEL 5
PARCEL 6
PARCEL 7
PARCEL 8
PARCEL 9

MW01 MW02 MW03 MW04 MW05 MW06 MW08 MW09 MW10 MW11 MW12 MW13 MW14 MW15 MW16 MW17 MW18 MW19 MW20
DP01 DP02 DP03 DP04 DP05 DP06 DP07 DP08 DP09 DP10 DP11 DP12 DP13 DP14 DP15 DP16 DP17 DP18 DP19 DP20 DP21 DP22 DP23 DP24 DP25
B1 B2 B3

MARINE DR NE
EAST BAY DR NE
OLYMPIA AVE NE
THURSTON AVE NE
STATE AVE NE
ADAMS ST NE
ADAMS ST SE
JEFFERSON ST SE
CHERRY ST SE
CHESTNUT ST SE
PLUM ST SE

Blue box indicates sample was analyzed but the analyte(s) was not detected or was detected at concentrations less than applicable cleanup levels.

Red box indicates the analyte(s) was detected at a concentration greater than applicable cleanup levels.

Clear box indicates no sample tested and/or analyzed.

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N W E S

150 0 150
Feet

TEQ = Toxicity Equivalency Quotient

Reference: Aerial photograph (dated April 2008) and Approximate Infastructure Improvement Corridor from Skillings Connolly.
Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes:
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Extent of cPAHs in Soil

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 10



qÉi=mã=Éd Éçb å ÖÃÉÉëøí÷åÅÍK

^ èèêçñãã ~íÉ÷âÑÑéíâ Åí ðÉ÷ãa èêçíÉ à Éâí= çêãÃçÉ

b~êí=_~õ¬ə ÉÇÉÍÉ ãçéà Éâí=mêçéçéÉÇÞ Ùçêã¬ím~ðÅ=_çí åÇ~êêÉè

b~êí=_~õ¬ə ÉÇÉÍÉ ãçéà Éâí=mêçÉÃÍ≠ ðÉ~

N R M M R M

c ÉÉí

Dioxin/Furan in Soil

b~êí=_~õ¬ə ÉÇÉÍÉ ãçéà Éâí=mêçÉÃÍ≠ ðÉ~
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Figure 11

GEOENGINEERS

o ÉNÉÉ÷ÅÉW Éèê÷èÙçÇÖ~íÉÇÇ÷ èêãÃçMUÞ÷åÇ ~íÉ÷âÑèíâ Ai ðÉ÷íà èêçí Éà Éâí= çêãÃçÉNêçà ÞãêêÃÖÖ= çãåçæãK
p ÙçÉ÷èà÷í÷~åÉÃèÅçí åÇ~êêÉ÷ÇÉÇÇ÷ÉÑ÷âÑÑêà ~íÉà÷èêçí åÇÉÇÅÃÖ÷ÙÉ÷ñçÉÑ÷çÑ åðà èà÷K

k çíÉèW
Nêq ÙÉ÷åÅ÷íÉà÷èÑ÷ãÑÉ~íí ~êÉ~èêêçñàã ~íÉK
Oêq Ùè÷Ç÷ åÖÉ÷ÑêèÑí÷ãíÉàÇÇÇÇ÷=èêêãí÷ãíÇí åÖÑÉÇÇ÷=íí~ÅÉÇÇ÷=à÷~íí~ÅÉÇÇ÷ÑÑêíãÅÉ÷~àãçí÷Ó ~è~íÉÉ íÙÉ÷~Åí è~Åò÷àÇ÷Ñí÷ÑÉÅÃèêq ÙÉà ~èíÉÑÑÉ÷ã÷ç÷ÉÇÇ÷Ñò÷d ÉçbàÓãÉÉèí÷ÑÉÅÃÉ÷~ÇÝ ãêíÉÑà É÷~è÷ÙÉ÷ÑÑÅà÷ÑÑÙÉ÷ÇÝÑÑÙÉ÷ãÉÅÝÉçÝÑÑÙÉ÷ÇÝÑÑÙÉ÷ÇÝÑÑÙÉ÷Ç

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PREVIOUS ANALYTICAL RESULTS

TPH / Metals / Other / PAHs

= No Exceedance

= Not Tested

OTHER = PCBs, VOCs, DIOXINS/FURANS

OTHER PCOCs TESTED ARE INDICATED BY AN INITIAL:

P = PCB

V = VOC

D = DIOXINS & FURANS

IF NO INITIAL, SAMPLE NOT TESTED

NO SVOC EXCEEDANCES EXCEPT AS NOTED FOR PAH TEQs

LEGEND

FILL
- Pavement Surface (Gravel, Asphalt, Concrete)
- Sand (Light Colored with Construction Debris)
- Wood Debris
- Gravel

NATIVE
- Silt
- Sand (Native)
- Clay

(P) = Projected

▽ = DTW During Drilling

▽ = DTW (MWs) – Aug 07

= Interpreted Groundwater Table

DP-27 = Proposed Boring Locations & Sample Depths (See Figures 16 & 17 for a site plan showing proposed boring locations.)

EXPLANATION

DP18 BORING NUMBER AND APPROXIMATE LOCATION

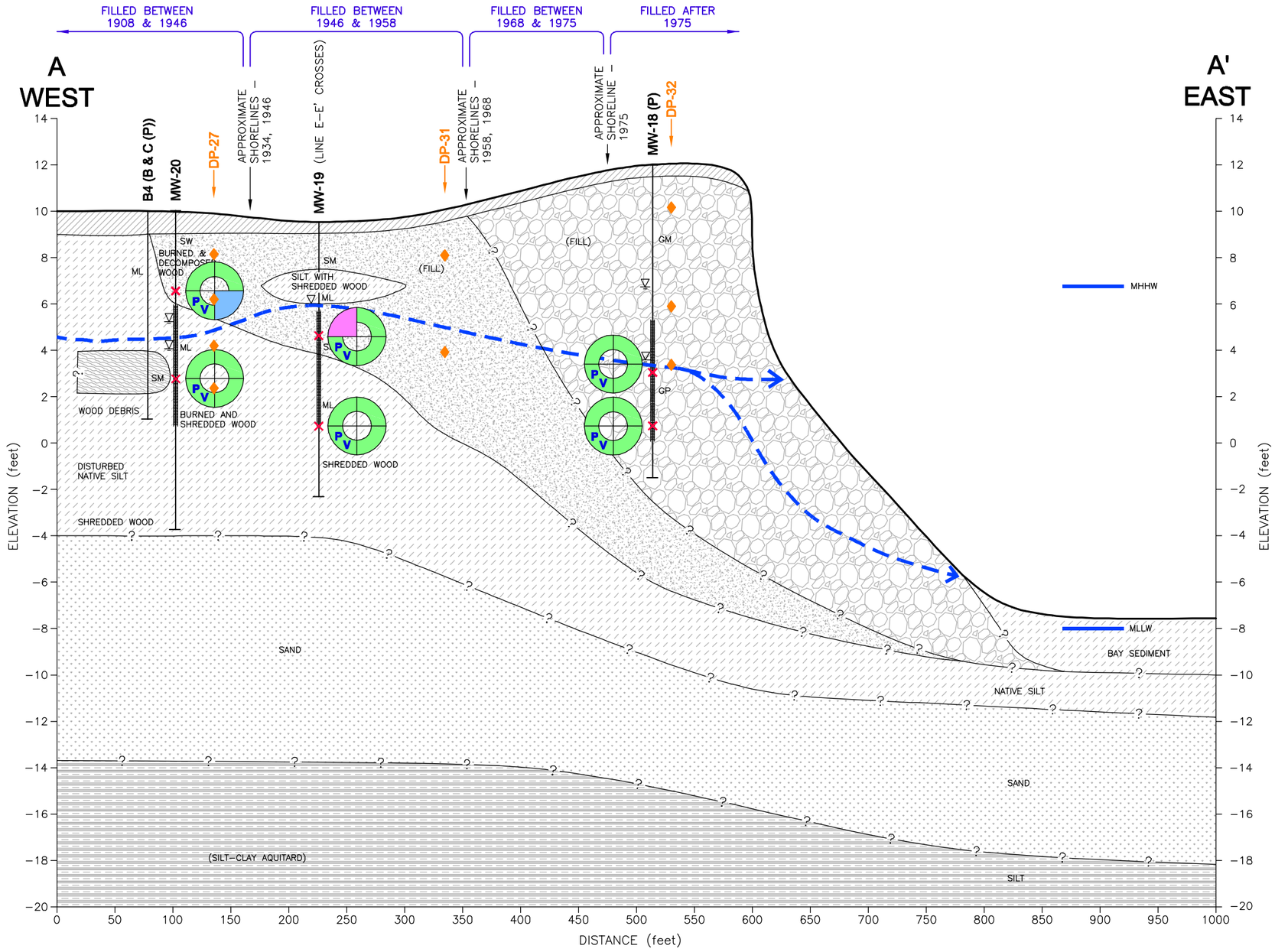
Soil Contact

Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. −7.73)



Notes:
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HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

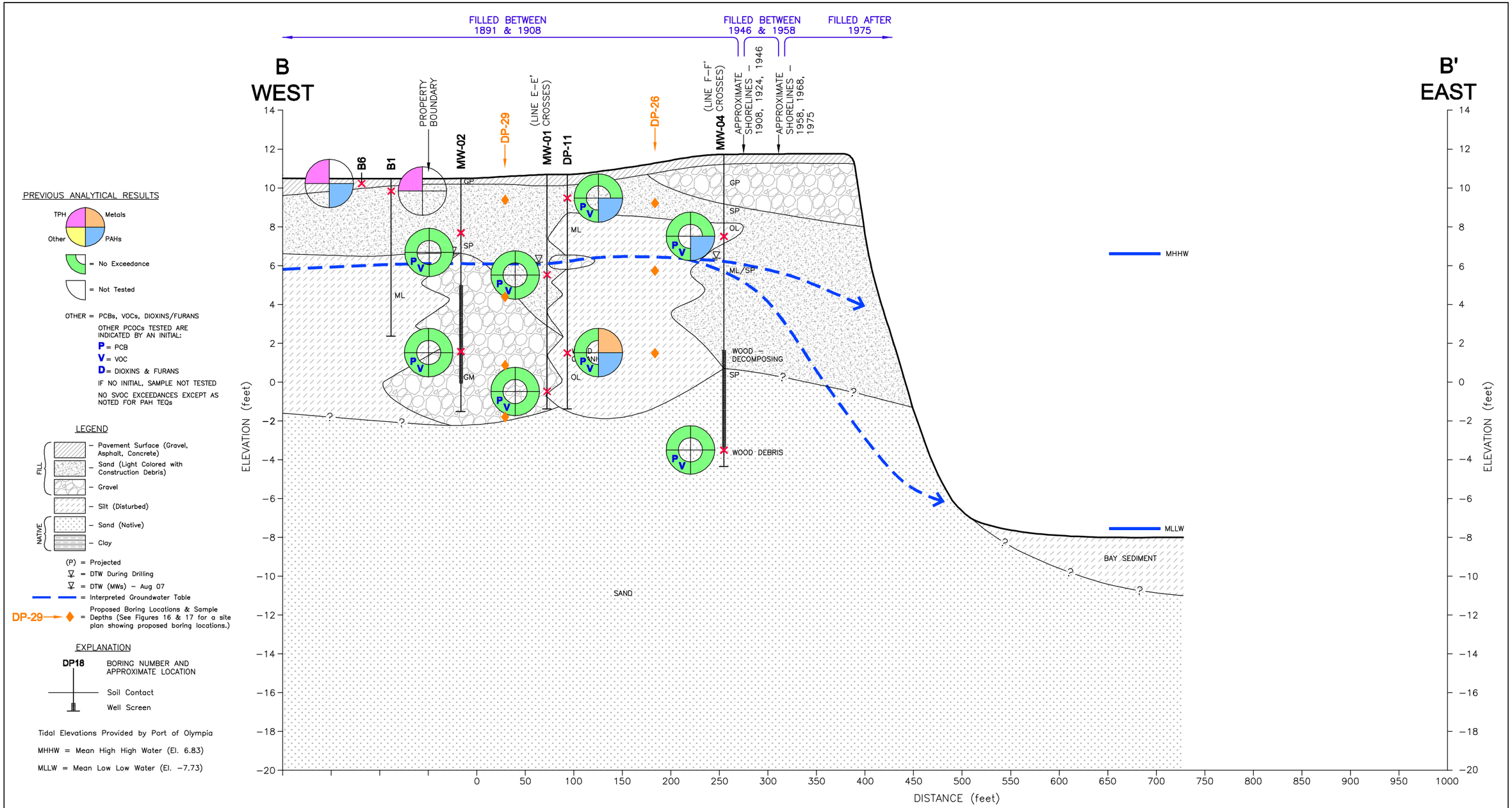
Cross Section A-A'
With Chemical Analytical Results

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 12A

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PREVIOUS ANALYTICAL RESULTS

TPH / Metals / Other / PAHs

= No Exceedance

= Not Tested

OTHER = PCBs, VOCs, DIOXINS/FURANS

OTHER PCOCs TESTED ARE INDICATED BY AN INITIAL:

P = PCB

V = VOC

D = DIOXINS & FURANS

IF NO INITIAL, SAMPLE NOT TESTED

NO SVOC EXCEEDANCES EXCEPT AS NOTED FOR PAH TEQs

LEGEND

FILL
- Pavement Surface (Gravel, Asphalt, Concrete)
- Sand (Light Colored with Construction Debris)
- Gravel

NATIVE
- Silt (Disturbed)
- Sand (Native)
- Clay

(P) = Projected

= DTW During Drilling

= DTW (MWs) – Aug 07

= Interpreted Groundwater Table

DP-29 = Proposed Boring Locations & Sample Depths (See Figures 16 & 17 for a site plan showing proposed boring locations.)

EXPLANATION

DP18 BORING NUMBER AND APPROXIMATE LOCATION

Soil Contact

Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

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Reference: Drawing created from sketch provided by GeoEngineers' personnel.

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

Cross Section B-B'
With Chemical Analytical Results

East Bay Redevelopment Project Area
Olympia, Washington

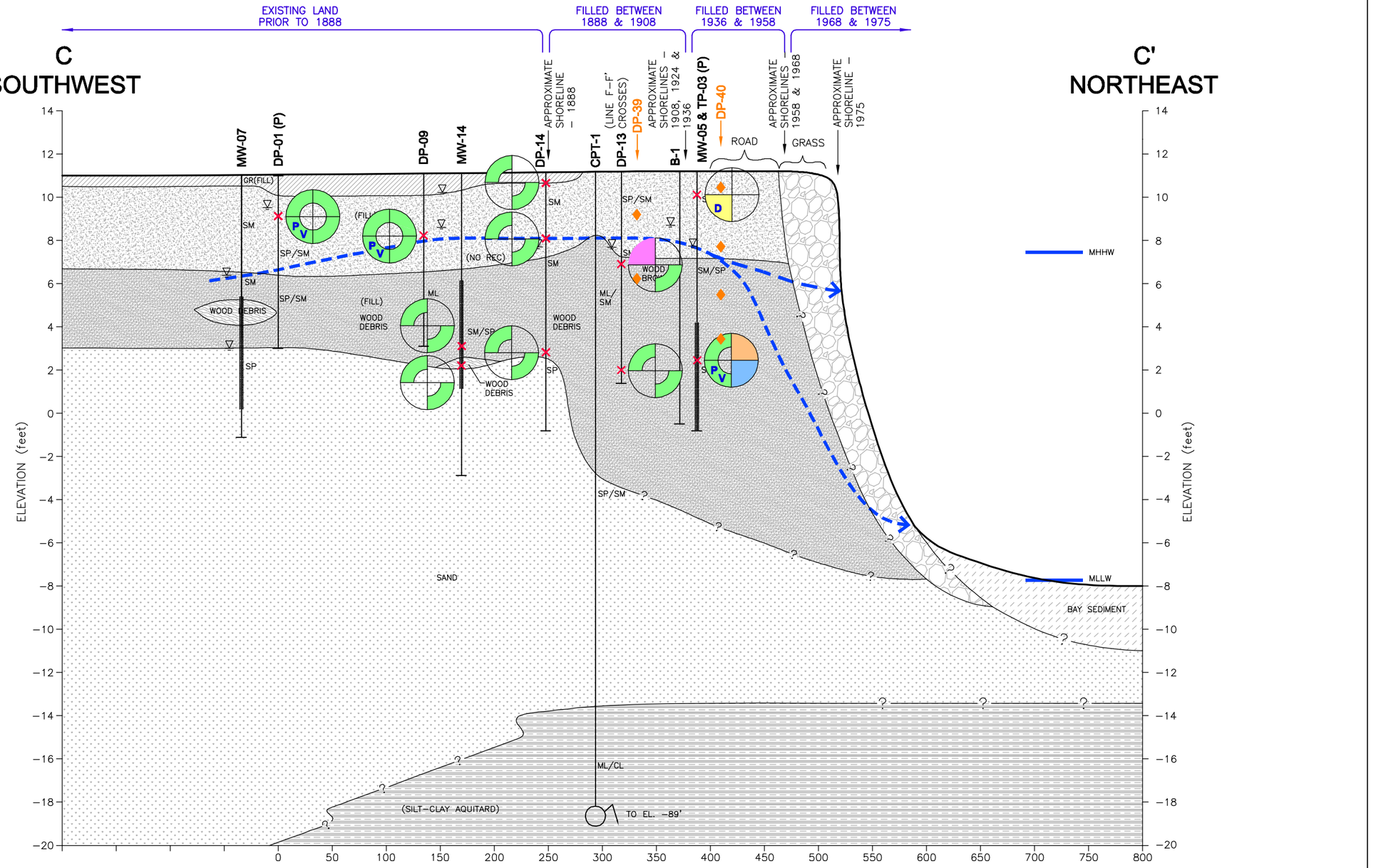
GeoEngineers

Figure 12B

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C SOUTHWEST — C' NORTHEAST

EXISTING LAND PRIOR TO 1888 | FILLED BETWEEN 1888 & 1908 | FILLED BETWEEN 1936 & 1958 | FILLED BETWEEN 1968 & 1975



PREVIOUS ANALYTICAL RESULTS

TPH, Metals, Other, PAHs

= No Exceedance

= Not Tested

OTHER = PCBs, VOCs, DIOXINS/FURANS

OTHER PCOCs TESTED ARE INDICATED BY AN INITIAL:

P = PCB

V = VOC

D = DIOXINS & FURANS

IF NO INITIAL, SAMPLE NOT TESTED

NO SVOC EXCEEDANCES EXCEPT AS NOTED FOR PAH TEQs

LEGEND

FILL
- Pavement Surface (Gravel, Asphalt, Concrete)
- Sand (Light Colored with Construction Debris)
- Sand (Black to Dark Brown Colored with Wood Debris)
- Wood Debris
- Gravel

NATIVE
- Silt
- Sand (Native)
- Clay

(P) = Projected

= DTW During Drilling

= DTW (MWs) – Aug 07

= Interpreted Groundwater Table

DP-38 = Proposed Boring Locations & Sample Depths (See Figures 16 & 17 for a site plan showing proposed boring locations.)

EXPLANATION

DP18 BORING NUMBER AND APPROXIMATE LOCATION

Soil Contact

Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

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VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

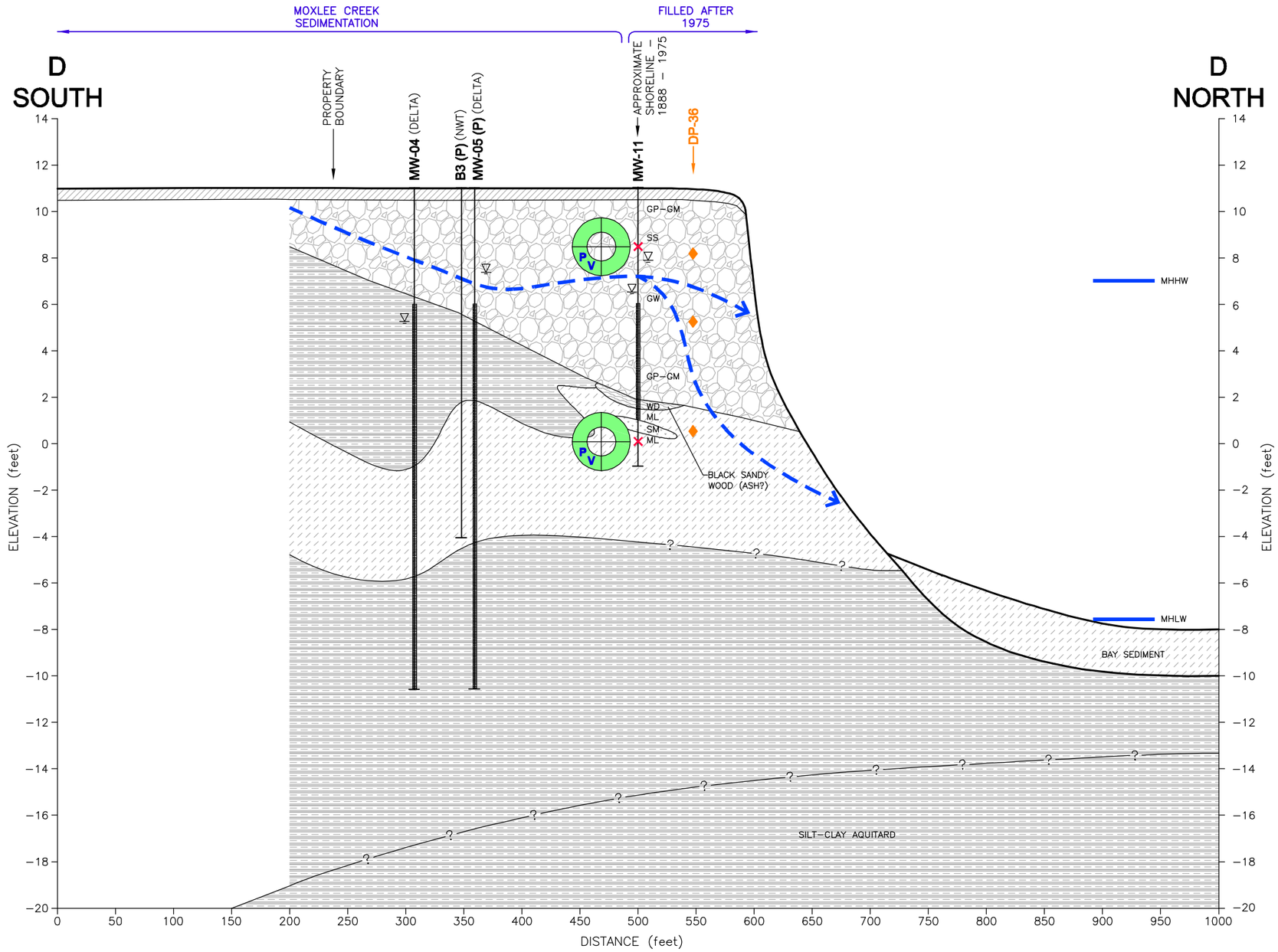
Cross Section C-C'
With Chemical Analytical Results

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 12C

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PREVIOUS ANALYTICAL RESULTS

TPH / Metals / Other / PAHs

= No Exceedance

= Not Tested

OTHER = PCBs, VOCs, DIOXINS/FURANS

OTHER PCOCs TESTED ARE INDICATED BY AN INITIAL:

P = PCB

V = VOC

D = DIOXINS & FURANS

IF NO INITIAL, SAMPLE NOT TESTED

NO SVOC EXCEEDANCES EXCEPT AS NOTED FOR PAH TEQs

LEGEND

FILL
- Pavement Surface (Gravel, Asphalt, Concrete)
- Wood Debris
- Gravel
- Silt

NATIVE
- Sand (Native)
- Clay

(P) = Projected

▽ = DTW During Drilling

▽ = DTW (MWs) – Aug 07

= Interpreted Groundwater Table

DP-36 = Proposed Boring Locations & Sample Depths (See Figures 16 & 17 for a site plan showing proposed boring locations.)

EXPLANATION

DP18 BORING NUMBER AND APPROXIMATE LOCATION

Soil Contact

Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

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VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

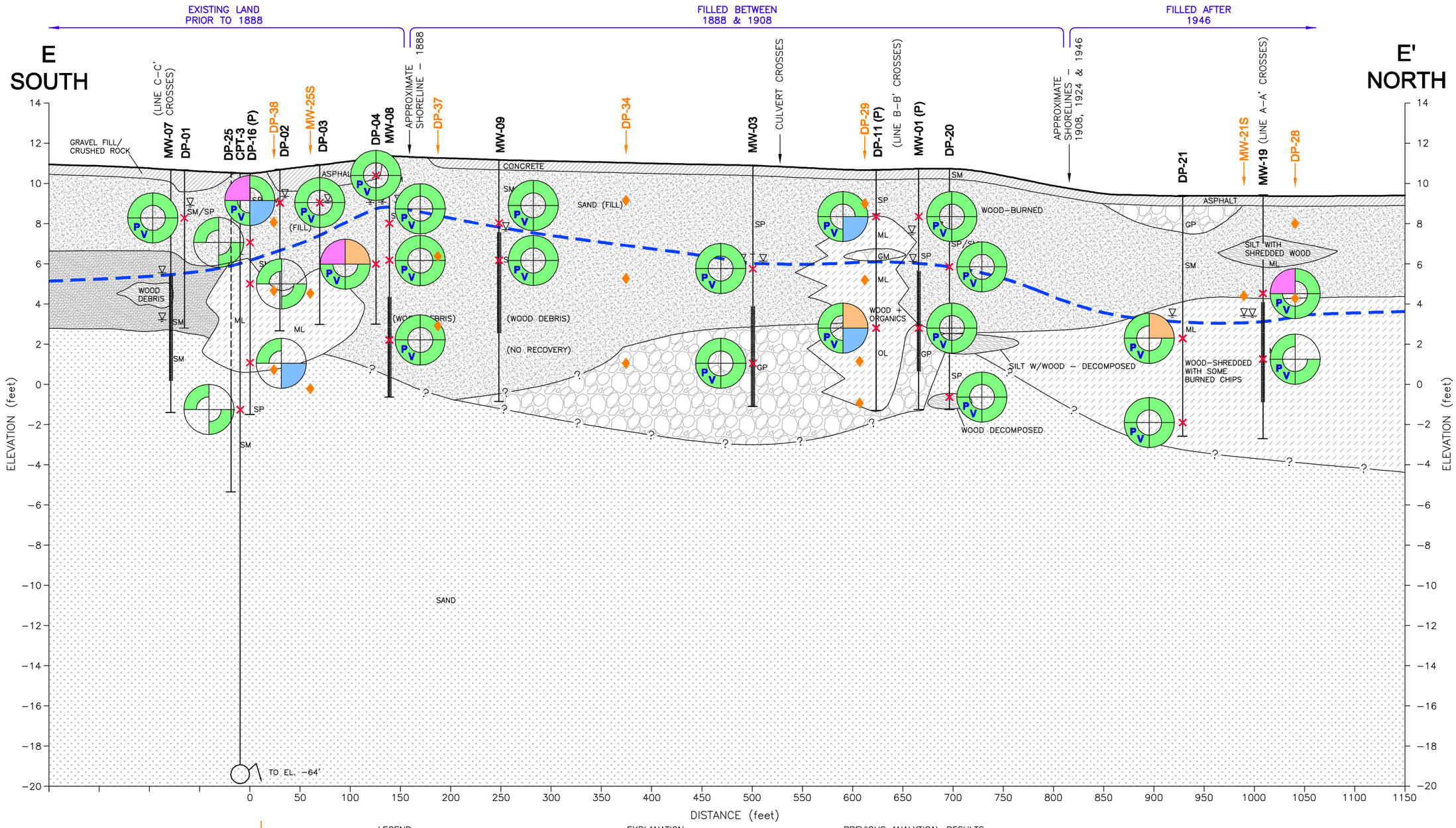
Cross Section D-D'
With Chemical Analytical Results

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 12D

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LEGEND

- FILL: Pavement Surface (Gravel, Asphalt, Concrete)
- FILL: Sand (Light Colored with Construction Debris)
- FILL: Sand (Black to Dark Brown Colored with Wood Debris)
- FILL: Wood Debris
- FILL: Gravel
- NATIVE: Silt (Disturbed Native)
- NATIVE: Sand (Native)
- NATIVE: Clay
- (P) = Projected
- ▽ = DTW During Drilling
- ▽ = DTW (MWs) – Aug 07
- = Interpreted Groundwater Table
- DP-38 ◆ = Proposed Boring Locations & Sample Depths (See Figures 16 & 17 for a site plan showing proposed boring locations.)

EXPLANATION

- DP18: BORING NUMBER AND APPROXIMATE LOCATION
- Soil Contact
- Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

PREVIOUS ANALYTICAL RESULTS

TPH, Metals, Other, PAHs

= No Exceedance

= Not Tested

OTHER = PCBs, VOCs, DIOXINS/FURANS

OTHER PCOCs TESTED ARE INDICATED BY AN INITIAL:

P = PCB

V = VOC

D = DIOXINS & FURANS

IF NO INITIAL, SAMPLE NOT TESTED

NO SVOC EXCEEDANCES EXCEPT AS NOTED FOR PAH TEQs

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

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.

Reference: Drawing created from sketch provided by GeoEngineers' personnel.

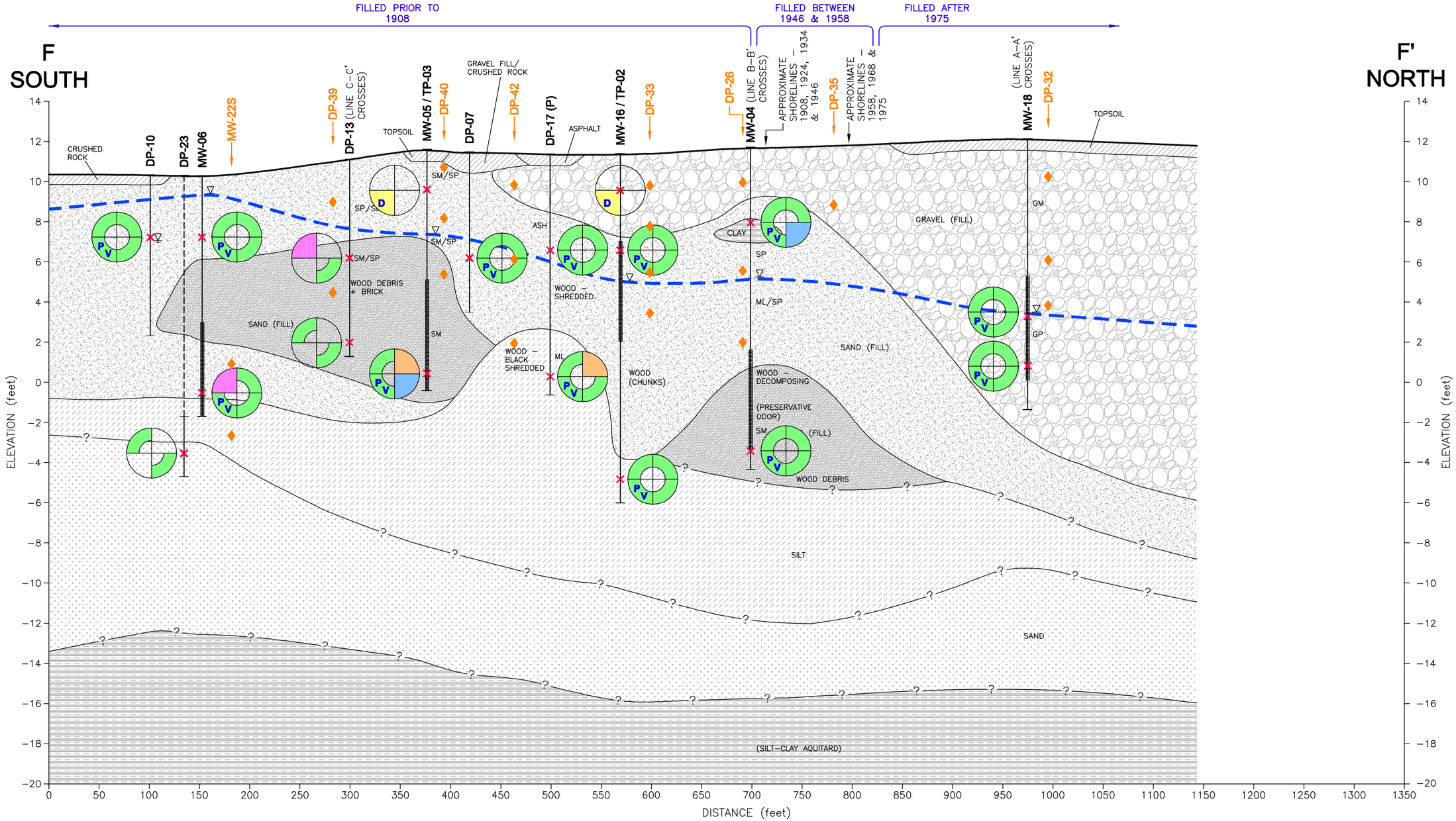
Cross Section E-E' With Chemical Analytical Results

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 12E

W:\SEATTLE\PROJECTS\0\06150341.07\WORKING\RI WKPL AUG 08\FIGURES-CAD\CHEM CIRCLES-VERSION2.DWG\TAB:F MODIFIED BY LKNOWLTON ON OCT 20, 2008 - 10:48



LEGEND

- FILL: Pavement Surface (Gravel, Asphalt, Concrete)
- FILL: Sand (Light Colored with Construction Debris)
- FILL: Sand (Black to Dark Brown Colored with Wood Debris)
- FILL: Gravel
- NATIVE: Silt
- NATIVE: Sand (Native)
- NATIVE: Clay
- (P) = Projected
- = DTW During Drilling
- = DTW (MWs) – Aug 07
- = Interpreted Groundwater Table
- DP-39 = Proposed Boring Locations & Sample Depths (See Figures 16 & 17 for a site plan showing proposed boring locations.)

EXPLANATION

- DP18 = BORING NUMBER AND APPROXIMATE LOCATION
- Soil Contact
- Well Screen

Tidal Elevations Provided by Port of Olympia

MHHW = Mean High High Water (El. 6.83)

MLLW = Mean Low Low Water (El. –7.73)

PREVIOUS ANALYTICAL RESULTS

TPH, Metals, Other, PAHs

- = No Exceedance
- = Not Tested

OTHER = PCBs, VOCs, DIOXINS/FURANS

OTHER PCOCs TESTED ARE INDICATED BY AN INITIAL:

- **P** = PCB
- **V** = VOC
- **D** = DIOXINS & FURANS

IF NO INITIAL, SAMPLE NOT TESTED

NO SVOC EXCEEDANCES EXCEPT AS NOTED FOR PAH TEQs

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION: 20X

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.

Reference: Drawing created from sketch provided by GeoEngineers' personnel.

Cross Section F-F' With Chemical Analytical Results

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 12F

Office:TAC Path: P:\0\0615034\GIS\061503407_RIWP_FIG12_GW.mxd CDB:TCK Map Revised: October 22, 2008

As - Arsenic
BEP - Bis (2-ethylhexyl) phthalate
TPH-Dx - Total Petroleum Hydrocarbons - Diesel

Analytical results are reported in micrograms per liter

MW20	
8/14/07	< MTCA

MW19	
8/14/07	< MTCA

MW17	As
8/14/2007	140
MTCA Cleanup Level	5

MW18	
8/15/07	< MTCA

MW01	
1/05/2007	< MTCA
6/28/07	< MTCA

MW04	As
1/05/2007	16
6/29/2007	13
MTCA Cleanup Level	5

MW02	
1/04/2007	< MTCA
6/28/07	< MTCA

MW03	
1/04/2007	< MTCA
6/28/07	< MTCA

MW3	
01/17/06	< MTCA

MW16	
8/15/07	< MTCA

MW5	
10/13/06	< MTCA

MW10	BEP
1/16/2007	24
6/29/07	< MTCA
MTCA Cleanup Level	6.3

MW11	
8/15/07	< MTCA

MW05	
1/16/2007	< MTCA
6/29/07	< MTCA

MW12	
8/15/07	< MTCA

MW15	
8/15/07	< MTCA

MW09	
1/18/2007	< MTCA
6/28/07	< MTCA

MW08	BEP
1/18/2007	8.1
6/29/07	< MTCA
MTCA Cleanup Level	6.3

MW07	
1/18/2007	< MTCA
6/29/07	< MTCA

MW14
Not Sampled

MW06	BEP
1/18/2007	76
6/29/07	< MTCA
MTCA Cleanup Level	6.3

MW13	TPH-Dx	As
8/14/07	500	6.1
MTCA Cleanup Level	500	5

MW4	
10/13/06	< MTCA

MW1	
10/12/03	< MTCA

MW2	
01/17/06	< MTCA

PARCEL 1
PARCEL 2
PARCEL 3
PARCEL 4
PARCEL 5
PARCEL 6
PARCEL 7
PARCEL 8
PARCEL 9

THURSTON AVE NE
JEFFERSON ST NE
OLYMPIA AVE NE
ADAMS ST NE
ADAMS ST SE
STATE AVE NE
EAST BAY DR NE
Chestnut Stx Extension

- Monitoring Well (GeoEngineers, Inc.)
- Direct-Push Boring (GeoEngineers,Inc.)
- Direct-Push Boring (Brown and Caldwell)
- Monitoring Well (Delta Environmental)
- Boring (Northwest Testing Company)
- Test Pit (GeoEngineers, Inc.)
- Approximate Infastructure Improvement Corridor
- Discrete Water Sample Obtained from Direct-Push Boring for Screening Purposes (See Appendix B)
- Groundwater Exceedances (See Note 2)
- Groundwater Elevation Contour (See Note 1)
- East Bay Redevelopment Proposed Short Plat Parcel Boundaries
- East Bay Redevelopment Project Area

N W E S

150 0 150
Feet

Groundwater Chemical Analytical Results

East Bay Redevelopment Project Area
Olympia, Washington

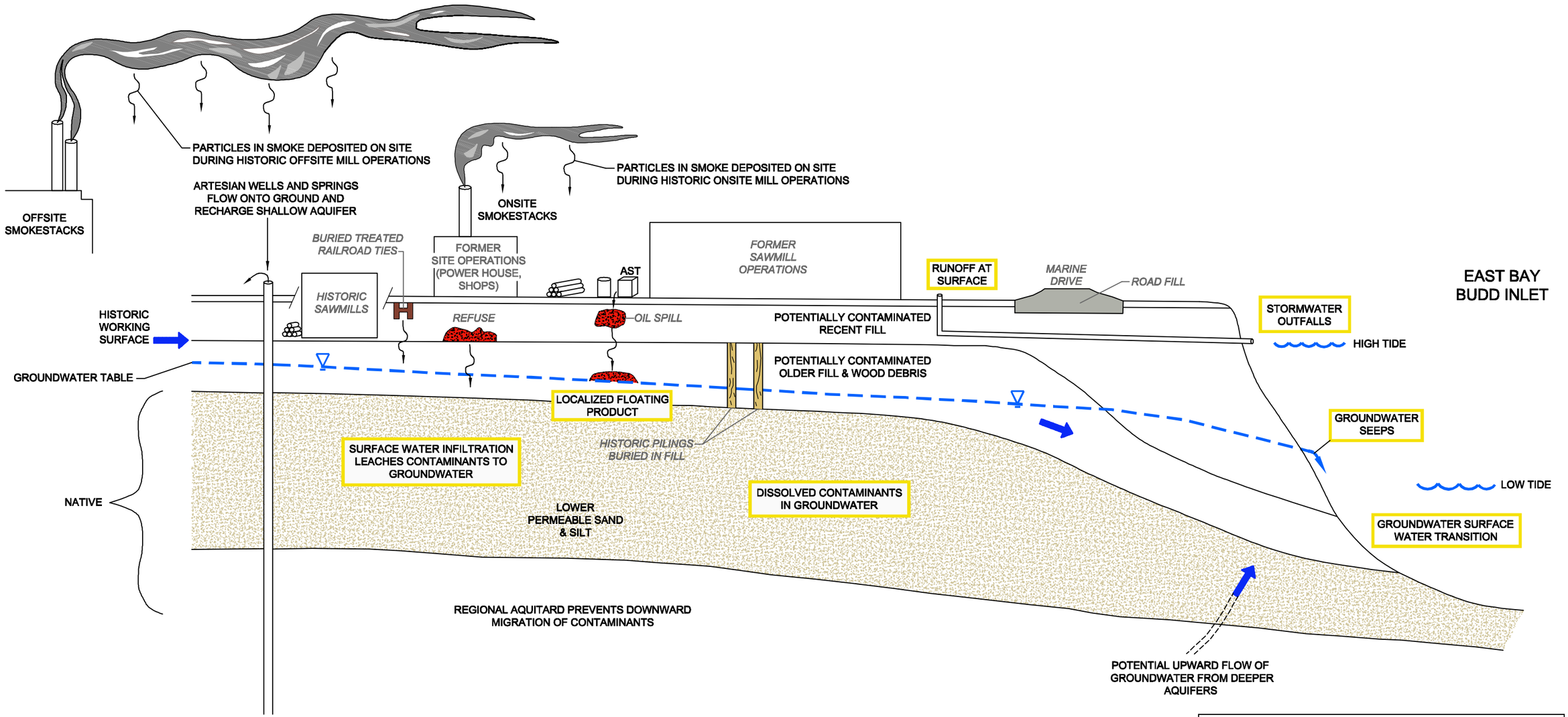
GeoEngineers

Figure 13

Reference: Reference: Aerial photograph (dated April 2008) and Approximate Infastructure Improvement Corridor from Skillings Connolly. Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes:
1. Groundwater elevation data collected August 28, 2007 from approximately 8:30 am to 9:30 am in feet NGVD29.
2. BEP detected on 1/18/07 in MW06, MW08 and MW10 was likely the result of lab or sampling error.
3. The locations of all features shown are approximate.
4. This drawing is for infomation 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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EAST BAY
BUDD INLET

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.

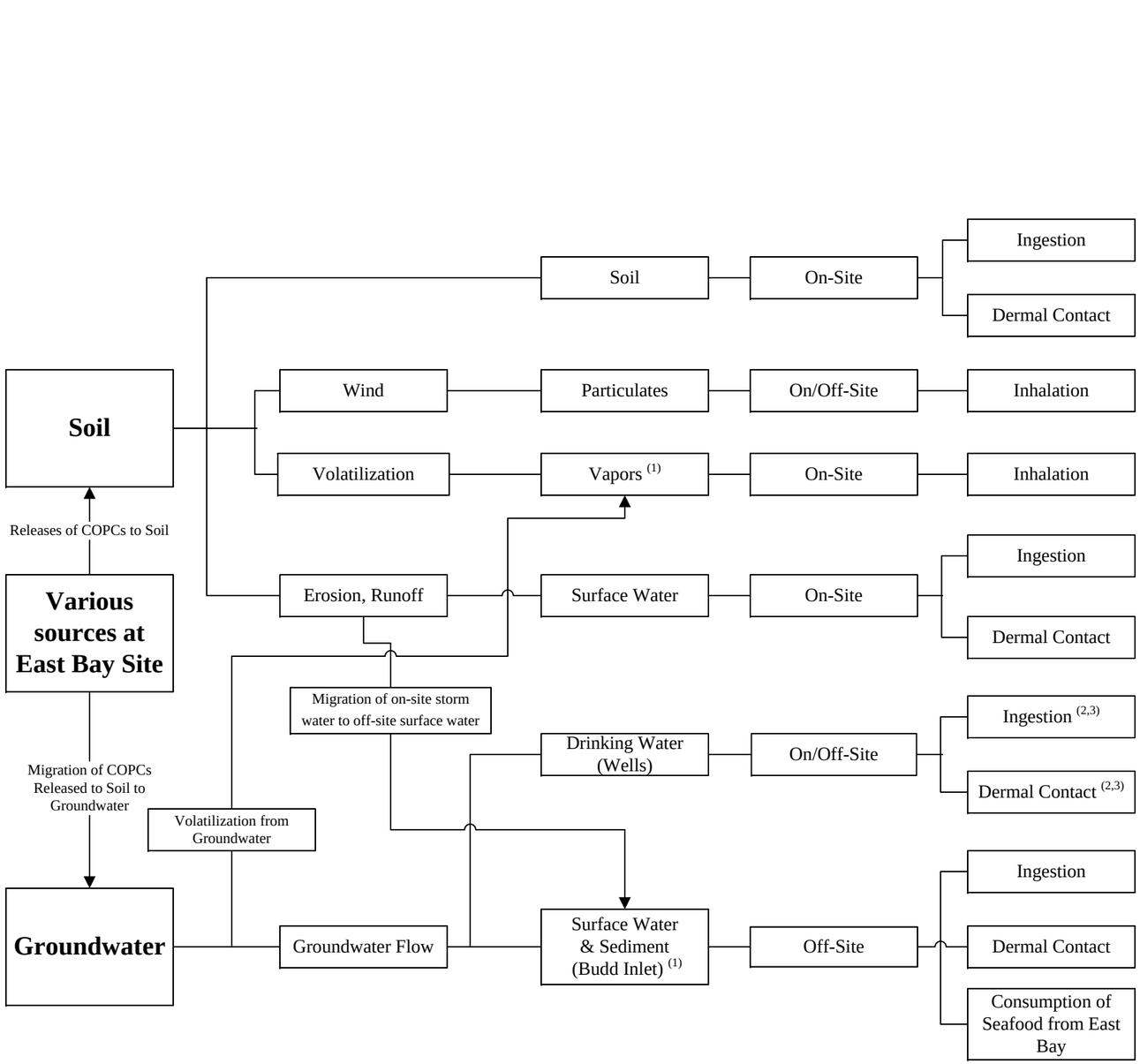
Reference: Drawing created from sketch provided by GeoEngineers' personnel.

Conceptual Site Model
Potential Contaminant Pathways

East Bay Redevelopment Project
Olympia, Washington

GeoEngineers

Figure 14



Primary and Secondary Sources	Transport Mechanism	Exposure Medium	Exposure Point	Exposure Route	Complete Pathway?

Current Land Use (Pre-construction)				Construction Phase					Future Land Use				Ecological	
Residents	Commercial / Industrial Workers	Trespassers (4)	Recreators (4,5)	Utility Installation Workers (4)	Utility Installation Trespassers (4)	Building Construction Workers (4)	Building Construction Trespassers (4)	Recreators (4,5)	Urban Residents (4,6)	Commercial Workers (6)	Utility Maintenance Workers (4)	Recreators (4,6)	Terrestrial Organisms	Aquatic Organisms
○	○	◆	○	●	●	●	●	○	◆	◆	●	◆	◆	○
○	○	◆	○	●	●	●	●	○	◆	◆	●	◆	◆	○
○	○	○	○	●	●	●	●	○	◆	◆	●	◆	◆	○
○	○	◆	○	◆	◆	◆	◆	○	◆	◆	◆	◆	◆	○
○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	◆	◆	◆	◆	◆	○
○	○	◆	○	◆	◆	○	○	○	◆	◆	◆	○	◆	○
○	○	○	◆	○	○	○	○	◆	○	○	○	◆	○	◆
○	○	○	◆	○	○	○	○	◆	○	○	○	◆	○	◆
○	○	○	◆	○	○	○	○	◆	○	○	○	◆	○	◆

PIONEER TECHNOLOGIES CORPORATION

Figure 15

Conceptual Site Exposure Model
Port of Olympia East Bay Site

Key

- ● Complete Exposure Pathway
- ◆ Potentially Complete Exposure Pathway (pending further evaluation)
- ○ Incomplete Exposure Pathway

File: Figure 15_Replacement.vsd

NOTES:
(1) Although this pathway is likely not complete based on existing data, it is considered potentially complete for all relevant receptors pending further evaluation.
(2) Even though there are no current drinking water wells that are impacted by releases to site soil and it is unlikely that a suitable future water well could be installed in the shallow groundwater at the site, use of shallow groundwater as a future drinking water source is considered potentially complete for all relevant receptors pending further evaluation.
(3) Also applies to suspected ponded groundwater during current land use and shallow groundwater in a utility excavation during the construction phase and/or future land use.
(4) This exposure scenario is a reasonable maximum exposure scenario and is more conservative and therefore protective of other similar exposure scenarios. For instance, the exposure assumptions for current trespassers are more conservative than other current exposure scenarios, such as a scenario for people who access boats stored on-site. Likewise, all three off-site recreator scenarios are more conservative than other off-site human exposure scenarios; the two on-site worker and two on-site trespasser scenarios during the construction phase are more conservative than other on-site construction phase exposure scenarios; the future urban residential scenario is more conservative than the hotel guest exposure scenario; the future utility maintenance worker exposure scenario is more conservative than other human exposure scenarios for future subsurface work; etc.
(5) Current and construction-phase recreators are off-site only since there is no current recreational land use on-site and access will be restricted during the construction phase.
(6) Although future soil-based exposures would be incomplete if exposure barriers were installed as necessary in accordance with current development plans, the pathway is considered potentially complete for all relevant receptors pending further evaluation.

Office:TAC Path: P:\0\0615034\GIS\061503407_RIWP_FIG16_EXPLOR_LOC.mxd CDB:TCK Map Revised: October 22, 2008



- Proposed Direct-Push Boring Location
- Phase 1 Explorations
- Test Pit (GeoEngineers, Inc. - Oct. 2007)
- Direct-Push Boring (GeoEngineers, Inc. - Sept. 2006, Jan. & July 2007)
- Direct-Push Boring (Brown and Caldwell - Nov. 2006, Jan. & Feb. 2007)
- Approximate Infastructure Improvement Corridor
- East Bay Redevelopment Proposed Short Plat Parcel Boundaries
- East Bay Redevelopment Project Area
- Direct-Push Boring (Northwest Testing Company, Oct. 2006)
- Cone Penotrometer Test (Landau - May 2007)
- Boring (Landau - May 2007)

N W E S

150 0 150
Feet

Site Plan and Exploration Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 16

Reference: Aerial photograph (dated April 2008) and Approximate Infastructure Improvement Corridor from Skillings Connolly.
Short plat parcel boundaries are based on information provided by the Port of Olympia.
Notes: 1. The locations of all features shown are approximate.
2. This drawing is for infomation 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.

Office:TAC Path: P:\0\0615034\GIS\061503407_RIWP_FIG17_MW_LOCS.mxd CDB:TCK Map Revised: October 21, 2008



Proposed Monitoring Well Location

Monitoring Well (GeoEngineers, Inc. - Jan. & July 2007)

Monitoring Well (Delta Environmental - June 2003)

Artesian Well

Potential Location of Artesian Wells as reported by others

Approximate Area Where Artesian Well May Be Located

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N
W E
S

150 0 150
Feet

Site Plan and Monitoring Well Locations

East Bay Redevelopment Project Area
Olympia, Washington

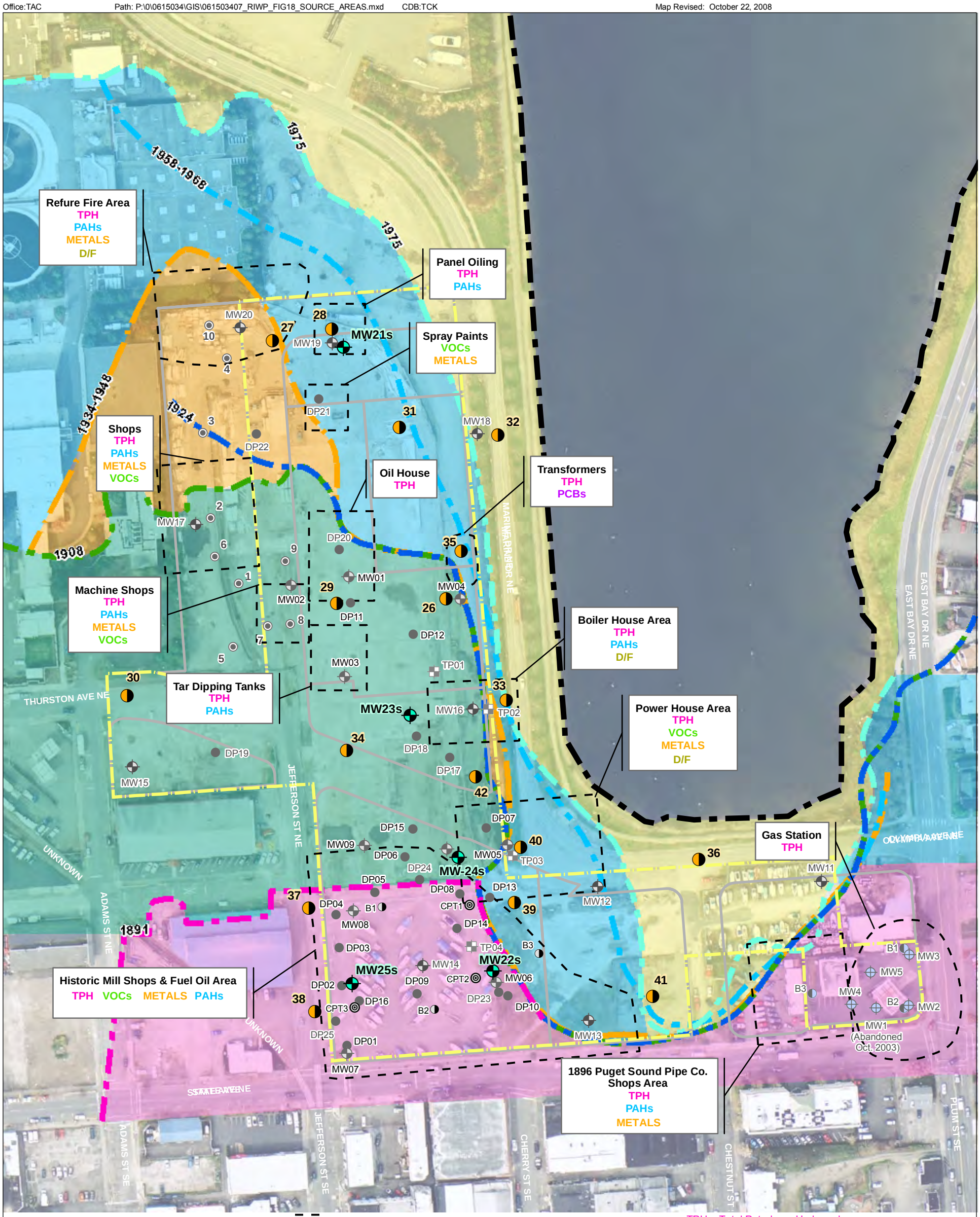
GeoEngineers

Figure 17

Reference: Aerial photograph (dated April 2008) from Skillings Connolly. Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for infomation 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.

Office:TAC Path: P:\0\0615034\GIS\061503407_RIWP_FIG18_SOURCE_AREAS.mxd CDB:TCK Map Revised: October 22, 2008



Proposed Direct-Push Boring Location

Proposed Monitoring Well Location

Historic Operation Areas

East Bay Redevelopment Project Area

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

Previous Exploration Location

Direct-Push Boring (GeoEngineers, Inc.)

Cone Penotrometer Test (Landau)

Test Pit (GeoEngineers, Inc.)

Direct-Push Boring (Brown and Caldwell)

Boring (Landau)

Direct-Push Boring (Northwest Testing Company)

Previous Monitoring Well Location

Monitoring Well (GeoEngineers, Inc.)

Monitoring Well (Delta Environmental)

TPH = Total Petroleum Hydrocarbons
PAHs - Polycyclic Aromatic Hydrocarbons
METALS = Total or Dissolved Metals
VOCs = Volatile Organic Compounds
PCBs = Polychlorinated Biphenyls
D/F = Dioxins/Furans

150 0 150
Feet

N W E S

Reference: Historic features were identified from Sanborn maps (dates ranging from 1888 to 1968) and air photos (dates ranging from 1934 to 1996). Aerial photograph (dated April 2008) from Skillings Connolly. Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes:1. The locations of all features shown are approximate.
2. This drawing is for infomation 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.

Proposed Exploration Locations, Potential Historic Source Areas, COPCs and Historic Shorelines

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 18

Office:TAC Path: P:\0\0615034\GIS\061503407_RIWP_FIG19_UTILITY_EX.mxd CDB:TCK Map Revised: October 22, 2008



Proposed Direct-Push Boring Location

Phase 1 Explorations

Approximate Excavation Depths - Proposed Utilities

Approximate Excavation Depths - 10ft bgs (Sanitary Sewer)

Approximate Excavation Depths - 9ft bgs (Storm Drain)

Approximate Excavation Depths - 3ft bgs (Reclaimed Water Line)

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

150 0 150

Feet

N W E S

Approximate Maximum Depth of Excavation Proposed Utilities

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 19

Reference: Proposed improvement corridor (May 2008), Utility Plan (February 2008), and short plat parcel boundaries from Skillings Connolly Port of Olympia East Bay Short Plat Plan Set.

Notes:1. bgs = below ground surface
2. See geologic cross-sections (Figures 7a-7f) for specific utility depths.
3.The locations of all features shown are approximate.
4. This drawing is for infomation 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.

Office:TAC Path: P:\0\0615032\GIS\07 GIS\061503407_RIWP_FIG-20_ARTESIAN_WELLS.mxd CDB:TCK Map Revised: October 21, 2008



Proposed Monitoring Well Location

Monitoring Well (GeoEngineers, Inc.)

Monitoring Well (Delta Environmental - June 2003)

Groundwater Elevation Contour *(data collected August 28, 2007 between approximately 8:30 am and 9:30 am)*

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

Potential Location of Artesian Wells as reported by others

Approximate Area Where Geophysical Surveys to be conducted

St. Paul and Tacoma Lumber Co. (1942 - 1968)

Springer Sawmill (1924-1947)

Olympia Door Co. Sawmill (1908)

Olympia Door Co. Sash and Door Factory (1908-1924)

Hyak Lumber Co. Millwork (1946-1968)

H.G. Richardson's Shingle Mill (1908)

Olympia Veneer Co. (1924)

Planing Mill & Sawmill (1888-1896)

N W E S

150 0 150
Feet

Reference: Historic features were identified from Sanborn maps (dates ranging from 1888 to 1968) and air photos (dates ranging from 1934 to 1996). Aerial photograph (dated April 2008) from Skillings Connolly. East Bay Redevelopment Site and Parcel Boundaries are provided by Port of Olympia.

Notes: 1. Only primary mill facilities are shown. Lumber sheds, outbuildings and lumber storage areas are not shown.
2. The locations of all features shown are approximate.
3. This drawing is for infomation 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.

Artesian Well Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 20

GeoEngineers

APPENDIX A
GREYLOCK CONSULTING GROUNDWATER STUDY

GREYLOCK
CONSULTING LLC
Water Resources & Environmental Services

August 21, 2008

Ms. Joanne Snarski
Port of Olympia
915 Washington St. NE
Olympia, WA 98501

Re: **Groundwater Flow During High and Low Tides**
Port of Olympia East Bay Site
Olympia, Washington

Dear Ms. Snarski:

This letter documents the results of our evaluation of groundwater elevation data obtained from the East Bay Site in Olympia, Washington.

Background

The Port of Olympia (Port) is in the process of negotiating an Agreed Order with the Department of Ecology (Ecology) for an interim action at the East Bay Site (Figure 1). Various environmental studies have previously been performed at this Site (GeoEngineers, 2007a,b). Ecology has requested that the Port identify a hydrogeologic conceptual model for the site. A key component in understanding the hydrogeology of the site is to identify flow directions and gradients at varying tidal stages. This study evaluates groundwater flow directions and gradients at the site during a low and high tide on July 16, 2008.

Site

The East Bay Site (Site) is located on the south end of the Port Peninsula adjacent to the East Bay of Budd Inlet in Olympia, Washington (Figure 1).

The site consists of approximately 13.6 acres of mixed use and commercial properties. The project area is generally flat. The northern and western portions of the site are paved with asphalt, and the southern and eastern portions of the site are covered with crushed rock and bare land.

Most of the site has historically been used for commercial and light industrial purposes, including wood process and milling operations and warehousing. For a detailed discussion of the history of the Site, please see GeoEngineers' Draft Remedial Investigation/Feasibility Study (GeoEngineers, 2007b).

P.O. Box 23254, Federal Way, WA 98093 • Office: (253) 941-0654 • Cel: (253) 266-2838 • Fax: (253) 941-2705

Subsurface Soils

Predominant subsurface soils (0 to 15 ft bgs) at this site consist of coarse sand and gravel with occasional silt. Thin silt lenses and wood layers have also been observed in near surface soils. Significant filling has occurred at this site, therefore much of the shallow subsurface soils are non-native.

Monitoring Wells

Twenty shallow monitoring wells were previously constructed on and adjacent to the site by others. The monitoring wells vary in diameter from 1- to 2-inches, and vary in depth from 8 to 15 ft bgs. The effective depths of wells were measured on July 16, 2008 and are provided in Tables 1 and 2.

Groundwater

Water levels were collected at the site on July 16, 2008 by Greylock and its subconsultant Stemen Environmental Inc. (Stemen). Water levels were collected within 1 hour and 19 minutes of a low tide of – 1.4 ft Mean Low Low Water (MLLW), and within 1 hour of a high tide of +14.4 ft MLLW. Water level measurements collected during a low tide are provided in Table 1. Water level measurements collected during a high tide are provided in Table 2. Shallow groundwater at the site occurs at depths ranging from 1.05 ft to 9.40 ft below the top of casing (TOC) of monitoring wells. Ponded water was also observed on the surface of the ground in the vicinity of monitoring well MW-06. Based on a conversation with Al Kulp of the Port, we understand that artesian flow is directed toward MW-6 via a pipe. It is not known where the artesian flow originates.

July 16, 2008 Low Tide Monitoring Event

On July 16, 2008 water levels were collected at the site between 11:35 AM and 12:42 PM. A low tide of -1.4 ft MLLW was recorded at 11:25 AM. As shown on Figure 2, groundwater flow direction varies across the site. The majority of groundwater flow across the site is directed toward Budd Inlet. However, at the southwestern end of the site, a groundwater mound was measured in the vicinity of MW-14 and MW-06. At this location, groundwater flows in all directions from the southwest corner of the site outward, as shown in Figure 2. At the northwestern end of the site a groundwater high exists near MW-17. Groundwater flow is generally directed from the area of MW-17 toward the north, east and south across the site.

Groundwater gradients vary significantly across the site during a low tide. Gradients range from approximately 0.003 ft per ft near the center of the site to approximately 0.08 ft per ft toward the shoreline, near MW-12.

July 16, 2008 High Tide Monitoring Event

On July 16, 2008 water levels were collected at the Site between 7:20 and 8:19 PM. A high tide of +14.4 ft MLLW was recorded at 7:21 PM. As shown on Figure 3, groundwater flow direction varies across the site. In general, groundwater flow directions are similar to those measured during the low tide event earlier in the day. The majority of groundwater flow is directed toward Budd Inlet. At the southwestern end of the site, a groundwater mound is present in the vicinity of MW-14 and MW-06. Also, a groundwater high is present in the vicinity of MW-17.

Groundwater gradients vary significantly across the site during a high tide. Gradients range from approximately 0.003 ft per ft near the northern part the site to approximately 0.04 ft per ft at the southern part of the site, near MW-06.

Tidal Effect

Table 3 provides a summary of the change in groundwater elevation from low to high tide on July 16, 2008. Only two of twenty wells (MW-12 and MW-18) showed greater than one foot of change in elevation between the measuring periods. MW-12 and MW-18 are screened in coarse fill and are within approximately 110 ft of Budd Inlet.

Water levels in the majority of wells showed minimal elevation change with change in tide. With the exception of an area of coarse fill within 110 ft of the shoreline, tidal fluctuation does not significantly affect groundwater flow patterns at the site.

Discussion

Based on two groundwater monitoring events collected during a low and high tide event on July 16, 2008, the majority of groundwater flow across the site is directed toward Budd Inlet. Two groundwater highs were observed during both monitoring events: At the southwestern end of the site and at the northwestern end of the site. These groundwater highs are likely caused by leakage from artesian wells. Also, at the southwestern end of the site, recharge from ponded water likely contributes to the groundwater high in this area.

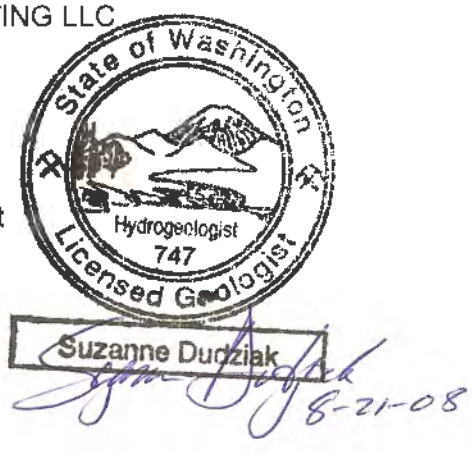
Limitations

This report is based upon the application of scientific principles and professional judgment to certain facts with resulting subjective interpretations. Professional judgments expressed herein are based upon the facts currently available within the limits of the existing data, scope of work, budget, and schedule. We make no warranties, expressed or implied, including, without limitation, warranties are to the fitness of the site for a particular purpose.

If you have any questions regarding this report, please call me at (253) 941-0654.

Sincerely,

GREYLOCK CONSULTING LLC



Suzanne Dudziak
Principal Hydrogeologist

Attachments:
1 References
3 Tables
3 Figures

P.O. Box 23254, Federal Way, WA 98093 • Office: (253) 941-0654 • Cel: (253) 266-2838 • Fax: (253) 941-2705

References

GeoEngineers Inc., 2007 a. *Remedial Investigation/Feasibility Study and Cleanup Action Plan, Potential City of Olympia City Hall, The Rants Group, Olympia, Washington.* April 24, 2007.

GeoEngineers Inc., 2007 b. *Draft Remedial Investigation/Feasibility Study and Conceptual Cleanup Action Plan Port of Olympia, Olympia, Washington.* December 20, 2007.

Table 1. East Bay Groundwater Elevations, Port of Olympia
July 16, 2008 (Low Tide of -1.4 ft MLLW @ 11:25 AM)

Station	Time	MW Elevation (1) (ft)	Depth to Water from TOC (ft)	Groundwater Elevation (ft)	Depth to Bottom of Well (ft)	Measurer
MW-1	1222	10.78	4.40	6.38	8.55	PS
MW-2	1200	10.41	3.65	6.76	10.03	PS
MW-3	1206	11.05	4.79	6.26	11.35	PS
MW-4	1141	11.7	5.69	6.01	14.55	PS
MW-5	1244	11.69	4.19	7.50	11.39	PS
MW-6	1157	10.26	1.14	9.12	11.78	SD
MW-7	1213	10.99	5.03	5.96	10.50	SD
MW-8	1205	11.32	2.62	8.7	11.91	SD
MW-9	1231	10.78	2.65	8.13	7.94	PS
MW-10	1235	11.39	3.55	7.84	10.90	PS
MW-11	1145	11.07	3.42	7.65	9.45	SD
MW-12	1135	10.37	9.40	0.97	11.30	SD
MW-13	1151	9.91	4.26	5.65	9.40	SD
MW-14	1221	10.74	1.59	9.15	9.33	SD
MW-15	1242	9.86	4.09	5.77	7.79	SD
MW-16	1212	11.4	5.32	6.08	15.00	PS
MW-17	1158	10.28	2.85	7.43	6.74	PS
MW-18	1134	12.21	No water, but wet @ bottom	0.73 (2)	11.40	PS
MW-19	1150	9.38	3.78	5.6	8.45	PS
MW-20	1154	10.06	5.70	4.36	8.90	PS

TOC = Top of Casing
PS = Paul Stemen, Stemen Environmental
SD = Suzanne Dudziak, Greylock Consulting LLC

(1) Elevations surveyed by Skillings Connelly

(2) Estimated assuming groundwater elevation is at bottom of well

Table 2. East Bay Groundwater Elevations, Port of Olympia
July 16, 2008 (High Tide of 14.4 ft MLLW @ 7:21 PM)

Station	Time	MW Elevation (1) (ft)	Depth to Water from TOC (ft)	Groundwater Elevation (ft)	Depth to Bottom of Well (ft)	Measurer
MW-1	1948	10.78	4.39	6.39	8.55	PS
MW-2	1945	10.41	3.70	6.71	10.03	PS
MW-3	1935	11.05	5.78	5.27	11.35	PS
MW-4	2006	11.7	5.65	6.05	14.55	PS
MW-5	2015	11.69	4.21	7.48	11.39	PS
MW-6	2015	10.26	1.05	9.21	11.78	SD
MW-7	1942	10.99	5.00	5.99	10.50	SD
MW-8	1930	11.32	2.55	8.77	11.91	SD
MW-9	2019	10.78	2.60	8.18	7.94	PS
MW-10	1928	11.39	3.48	7.91	10.90	PS
MW-11	--	11.07	NM	--	9.45	--
MW-12	1920	10.37	7.11	3.26	11.30	SD
MW-13	2010	9.91	4.23	5.68	9.40	SD
MW-14	1936	10.74	1.48	9.26	9.33	SD
MW-15	1953	9.86	4.09	5.77	7.79	SD
MW-16	2010	11.4	5.41	5.99	15.00	PS
MW-17	1958	10.28	2.93	7.35	6.74	PS
MW-18	2001	12.21	6.56	5.65	11.40	PS
MW-19	1951	9.38	3.68	5.7	8.45	PS
MW-20	1954	10.06	5.70	4.36	8.90	PS

TOC = Top of Casing
PS = Paul Stemen, Stemen Environmental
SD = Suzanne Dudziak, Greylock Consulting LLC
NM = Not measured; well inaccessible

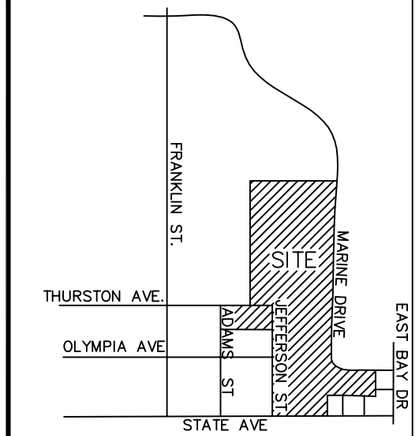
(1) Elevations surveyed by Skillings Connelly

Table 3. Change in Water Level from Low to High Tide, July 16, 2008
East Bay Site, Port of Olympia

Station	Change in Water Level (ft)
MW-1	0.01
MW-2	-0.05
MW-3	-0.99
MW-4	0.04
MW-5	-0.02
MW-6	0.09
MW-7	0.03
MW-8	0.07
MW-9	0.05
MW-10	0.07
MW-12	2.29
MW-13	0.03
MW-14	0.11
MW-15	0.00
MW-16	-0.09
MW-17	-0.08
MW-18	4.84
MW-19	0.10
MW-20	0.00

Low tide of -1.4 ft MLLW @ 11:25 AM

High tide of +14.4 ft MLLW @ 7:21 PM



NTS VICINITY MAP

BASIS OF BEARINGS

WASHINGTON COORDINATE SYSTEM NAD83/91,
SOUTH ZONE BASED ON GPS RTK TIES TO:

THURSTON COUNTY CONTROL POINTS:
209 N 637,310.40, E 1,043,912.62
4th BRIDGE N 633,108.13, E 1,040,037.40

DISTANCES ARE GRID US SURVEY FEET
AREAS ARE GROUND SCALE
COMBINED FACTOR 0.99996

LEGEND

- MW 01 — MONITORING WELL
- WATER SEEP
- SITE BOUNDARY

SCALE: 1"=150 FEET
0 75 150 300

P.O. Box 23254
Federal Way, WA 98093
Office: (253) 941-0654
greylockllc@comcast.net

GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

TITLE: FIGURE 1
SITE PLAN

East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: CPS
DATE: 08/19/08
SHEET NO: 1

CPS August 19, 2008 – C:\clients\Greylock\eastbay.dwg

TOP OF BANK

WATER SEEP
−6.70'
TOP PIPE
−3.20'

WATER SEEP
−6.22'

BUDD
INLET

ORDINARY HIGH WATER LINE

WATER SEEP
−6.24'

WATER SEEP
−2.43'
TOP PIPE
−1.20' IE −5.81

MW 20
(4.36)

MW 19
(5.60)

MW 18
(0.73)

MW 17
(7.43)

MW 02
(6.76)

MW 01
(6.38)

MW 04
(6.01)

MW 03
(6.26)

MW 16
(6.08)

MW 15
(5.77)

MW 09
(8.13)

MW 10
(7.84)

MW 05
(7.50)

MW 12
(0.97)

MW 11
(7.65)

MW 08
(8.70)

MW 14
(9.15)

MW 06
(9.12)

MW 13
(5.65)

MW 07
(5.96)

JEFFERSON ST. (PUBLIC)

MARINE DRIVE (PRIVATE)

THURSTON AVE.

OLYMPIA AVE. (PUBLIC)

OLYMPIA AVE.

STATE AVE.

CENTERLINE

BUILDINGS

BUILDING

BLDG

FRANKLIN ST.

ADAMS ST.

CHESTNUT ST.

EAST BAY DRIVE

200' SHORELINE BUFFER

28,381 S.F.

40,048 S.F.

78.50'

309.99

N 04°05'22" W

S 85°53'29" W
310.07

N 85°53'29" E
5.99

S 85°53'29" W
310.20

S 04°04'37" E
620.49

SWAN'S ADD

LEGEND

- MW 01 — MONITORING WELL
- WATER SEEP
- SITE BOUNDARY
- 7.0 — GROUNDWATER ELEVATION (IN FT. ABOVE MEAN SEA LEVEL)
- DIRECTION OF GROUNDWATER FLOW

SCALE: 1"=150 FEET

0 75 150 300

CPS August 19, 2008 – C:\clients\Greylock\eastbay.dwg

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GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

TITLE: **INFERRED & GENERALIZED GROUNDWATER CONTOURS**
Groundwater Elevations Date: July 16, 2008 – LOW TIDE
(−1.4 ft MLLW @ 11:25 AM)

East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: CPS

DATE: 08/19/08

SHEET NO: 2

GeoEngineers

APPENDIX B
ARTESIAN WELL LOCATING

GeoEngineers

October 22, 2008

Port of Olympia
915 Washington Street NE
Olympia, Washington 98501

Attention: Joanne Snarski

Subject: Artesian Wells
Port of Olympia
East Bay Redevelopment Project
Olympia, Washington
File No. 0615-034-07

INTRODUCTION

This letter responds to the Washington State Department of Ecology's (Ecology) request that the Port of Olympia (Port) locate and decommission artesian wells suspected to be located on the East Bay Redevelopment Site (Site). Ecology made this request in their September 22, 2008 comment letter on the draft Remedial Investigation Work Plan. Ecology wants the artesian wells decommissioned because it is speculated that leakage from these wells may be influencing groundwater in the shallow aquifer. However, this is complicated by the fact that very little is known about the condition or location of the wells. This letter summarizes what we know about these wells and provides procedures to try to locate them.

The objectives of the study described in this letter are: (1) verify what wells exist on the Site; (2) identify the location of the wells; (3) identify the size and condition of the top of the well casings; and (4) collect data necessary to evaluate the feasibility and cost of decommissioning the wells. There is uncertainty as to the number and location of these wells because most are buried, and existing data provide conflicting information regarding their locations and whether they have already been destroyed.

The information to be collected in this study is needed to determine the feasibility, methods, and costs of decommissioning the artesian wells. This letter does not include procedures to decommission wells.

SUMMARY OF WHAT IS KNOWN ABOUT THE ARTESIAN WELLS

Based on the information we reviewed there are potentially six artesian wells located on the Site. Information about these artesian wells is summarized in the table below and Figure 1, attached. Information sources and descriptions of the wells are discussed below.

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Seattle, Washington 98101
telephone 206.728.2674
facsimile 206.728.2732
website www.geoengineers.com

Table 1. Summary of Artesian Well Information

Reported Status	Field Book 17 Well Number	1994 Survey Well Number	Flow (gpm)	Diameter (inches)	Depth (feet)	Location
Destroyed	47A	74		4	250	Parcel 3
Destroyed	47B	75	30	3	115	Parcel 3
Destroyed	47C	76	30	3	115	Parcel 3
Unknown	41	77	1.5	1.5	25	Parcel 3
Unknown	70	84	10	3-4	>150	Jefferson Street
Unknown	73	73	3	3	Unknown	Parcel 9

Notes:
Source: Table excerpted from March 26, 1999 Robinson & Noble, Inc. LOTT Technical Memorandum 1204, Thurston County Health Department 1994 Artesian Well Survey, information from Field Book 17, information from Port personnel, and/or information obtained during GeoEngineers' 2008 study.
gpm - gallons per minute

Artesian wells in the vicinity of the Site were identified in a 1994 survey of the City of Olympia map compiled by Thurston County Health Department (Attachment A). This map shows artesian wells currently present in the city of Olympia area. A study conducted in 1999 (Robinson and Noble, 1999) also investigated flowing artesian wells in downtown Olympia, but did not identify artesian wells on the Site. The 1999 report includes information (copies of pages) from "Field Book 17" that shows the location and diameter of some wells. The date of the field book and accompanying sketch is unknown. Based on these three information sources, there were potentially six wells located on the Site; 74, 75, 76, and 77 on Parcel 3, 84 on Parcel 5, and 73 on Parcel 9.

According to the 1994 survey, six artesian wells (numbered 73 and 74 through 77, and 84) formerly were located on the Site. According to the 1999 report, three (wells 74 through 76) of the six artesian wells located on the Site were destroyed during demolition of the former Olympia saw mill. The "destroyed" wells (74 through 76) appear to be in the approximate locations of three wells identified in Field Book 17 (wells A, B, C at location number 47) that were associated with former Olympic Veneer (1924) operations at the Site. The 1999 report does not describe how the wells were destroyed. Little information was presented in the 1999 report regarding the three remaining on-site wells, 73, 77 and 84. Well 77 apparently was identified at the northeast corner of State Avenue and Jefferson Street. This well was also associated with the former Olympic Veneer facility that was number 41 in Field Book 17. No information was identified regarding well 84, except for the approximate location at the east side of Jefferson Street and Thurston Avenue. Well 84 was not located or discussed in the 1999 report. Well 84 is in the approximate location of a well identified in the site sketch from Field Book 17 as Number 70 (see approximate location in Figure 1). The "Field Book 17" sketch indicates Well 73 is a 3-inch-diameter, 2-gallon-per-minute well located between Adams and Jefferson Streets.

According to Port personnel, one of the artesian wells located on Parcel 3 may be present on the Site in the southeast corner of the dry boat storage yard. There is a 2 foot by 2 foot section in the City sidewalk that is thought to be the location of a well that is capped but not decommissioned. The well casing may be one inch or less and the depth is unknown. In addition, a surface pipe has been described in the center of Parcel 3 with water flowing out. Information from Port personnel indicates this pipe is connected to a drain field installed by the Port under the gravel lot, rather than to a well. Evidence for suspected locations of artesian wells is the presence of a groundwater mound on Parcel 3 that coincides with the reported locations of artesian wells in the 1994 and 1999 studies (see Figure 1).

PROPOSED PROCEDURES TO LOCATE ARTESIAN WELLS

Geophysical methods followed by test pit explorations will be used to locate the six suspected wells at the site. Because the locations, conditions, depths and casing sizes are not known, the geophysical methods will include various methodologies to attempt to locate the wells. Geophysical methods will include ground penetrating radar (GPR), magnetometers and/or electromagnetics (time domain). Geophysical anomalies will be ground-proofed with shallow test pits to verify the presence or absence of well materials. The areas targeted for geophysics are shown as the hatched orange areas in Figure 1.

1. Subsurface utilities will be identified in the target areas using one-call service and a private locating company. It is important to identify buried utilities because they can affect interpretation of the geophysical data, in addition to the requirement to identify utilities prior to digging. The utility locating service company will also try to locate/trace the pipe visible on Parcel 3 that may be associated with an artesian well.

2. A geophysical survey will be conducted in target areas. Potential methods employed will include GPR, magnetometer and electromagnetic methods (specific details of the methods are included as Attachment B). The survey will be conducted on a close-grid spacing in the vicinity of the former well locations on Parcel 3, Parcel 5 and Parcel 9 as shown on Figure 1.

3. Test pits will be completed by a combination of hand digging and backhoe in the vicinity of identified geophysical anomalies to verify the presence or absence of buried objects. It is anticipated that the wellheads / well caps are buried between ground surface and approximately 4 feet below ground surface (bgs). Excavation of the test pits has the risk of causing uncontrolled flow of water by damaging well casings or removing overburden that may be currently controlling flow from a well. To reduce this risk, digging will be conducted slowly with constant monitoring for evidence of a well. If water does start flowing onto the ground surface digging will stop and the test pit will be backfilled (see item 5 below). If the source of water can be identified as a well casing an attempt will be made to cap the casing.

    a. Excavated soil will be temporally stockpiled on plastic. Stockpiles will be covered with plastic if left overnight and drainage from the stockpiles will be directed into the associated test pit.

    b. Test pits will be backfilled with excavated material. The back-hoe bucket will be decontaminated in-between locations to prevent cross-contamination.

    c. Field screening will be conducted on excavated soil for evidence of petroleum contamination. GeoEngineers' field geologist will also document the type of soil and fill encountered.

4. If a well casing is identified we will try and document its size, type of construction material, general condition, presence or absence of a cap, presence or absence of water leakage from around the casing or from the casing. Assuming water leaking from a well can be controlled so it does not flow uncontrolled onto the ground surface, the well casing will be left exposed to allow well drilling abandonment contractor(s) to come to the site and gather information they need to assess the feasibility of abandoning the well.

    a. The locations of all suspected well casings identified in this study will be surveyed.

    b. Well casings identified below the ground surface will be protected by placing a larger diameter conductor casing or drain pipe around the casing and extend this casing to the ground surface. The test pit will be backfilled around this protective casing. Other

protective measures might be used instead of the protective casing depending on input from well abandonment contractors. The objective is to protect the well casing in a manner that facilitates further assessment.

c. Surplus excavated material will be temporarily stockpiled onsite until an appropriate disposal facility is designated or it is determined the material can be reused onsite.

5. A second field event will be needed for wells/test pits where water flowed uncontrolled onto the ground surface. Prior to re-exposing the well arrangements will be made to manage the water, based on flow estimates and other information obtained during the initial test pit investigation. The specific method for managing water will depend on the flow. Potential water management methods being considered include using vacuum trucks, pumping water into temporary storage tanks, or routing of water from the trench to another portion of same parcel for infiltration.

REFERENCES

March 26, 1999. Robinson & Noble, Inc. and Brown and Caldwell. Technical Memorandum 1204 LOTT Wastewater Resource Management Plan.

Field Book 17. Field notes listing wells and well information, includes hand-drawn site plan showing wells. Date unknown.

1994 Thurston County Health Department, City of Olympia Artesian Well survey figure (also included in 3/26/99 LOTT report).

LIMITATIONS

We have prepared this letter for the exclusive use of the Port of Olympia, their authorized agents and regulatory agencies. This letter is not intended for use by others and the information contained herein is not applicable to other sites. No other party may rely on the product of our services unless we agree in advance, and in writing, to such reliance. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions.

It is always possible that contaminants remain in areas that were not observed, sampled or tested.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with our general agreement with the Port of Olympia and 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.

Any electronic form of this document (email, text, table, and/or figure), if provided, and any attachments are only a copy of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please contact us if you have questions.

Sincerely,

GeoEngineers, Inc.

Jay Lucas, LG
Senior Project Manager

David A. Cook, LG, RBP
Principal

JCL:DAC:bmw
SEAT:\0\0615034\07\Finals\Revised RI Workplan Oct 08\061503407Artesian Wells Ltr 102008.doc

Attachments: Figure 1. Approximate Artesian Well Locations
Attachment A - 1994 Thurston County Health Department, City of Olympia Artesian Well survey figure and Field Book 17 pages
Attachment B - Geophysical Methods (Source: Global Geophysics)

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

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Office:TAC Path: P:\0\0615032\GIS\07 GIS\061503407_LETTER_FIG-1_ARTESIAN_WELLS.mxd CDB:TCK Map Revised: October 21, 2008



Monitoring Well (GeoEngineers, Inc.)

Monitoring Well (Delta Environmental - June 2003)

Groundwater Elevation Contour *(data collected August 28, 2007 between approximately 8:30 am and 9:30 am)*

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

Potential Location of Artesian Wells as reported by others

Approximate Area Where Geophysical Surveys to be conducted

St. Paul and Tacoma Lumber Co. (1942 - 1968)

Springer Sawmill (1924-1947)

Olympia Door Co. Sawmill (1908)

Olympia Door Co. Sash and Door Factory (1908-1924)

Hyak Lumber Co. Millwork (1946-1968)

H.G. Richardson's Shingle Mill (1908)

Olympia Veneer Co. (1924)

Planing Mill & Sawmill (1888-1896)

N W E S

150 0 150
Feet

Artesian Well Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 1

Reference: Historic features were identified from Sanborn maps (dates ranging from 1888 to 1968) and air photos (dates ranging from 1934 to 1996). Aerial photograph (dated April 2008) from Skillings Connolly. East Bay Redevelopment Site and Parcel Boundaries are provided by Port of Olympia.

Notes: 1. Only primary mill facilities are shown. Lumber sheds, outbuildings and lumber storage areas are not shown.
2. The locations of all features shown are approximate.
3. This drawing is for infomation 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.

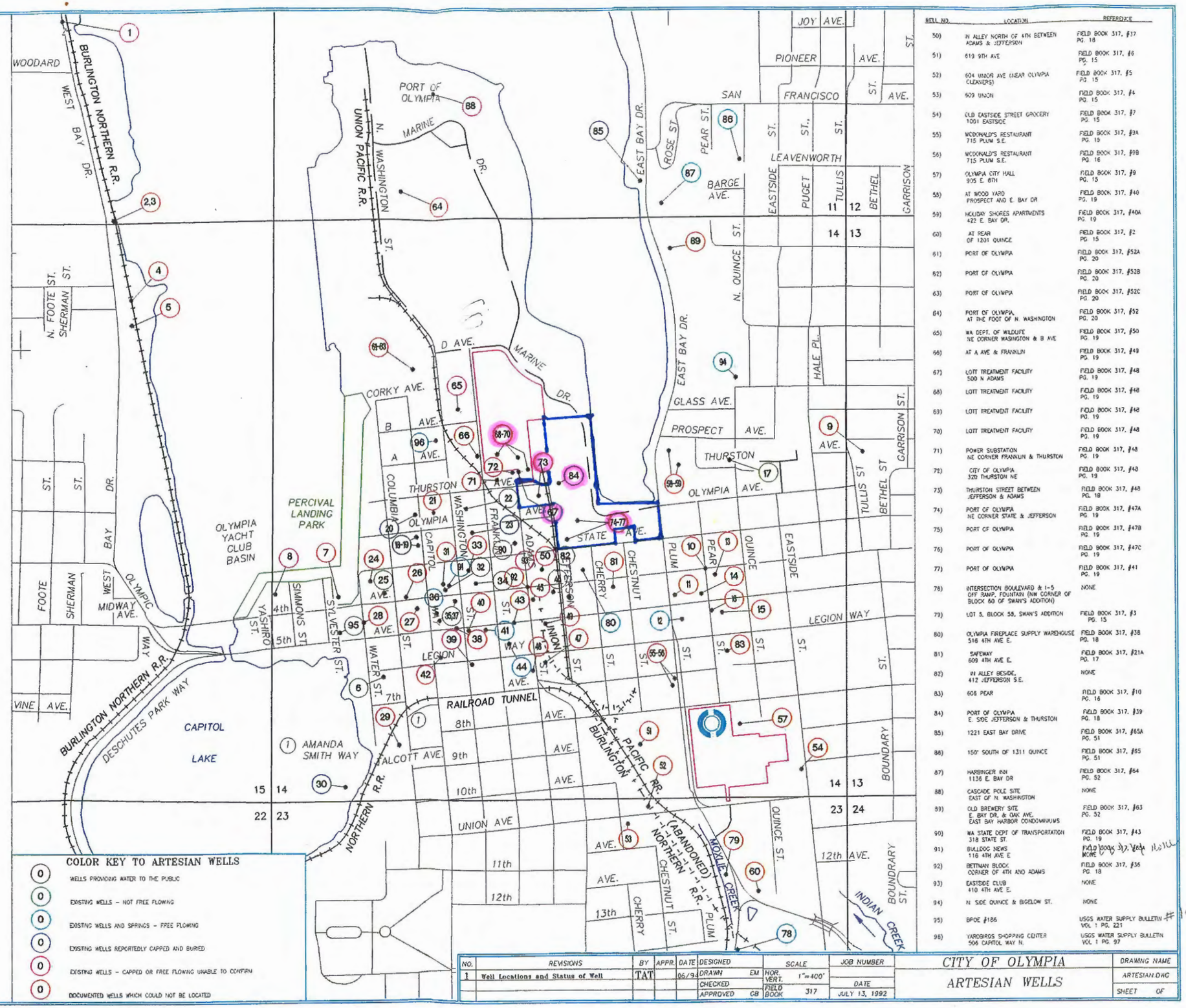
GeoEngineers

ATTACHMENT A

1994 THURSTON COUNTY HEALTH DEPARTMENT, CITY OF OLYMPIA ARTESIAN WELL SURVEY FIGURE AND FIELD BOOK 17 PAGES

WELL NO.	LOCATION	REFERENCE
1)	BUCHANAN LUMBER SITE 2000 WEST BAY DR	FIELD BOOK 317, #55 PG. 20
2)	OLD PANAMA SHINGLE SITE 1110 W. BAY DR.	FIELD BOOK 317, #54 PG. 20
3)	OLD PANAMA SHINGLE SITE 1110 W BAY DR.	FIELD BOOK 317, #54 PG. 20
4)	TUMWATER LUMBER SITE 902 W. BAY DR.	FIELD BOOK 317, #53 PG. 20
5)	TUMWATER LUMBER SITE 902 W BAY DR.	FIELD BOOK 317, #53 PG. 20
6)	AMERICAN LEGION BUILDING 210 W. LEGION	FIELD BOOK 317, #16 PG. 16
7)	4TH & SYLVESTER TIDELANDS	FIELD BOOK 317, #26 PG. 17
8)	BAYVIEW THRIFTWAY MARKET 515 W. 4TH	FIELD BOOK 317, #27 PG. 17
9)	EAST OF TULLIS OFF THURSTON	NONE
10)	4TH & PEAR OLD LAUNDRY	FIELD BOOK 317, #11 PG. 16
11)	SALVATION ARMY 0x0 5TH SE	FIELD BOOK 317, #19 PG. 16
12)	510 PLUM	FIELD BOOK 317, #19A PG. 16
13)	412 SOUTH PEAR	FIELD BOOK 317, #19B PG. 17
14)	COMMUNITY YOUTH SERVICES 824 E. 5TH	FIELD BOOK 317, #19C PG. 17
15)	909 5TH AVE	FIELD BOOK 317, #20 PG. 17
16)	504 SOUTH PEAR	FIELD BOOK 317, #20A PG. 17
17)	405 QUINCE	FIELD BOOK 317, #59 PG. 20
18)	SENIOR CENTER 222 COLUMBIA NW	FIELD BOOK 317, #45A PG. 19
19)	SENIOR CENTER 222 COLUMBIA NW	FIELD BOOK 317, #45B PG. 19
20)	LASSEN ELECTRIC SERVICE 301 N. CAPITOL WAY	FIELD BOOK 317, #46 PG. 17
21)	BLOCK 12 SYLVESTER'S ADD'N	FIELD BOOK 317 #44 PG. 19
22)	208 OLYMPIA (CITY PARKING LOT)	FIELD BOOK 317, #51 PG. 19
23)	TRANSIT CENTER BLOCK 22 SYLVESTER'S ADD'N	FIELD BOOK 317, #51A PG. 19
24)	OLD OLYMPIA CREAMERY SITE 114 N. WATER	FIELD BOOK 317, #28 PG. 18
25)	SEAGULL BOOKS & CRAFTS 212 W. 4TH	FIELD BOOK 317, #29 PG. 18
26)	MINH'S GROCERY 116 4TH AVE W	FIELD BOOK 317, #30 PG. 18
27)	SCHOENFELD'S FURNITURE 4TH AND CAPITOL WAY	FIELD BOOK 317, #25 PG. 17
28)	WATER STREET BETWEEN 4TH & 5TH	NONE
29)	OLD NORTHERN PACIFIC RAILWAY DEPOT 721 COLUMBIA SW	FIELD BOOK 317, #58 PG. 20
30)	CAPITOL LAKE	FIELD BOOK 317, #8 PG. 15
31)	114 E 4TH (BEHIND THE SPAR)	FIELD BOOK 317, #31 PG. 18
32)	THE SPAR 114 E. 4TH	FIELD BOOK 317, #32 PG. 18
33)	OLD KNOX HOTEL 114 OR 117 N. WASHINGTON	FIELD BOOK 317, #33 PG. 18
34)	KING SOLOMONS REEF RESTAURANT 212 E. 4TH	FIELD BOOK 317, #34 PG. 18
35)	FOUNTAIN ON SIDEWALK SW CORNER 4TH & WASHINGTON	FIELD BOOK 317, #22 PG. 17
36)	WEST 1 BANK 402 S. CAPITOL	FIELD BOOK 317, #23 PG. 17
37)	REAR OF TALCOTT JEWLERS 420 CAPITOL WAY	FIELD BOOK 317, #24 PG. 17
38)	ON 5TH & WASHINGTON	NONE
39)	OLD CAPITOL BUILDING 600 S. WASHINGTON	FIELD BOOK 317, #15 PG. 16
40)	STATE OF THE ARTS 500 S. WASHINGTON	FIELD BOOK 317, #17 PG. 16
41)	CATTERY DOWN 209 5TH SE	FIELD BOOK 317, #18 PG. 18
42)	MILLER'S STORE, NE. CORNER LEGION & CAPITOL	NONE
43)	ON 5TH BETWEEN FRANKLIN & ADAMS	NONE
44)	Y.M.C.A. 510 FRANKLIN SE	NONE
45)	OLYMPIC OUTFITTERS 407 4TH AVE E	FIELD BOOK 317, #12 PG. 15
46)	DIAMOND A PARKING LOT 403 BLOCK OF LEGION	FIELD BOOK 317, #12A PG. 16
47)	SOUTH EAST CORNER ADAMS & LEGION	FIELD BOOK 317, #13 PG. 16
48)	613 SOUTH ADAMS	FIELD BOOK 317, #14 PG. 16
49)	415 1/2 5TH AVE	FIELD BOOK 317, #13A PG. 16

WELL NO.	LOCATION	REFERENCE
50)	IN ALLEY NORTH OF 4TH BETWEEN ADAMS & JEFFERSON	FIELD BOOK 317, #37 PG. 18
51)	619 9TH AVE	FIELD BOOK 317, #6 PG. 15
52)	604 UNION AVE (NEAR OLYMPIA CLEANERS)	FIELD BOOK 317, #5 PG. 15
53)	509 UNION	FIELD BOOK 317, #4 PG. 15
54)	OLD EASTSIDE STREET GROCERY 1001 EASTSIDE	FIELD BOOK 317, #7 PG. 15
55)	MCDONALD'S RESTAURANT 715 PLUM S.E.	FIELD BOOK 317, #9A PG. 15
56)	MCDONALD'S RESTAURANT 715 PLUM S.E.	FIELD BOOK 317, #9B PG. 16
57)	OLYMPIA CITY HALL 905 E. 6TH	FIELD BOOK 317, #9 PG. 15
58)	AT WOOD YARD PROSPECT AND E. BAY DR	FIELD BOOK 317, #40 PG. 19
59)	HOLIDAY SHORES APARTMENTS 422 E. BAY DR.	FIELD BOOK 317, #40A PG. 19
60)	AT PEAR OF 1201 QUINCE	FIELD BOOK 317, #2 PG. 15
61)	PORT OF OLYMPIA	FIELD BOOK 317, #52A PG. 20
62)	PORT OF OLYMPIA	FIELD BOOK 317, #52B PG. 20
63)	PORT OF OLYMPIA	FIELD BOOK 317, #52C PG. 20
64)	PORT OF OLYMPIA, AT THE FOOT OF N. WASHINGTON	FIELD BOOK 317, #52 PG. 20
65)	WA DEPT. OF WILDLIFE NE CORNER WASHINGTON & B AVE	FIELD BOOK 317, #50 PG. 19
66)	AT A AVE & FRANKLIN	FIELD BOOK 317, #49 PG. 19
67)	LOTT TREATMENT FACILITY 500 N ADAMS	FIELD BOOK 317, #48 PG. 19
68)	LOTT TREATMENT FACILITY	FIELD BOOK 317, #48 PG. 19
69)	LOTT TREATMENT FACILITY	FIELD BOOK 317, #48 PG. 19
70)	LOTT TREATMENT FACILITY	FIELD BOOK 317, #48 PG. 19
71)	POWER SUBSTATION NE CORNER FRANKLIN & THURSTON	FIELD BOOK 317, #48 PG. 19
72)	CITY OF OLYMPIA 320 THURSTON NE	FIELD BOOK 317, #48 PG. 19
73)	THURSTON STREET BETWEEN JEFFERSON & ADAMS	FIELD BOOK 317, #48 PG. 18
74)	PORT OF OLYMPIA NE CORNER STATE & JEFFERSON	FIELD BOOK 317, #47A PG. 19
75)	PORT OF OLYMPIA	FIELD BOOK 317, #47B PG. 19
76)	PORT OF OLYMPIA	FIELD BOOK 317, #47C PG. 19
77)	PORT OF OLYMPIA	FIELD BOOK 317, #41 PG. 19
78)	INTERSECTION BOULEVARD & I-5 OFF RAMP, FOUNTAIN (NW CORNER OF BLOCK 60 OF SWAN'S ADDITION)	NONE
79)	LOT 3, BLOCK 58, SWAN'S ADDITION	FIELD BOOK 317, #3 PG. 15
80)	OLYMPIA FIREPLACE SUPPLY WAREHOUSE 516 4TH AVE E.	FIELD BOOK 317, #38 PG. 18
81)	SAFEWAY 609 4TH AVE E.	FIELD BOOK 317, #21A PG. 17
82)	IN ALLEY BESIDE, 412 JEFFERSON S.E.	NONE
83)	608 PEAR	FIELD BOOK 317, #10 PG. 16
84)	PORT OF OLYMPIA E. SIDE JEFFERSON & THURSTON	FIELD BOOK 317, #39 PG. 18
85)	1221 EAST BAY DRIVE	FIELD BOOK 317, #65A PG. 51
86)	150' SOUTH OF 1311 QUINCE	FIELD BOOK 317, #65 PG. 51
87)	HARBINGER INN 1136 E. BAY DR	FIELD BOOK 317, #64 PG. 52
88)	CASCADE POLE SITE EAST OF N. WASHINGTON	NONE
89)	OLD BREWERY SITE E. BAY DR. & OAK AVE. EAST BAY HARBOR CONDOMINIUMS	FIELD BOOK 317, #63 PG. 52
90)	WA STATE DEPT OF TRANSPORTATION 310 STATE ST.	FIELD BOOK 317, #43 PG. 19
91)	BULLDOG NEWS 116 4TH AVE E	FIELD BOOK 317, #36 NONE
92)	BETTMAN BLOCK CORNER OF 4TH AND ADAMS	FIELD BOOK 317, #36 PG. 18
93)	EASTSIDE CLUB 410 4TH AVE E.	NONE
94)	N. SIDE QUINCE & EIGELOW ST.	NONE
95)	BPOE #186	USGS WATER SUPPLY BULLETIN #10 VOL. 1 PG. 221
96)	YARDBIRDS SHOPPING CENTER 506 CAPITOL WAY N.	USGS WATER SUPPLY BULLETIN VOL. 1 PG. 97



COLOR KEY TO ARTESIAN WELLS

- (0) WELLS PROVIDING WATER TO THE PUBLIC
- (0) EXISTING WELLS – NOT FREE FLOWING
- (0) EXISTING WELLS AND SPRINGS – FREE FLOWING
- (0) EXISTING WELLS REPORTEDLY CAPPED AND BURIED
- (0) EXISTING WELLS – CAPPED OR FREE FLOWING UNABLE TO CONFIRM
- (0) DOCUMENTED WELLS WHICH COULD NOT BE LOCATED

NO.	REVISIONS	BY	APPR.	DATE
1	Well Locations and Status of Well	TAT		06/93

DESIGNED
DRAWN EM
CHECKED
APPROVED GB

SCALE: HOR. 1"=400' VERT.
FIELD BOOK 317

JOB NUMBER
DATE JULY 13, 1992

CITY OF OLYMPIA
ARTESIAN WELLS

DRAWING NAME: ARTESIAN.DWG
SHEET OF

Olympia Veneer

Olympia Boiler Room

No 117 - A" 4" well - 250' deep

B 3" " 115'

C 3 " 115

165 → 75 → 30'

60

well No 41

State

Old sprinkler well

5 spr.

3" 5 spr.

#11

#68 10 GPM (Measured)

#67 4" drilled wells

Adams

#12 3" 10 GPM Est

#69 3" 10 GPM (Measured)

Weed Tank

#13 3" 2 G.P.M.

Taursheo

#10 3" well 10 G.P.M.

Jefferson

	Location	Size	Depth	Flow	Remarks
28	Corner (Creamery) State & Water	2"	—	1.0 G.M.	This well is pumped flow given by Mgr. of Creamery
29	4th Ave between Columbia & Water - (Shoe Store) is piped to Creamery	2"	240'	17 GM.	This well is piped to Creamery
30	Curleys place (alley)	2"	—	3.5 GM.	½" faucet.
31	behind the Spot				
32	Barefoot Bldg.			(Storage room floor)	2" upright pipe
33	Knox Hotel at rear of Lot.			2.0 G.M. Est.	Flows into tank and used by Hotel - Could not measure
34	Across from 33 & 35				
35	Wilmeth				
36	Bettman Block -	2"	—	1.0 G.M. (From Bob Whitehead the Plumber)	Cannot Measure
37	In Alley N of 4th between Adams & Jefferson	2"		1.0 GM. = Est.	
38	Capital Laundry	2"		3.5 G.M. (From Mgr. of Capital Laundry)	Cannot Measure -
39	Old pipe factory Jefferson & Thurston				Could not find well

38.50 = Total this sheet.

[illegible] in 7 wells

		Location	Size	depth	Flow	Remarks
10		At Wood yard -				
=	46A	423 East Bay Drive	2"	—	Nil G.M.	Well covered - not operating
6	44	Olympic Veneer - at Corner of State & Jefferson	12	—	.5 G.M. (at Hi Tide only)	several years ago this was a good well.
1	45	Testing Lab -		—	1.5 G.M.	This used to be a strong well.
V	43	5 from walk on Franklin - at Center of Block	1½	—	Does not flow - Testing soon -	Lab plan to drill new well 3" - to supply cooling water.
6	42	Capitol Way & Olympia Corner of Block 12	2"	—	10 G.M.	
6	41	Eagle Cleaners	2"	155	6.0 G.M.	is flow of 2 wells (USA)
		Star Cab Olympia Laundry	1½	132		
		"	2"	210	3.0 G.M.	have Concrete Tank (10x36x5)
6	46	Eagle Laundry -	3"	200	12.0 GM	Pumped by air jet
		New Car Olympia & Capitol				have Concrete Tank (12'x8'x8')
1	47½	Olympia Veneer	4"	250	Flow 3.6 GPM	Elevated wood (20'x8'x8')
			6"	110	30.0 Est.	6.60
			8"	110		Septic not recommended in area
6	48	Old Sawyer Mill (see pp 21)	3"	—	60 G.M. (Computed by pumping flow of 2 wells)	5 flowing wells - 3" 2 not flowing - 2"
			2"	—	Take 2 wells are not flowing	measured 2 wells = 20 G.M.
V	49	at A Ave & Franklin at OE water Tank			N.G.	Could not find
6	50	(Block 6 Olympia Lacland Capitol Towers Apt.	3"	—	2.5 G.M.	This well is pumped 25 G.M. (Flow used to be 4000 GPM)
	51	206 Olympian	1½"	—	1 G.M.	In Garage
	51A	207	1"	—	1.5 G.M.	Rear of Lot.

150.50 - Total this sheet. — 19 wells

GeoEngineers

ATTACHMENT B

GEOPHYSICAL METHODS (SOURCE: GLOBAL GEOPHYSICS)

GEOPHYSICAL METHODS

GROUND PENETRATING RADAR

The GPR method uses electromagnetic pulses, emitted at regular intervals by an antenna to map subsurface features. The electromagnetic pulses are reflected where changes in electrical properties of materials occur such as changes in lithology or where underground utilities are present. The reflected electromagnetic energy is received by an antenna, converted into an electrical signal, and recorded on the GPR unit. The data is recorded and viewed in real time on a graphical display that depicts a continuous profile or cross-section image of the subsurface directly beneath the path of the antenna.

The depth of penetration of the GPR signal varies according to antenna frequency and the conductivity of the subsurface material. The depth of subsurface penetration with GPR decreases with an increase in the frequency of the antenna and an increase in soil conductivity. Low frequency antennas (50 to 500 MHz) provide the best compromise between obtaining good subsurface penetration and resolution.

The data at this site will be collected using Geophysical Survey Systems, Inc. (GSSI) SIR 2000 GPR system with an antenna having a center frequency of 200-500 MHz. The data will be digitally recorded for post processing.

MAGNETOMETER

This instrument is used to measure variations in the magnetic field of the Earth, including local distortions or anomalies of the field caused by ferrous objects or minerals. In general, the magnitude of the magnetometer response is proportional to the mass of the ferrous object. A single drum can be detected to a depth of approximately 15 to 20 feet, and a 4-inch-diameter steel pipeline can be detected to a depth of approximately 10 feet. Non-ferrous metals, such as copper and aluminum cannot be located with a magnetometer.

A Geometrics Cesium G858G magnetometer will be used.

TIME-DOMAIN ELECTROMAGNETICS (EM61)

The EM61 is a time-domain electromagnetic metal detector capable of detecting buried metal objects. Ground control is established on site as a local grid system. The geophysical data are collected along regular grid lines and stations at a density that is appropriate for the size of the potential target.

GeoEngineers

APPENDIX C
MW16 ANALYTICAL REPORT

19408 Park Row Suite 320 Houston, TX 77084 (713) 266-1599 (713) 266-0130 fax

Columbia Analytical Services INC.
An Employee - Owned Company

August 19, 2008 Service Request No: E0800739

Jay Lucas
Geo Engineers Inc
1101 S. Fawcett Ave, Suite 200
Tacoma, WA 98401

Laboratory Results for: Method 1613B/0615-034-02

Dear Jay:

Enclosed are the results of the sample(s) submitted to our laboratory on July 30, 2008. For your reference, these analyses have been assigned our service request number **E0800739**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2957. You may also contact me via email at JFreemyer@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Jane Freemyer
Project Manager; GC/HRMS

Page 1 of _____

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC

Client:	Geo Engineers, Inc	**Service Request No.:**	E0800739
Project:	0615-034-02	**Date Received:**	07/30/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 07/30/08. One sample was put on Hold status, as requested.

The following discrepancies were noted upon initial sample inspection: no custody seals on cooler(s). The exceptions are also noted on the cooler receipt and preservation form included in this data package.

The samples were received at 2°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

B flags – Method Blanks

The Method Blank EQ0800341-01/U129371 contained low levels of 123478-HcCDF at or below the Method Reporting Limit (MRL).

The associated compounds in the samples are flagged with 'B' flags.

Y flags – Labeled Standards

Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

Approved by Xiangqiu Liang **Date** 8/19/08

Xiangqiu Liang, Laboratory Director

The sample extracted originally had recoveries of labeled standards outside the acceptance criteria. The sample was re-extracted, met the acceptance criteria and was reported.

MS/DMS

EQ0800341: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch.

Detection Limits

Detection limits are calculated for each congener in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by CAS/Houston to include:

- The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- Non-detected compounds are not included in the 'Total'

Approved by Xiangqiu Liang **Date** 8/19/08

Xiangqiu Liang, Laboratory Director

Client: Geo Engineers Inc
Project: Method 1613B/0615-034-02

Service Request: E0800739

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E0800739-001	MW-16-072908-W	07/29/08	10:15
E0800739-002	MW16-F-072908-W	07/29/08	10:18

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL)

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected'

- **S** Peak is saturated; data not reportable

- **Q** Lock-mass interference by ether compounds

CAS/HOU - Form Production, Peer Review & Project Review Signatures

SR# Unique ID: E0800739

First Level - Data Processing - to be filled by person generating the forms

Date	08/18/08	Person 1	MC
Date		Person 2	

Second Level - Data Review – to be filled by person doing peer review

Date	8/19/08	Primary Data Reviewer	QC
Date		Secondary Data Reviewer	

Project Level - Review - to be filled by person doing project compliance review

Date	8/19/8	Reviewer	OF

Columbia Analytical Services INC

Analytical Results

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	07/29/2008
Sample Matrix:	Water	**Date Received:**	07/30/2008
Sample Name:	MW-16-072908-W	**Units:**	pg/L
Lab Code:	E0800739-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/14/08 00:28:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1043mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129386	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129378

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.702	9.59			1
1,2,3,7,8-PeCDD	ND	U	0.585	47.9			1
1,2,3,4,7,8-HxCDD	ND	U	0.756	47.9			1
1,2,3,6,7,8-HxCDD	ND	U	0.912	47.9			1
1,2,3,7,8,9-HxCDD	ND	U	0.785	47.9			1
1,2,3,4,6,7,8-HpCDD	ND	U	0.558	47.9			1
OCDD	**12.7**	J	1.56	95.9	0.87	1.000	1
2,3,7,8-TCDF	ND	U	0.675	9.59			1
1,2,3,7,8-PeCDF	ND	U	0.336	47.9			1
2,3,4,7,8-PeCDF	ND	U	0.307	47.9			1
1,2,3,4,7,8-HxCDF	ND	U	0.643	47.9			1
1,2,3,6,7,8-HxCDF	ND	U	0.710	47.9			1
1,2,3,7,8,9-HxCDF	ND	U	0.733	47.9			1
2,3,4,6,7,8-HxCDF	ND	U	0.644	47.9			1
1,2,3,4,6,7,8-HpCDF	ND	U	0.731	47.9			1
1,2,3,4,7,8,9-HpCDF	ND	U	0.669	47.9			1
OCDF	ND	U	1.62	95.9			1
Total Tetra-Dioxins	ND	U	0.702	9.59			1
Total Penta-Dioxins	ND	U	0.585	47.9			1
Total Hexa-Dioxins	ND	U	0.756	47.9			1
Total Hepta-Dioxins	**2.57**	J	0.558	47.9	1.00		1
Total Tetra-Furans	ND	U	0.675	9.59			1
Total Penta-Furans	ND	U	0.307	47.9			1
Total Hexa-Furans	ND	U	0.643	47.9			1
Total Hepta-Furans	ND	U	0.731	47.9			1

Comments:

Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Collected: 07/29/2008
Date Received: 07/30/2008

Sample Name: MW-16-072908-W
Lab Code: E0800739-001

Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method
Sample Amount: 1043mL

Data File Name: U129386
ICAL Name: 05/02/08

Date Analyzed: 8/14/08 00:28:0(
Date Extracted: 8/11/08
Instrument Name: E-HRMS-01
GC Column: DB-5
Blank File Name: U129371
Cal Ver. File Name: U129378

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1278.111	64		25-164	0.78	1.008
13C-1,2,3,7,8-PeCDD	2000	1567.553	78		25-181	1.51	1.169
13C-1,2,3,4,7,8-HxCDD	2000	1601.613	80		32-141	1.29	0.990
13C-1,2,3,6,7,8-HxCDD	2000	1450.948	73		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1192.920	60		23-140	1.05	1.066
13C-OCDD	4000	1797.084	45		17-157	0.91	1.144
13C-2,3,7,8-TCDF	2000	1140.374	57		24-169	0.78	0.979
13C-1,2,3,7,8-PeCDF	2000	1488.457	74		24-185	1.59	1.131
13C-2,3,4,7,8-PeCDF	2000	1455.204	73		21-178	1.58	1.157
13C-1,2,3,4,7,8-HxCDF	2000	1411.797	71		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1244.591	62		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1507.962	75		29-147	0.53	1.006
13C-2,3,4,6,7,8-HxCDF	2000	1474.253	74		28-136	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1074.503	54		28-143	0.45	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1627.983	81		26-138	0.45	1.077
37Cl-2,3,7,8-TCDD	800	614.506	77		35-197	NA	1.008

Comments:

Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Collected: 07/29/2008
Date Received: 07/30/2008

Sample Name: MW-16-072908-W
Lab Code: E0800739-001

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method

Analyte Name	Result	DL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.702	1	1	
1,2,3,7,8-PeCDD	ND	0.585	1	1	
1,2,3,4,7,8-HxCDD	ND	0.756	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.912	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.785	1	0.1	
1,2,3,4,6,7,8-HpCDD	ND	0.558	1	0.01	
OCDD	**12.7**	1.56	1	0.0003	0.00381
2,3,7,8-TCDF	ND	0.675	1	0.1	
1,2,3,7,8-PeCDF	ND	0.336	1	0.03	
2,3,4,7,8-PeCDF	ND	0.307	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.643	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.710	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.733	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.644	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	0.731	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	0.669	1	0.01	
OCDF	ND	1.62	1	0.0003	
		Total TEQ			0.00381

2005 WHO TEFs, ND = 0

Comments:

Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	pg/L
Lab Code:	EQ0800341-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/13/08 11:59:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129371	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129370

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.47	10.0			1
1,2,3,7,8-PeCDD	ND	U	0.828	50.0			1
1,2,3,4,7,8-HxCDD	ND	U	1.24	50.0			1
1,2,3,6,7,8-HxCDD	ND	U	1.43	50.0			1
1,2,3,7,8,9-HxCDD	ND	U	1.26	50.0			1
1,2,3,4,6,7,8-HpCDD	ND	U	1.37	50.0			1
OCDD	ND	U	2.18	100			1
2,3,7,8-TCDF	ND	U	1.05	10.0			1
1,2,3,7,8-PeCDF	ND	U	0.908	50.0			1
2,3,4,7,8-PeCDF	ND	U	0.849	50.0			1
1,2,3,4,7,8-HxCDF	**5.35**	J	0.919	50.0	1.14	0.999	1
1,2,3,6,7,8-HxCDF	ND	U	1.01	50.0			1
1,2,3,7,8,9-HxCDF	ND	U	1.25	50.0			1
2,3,4,6,7,8-HxCDF	ND	U	0.973	50.0			1
1,2,3,4,6,7,8-HpCDF	ND	U	1.38	50.0			1
1,2,3,4,7,8,9-HpCDF	ND	U	1.30	50.0			1
OCDF	ND	U	3.06	100			1
Total Tetra-Dioxins	ND	U	1.47	10.0			1
Total Penta-Dioxins	ND	U	0.828	50.0			1
Total Hexa-Dioxins	ND	U	1.24	50.0			1
Total Hepta-Dioxins	**36.7**	J	1.37	50.0	1.11		1
Total Tetra-Furans	ND	U	1.05	10.0			1
Total Penta-Furans	ND	U	0.849	50.0			1
Total Hexa-Furans	**14.4**	J	0.919	50.0	1.22		1
Total Hepta-Furans	**23.9**	J	1.38	50.0	1.00		1

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ0800341-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/13/08 11:59:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129371	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129370

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1187.764	59		25-164	0.75	1.008
13C-1,2,3,7,8-PeCDD	2000	1426.579	71		25-181	1.57	1.168
13C-1,2,3,4,7,8-HxCDD	2000	1555.369	78		32-141	1.25	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1393.665	70		28-130	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1145.372	57		23-140	1.06	1.067
13C-OCDD	4000	1554.511	39		17-157	0.91	1.145
13C-2,3,7,8-TCDF	2000	1109.884	55		24-169	0.78	0.979
13C-1,2,3,7,8-PeCDF	2000	1305.361	65		24-185	1.55	1.130
13C-2,3,4,7,8-PeCDF	2000	1289.956	64		21-178	1.58	1.155
13C-1,2,3,4,7,8-HxCDF	2000	1369.987	68		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1187.453	59		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1259.727	63		29-147	0.54	1.006
13C-2,3,4,6,7,8-HxCDF	2000	1377.310	69		28-136	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1034.307	52		28-143	0.44	1.044
13C-1,2,3,4,7,8,9-HpCDF	2000	1517.927	76		26-138	0.44	1.078
37Cl-2,3,7,8-TCDD	800	587.218	73		35-197	NA	1.008

Comments:

Columbia Analytical Services INC

Accuracy and Precision

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
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Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Analyzed: 08/13/2008

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Sample Name: Lab Control Sample
Lab Code: EQ0800341-02

Units: pg/L
Basis: NA

Analytical Method: 1613B
Prep Method: Method

Extraction Lot: 71538

Analyte Name	Lab Control Sample Result	Lab Control Sample Expected	Lab Control Sample % Rec	Duplicate Lab Control Sample Result	Duplicate Lab Control Sample Expected	Duplicate Lab Control Sample % Rec	% Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD	259	200	129	267	200	134	67 - 158	4	50
1,2,3,7,8-PeCDD	999	1000	100	1030	1000	103	70 - 142	3	50
1,2,3,4,7,8-HxCDD	934	1000	93	957	1000	96	70 - 164	3	50
1,2,3,6,7,8-HxCDD	1120	1000	112	1050	1000	105	76 - 134	6	50
1,2,3,7,8,9-HxCDD	946	1000	95	939	1000	94	64 - 162	1	50
1,2,3,4,6,7,8-HpCDD	978	1000	98	991	1000	99	70 - 140	1	50
OCDD	1810	2000	90	1870	2000	94	78 - 144	4	50
2,3,7,8-TCDF	192	200	96	191	200	96	75 - 158	0	50
1,2,3,7,8-PeCDF	922	1000	92	947	1000	95	80 - 134	3	50
2,3,4,7,8-PeCDF	953	1000	95	986	1000	99	68 - 160	4	50
1,2,3,4,7,8-HxCDF	1000	1000	100	1080	1000	108	72 - 134	8	50
1,2,3,6,7,8-HxCDF	1140	1000	114	1140	1000	114	84 - 130	0	50
1,2,3,7,8,9-HxCDF	848	1000	85	885	1000	89	78 - 130	5	50
2,3,4,6,7,8-HxCDF	972	1000	97	1010	1000	101	70 - 156	4	50
1,2,3,4,6,7,8-HpCDF	966	1000	97	991	1000	99	82 - 132	2	50
1,2,3,4,7,8,9-HpCDF	834	1000	83	850	1000	85	78 - 138	2	50
OCDF	2000	2000	100	2350	2000	118	63 - 170	17	50

Comments:

Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ0800341-02

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method
Sample Amount: 1000mL

Data File Name: U129375
ICAL Name: 05/02/08

Date Analyzed: 8/13/08 15:10:0(
Date Extracted: 8/11/08
Instrument Name: E-HRMS-01
GC Column: DB-5
Blank File Name: U129371
Cal Ver. File Name: U129370

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**259**		0.880	10.0	0.77	1.001	1
1,2,3,7,8-PeCDD	**999**		0.619	50.0	1.56	1.000	1
1,2,3,4,7,8-HxCDD	**934**		0.634	50.0	1.28	1.000	1
1,2,3,6,7,8-HxCDD	**1120**		0.786	50.0	1.23	1.000	1
1,2,3,7,8,9-HxCDD	**946**		0.668	50.0	1.22	1.008	1
1,2,3,4,6,7,8-HpCDD	**978**		0.554	50.0	1.01	1.000	1
OCDD	**1810**		1.12	100	0.89	1.000	1
2,3,7,8-TCDF	**192**		0.955	10.0	0.82	1.001	1
1,2,3,7,8-PeCDF	**922**		0.438	50.0	1.54	1.000	1
2,3,4,7,8-PeCDF	**953**		0.413	50.0	1.50	1.000	1
1,2,3,4,7,8-HxCDF	**1000**		0.455	50.0	1.25	1.000	1
1,2,3,6,7,8-HxCDF	**1140**		0.523	50.0	1.18	1.000	1
1,2,3,7,8,9-HxCDF	**848**		0.575	50.0	1.26	1.000	1
2,3,4,6,7,8-HxCDF	**972**		0.472	50.0	1.18	1.000	1
1,2,3,4,6,7,8-HpCDF	**966**		0.894	50.0	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	**834**		0.847	50.0	1.02	1.000	1
OCDF	**2000**		1.05	100	0.92	1.004	1
Total Tetra-Dioxins	**259**		0.880	10.0	0.77		1
Total Penta-Dioxins	**999**		0.619	50.0	1.56		1
Total Hexa-Dioxins	**3000**		0.634	50.0	1.28		1
Total Hepta-Dioxins	**978**		0.554	50.0	1.01		1
Total Tetra-Furans	**192**		0.955	10.0	0.82		1
Total Penta-Furans	**1890**		0.413	50.0	1.63		1
Total Hexa-Furans	**3960**		0.455	50.0	1.25		1
Total Hepta-Furans	**1800**		0.894	50.0	1.05		1

Comments:

Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ0800341-02	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/13/08 15:10:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129375	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129370

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1279.106	64		25-164	0.76	1.008
13C-1,2,3,7,8-PeCDD	2000	1560.908	78		25-181	1.56	1.167
13C-1,2,3,4,7,8-HxCDD	2000	1533.696	77		32-141	1.24	0.990
13C-1,2,3,6,7,8-HxCDD	2000	1323.782	66		28-130	1.24	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1323.195	66		23-140	1.04	1.067
13C-OCDD	4000	2420.620	61		17-157	0.90	1.144
13C-2,3,7,8-TCDF	2000	1153.621	58		24-169	0.79	0.979
13C-1,2,3,7,8-PeCDF	2000	1404.463	70		24-185	1.55	1.130
13C-2,3,4,7,8-PeCDF	2000	1401.870	70		21-178	1.55	1.155
13C-1,2,3,4,7,8-HxCDF	2000	1358.501	68		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1174.684	59		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1316.726	66		29-147	0.51	1.006
13C-2,3,4,6,7,8-HxCDF	2000	1396.278	70		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1172.725	59		28-143	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1752.880	88		26-138	0.45	1.077
37Cl-2,3,7,8-TCDD	800	644.104	81		35-197	NA	1.008

Comments:

Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample Dup	**Units:**	pg/L
Lab Code:	EQ0800341-03	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/13/08 15:59:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129376	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129370

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**267**		1.00	10.0	0.77	1.001	1
1,2,3,7,8-PeCDD	**1030**		0.665	50.0	1.56	1.000	1
1,2,3,4,7,8-HxCDD	**957**		0.710	50.0	1.22	1.000	1
1,2,3,6,7,8-HxCDD	**1050**		0.834	50.0	1.22	1.000	1
1,2,3,7,8,9-HxCDD	**939**		0.728	50.0	1.22	1.008	1
1,2,3,4,6,7,8-HpCDD	**991**		0.736	50.0	1.06	1.000	1
OCDD	**1870**		1.56	100	0.90	1.000	1
2,3,7,8-TCDF	**191**		1.07	10.0	0.83	1.001	1
1,2,3,7,8-PeCDF	**947**		0.438	50.0	1.52	1.000	1
2,3,4,7,8-PeCDF	**986**		0.418	50.0	1.53	1.000	1
1,2,3,4,7,8-HxCDF	**1080**		0.436	50.0	1.27	1.000	1
1,2,3,6,7,8-HxCDF	**1140**		0.484	50.0	1.26	1.000	1
1,2,3,7,8,9-HxCDF	**885**		0.535	50.0	1.31	1.000	1
2,3,4,6,7,8-HxCDF	**1010**		0.467	50.0	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	**991**		1.16	50.0	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	**850**		1.04	50.0	1.02	1.000	1
OCDF	**2350**		1.99	100	0.88	1.004	1
Total Tetra-Dioxins	**267**		1.00	10.0	0.77		1
Total Penta-Dioxins	**1030**		0.665	50.0	1.56		1
Total Hexa-Dioxins	**2950**		0.710	50.0	1.22		1
Total Hepta-Dioxins	**991**		0.736	50.0	1.06		1
Total Tetra-Furans	**191**		1.07	10.0	0.83		1
Total Penta-Furans	**1950**		0.418	50.0	1.52		1
Total Hexa-Furans	**4110**		0.436	50.0	1.27		1
Total Hepta-Furans	**1840**		1.16	50.0	1.05		1

Comments:

Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample Dup
Lab Code: EQ0800341-03

Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method
Sample Amount: 1000mL

Data File Name: U129376
ICAL Name: 05/02/08

Date Analyzed: 8/13/08 15:59:0(
Date Extracted: 8/11/08
Instrument Name: E-HRMS-01
GC Column: DB-5
Blank File Name: U129371
Cal Ver. File Name: U129370

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1284.753	64		25-164	0.76	1.008
13C-1,2,3,7,8-PeCDD	2000	1496.503	75		25-181	1.55	1.168
13C-1,2,3,4,7,8-HxCDD	2000	1546.083	77		32-141	1.25	0.990
13C-1,2,3,6,7,8-HxCDD	2000	1375.398	69		28-130	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1122.480	56		23-140	1.06	1.067
13C-OCDD	4000	1582.160	40		17-157	0.90	1.145
13C-2,3,7,8-TCDF	2000	1188.272	59		24-169	0.78	0.979
13C-1,2,3,7,8-PeCDF	2000	1389.024	69		24-185	1.57	1.130
13C-2,3,4,7,8-PeCDF	2000	1339.852	67		21-178	1.57	1.156
13C-1,2,3,4,7,8-HxCDF	2000	1327.350	66		26-152	0.54	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1147.159	57		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1379.013	69		29-147	0.51	1.006
13C-2,3,4,6,7,8-HxCDF	2000	1340.763	67		28-136	0.55	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1015.145	51		28-143	0.43	1.044
13C-1,2,3,4,7,8,9-HpCDF	2000	1539.706	77		26-138	0.45	1.078
37Cl-2,3,7,8-TCDD	800	647.741	81		35-197	NA	1.008

Comments:

Columbia Analytical Services INC

Chain of Custody

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Columbia Analytical Services
19408 Park Road
Suite 320
Houston, Texas 77084

Chain of Custody Record

Client	Project Manager	Date	Chain of Custody Number
GeoEngineers Inc.	Jay Lucas	07/29/08	2523
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page ____ of ____**
1101 S. Fawcett Ave Suite 200	206-239-3221		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Tacoma / WA / 98401			
Project Name and Location (State)	**Carrier/Waybill Number**		
Port of Olympia East Bay			
Contract/Purchase Order/Quote No.			
Project # ~~04Ka-595-08~~ 06/5-024-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Dissolved Lucas ZPA 1,3	Hg 1631	Special Instructions/ Conditions of Receipt
MW16-072908-W	07/29/08	1015		X			~~2~~ 2						X		Std TAT
MW16-F-072908-W	07/29/08	1018		X			2					(F)	X	X	(F) 7/30/8

Cooler: ☒ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☒ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time
1. Relinquished By: Chad C. Opatz	07/29/08	1305
2. Relinquished By:		
3. Relinquished By:		
1. Received By:		
2. Received By:		
3. Received By:	7/30/08	10:00

Comments: 2° C

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0508)

Reset Form

Print Form

Columbia Analytical Services, Inc.
Cooler Receipt Form

Client/Project: Geo Engineers Service Request: E0800739

Received: 7/30/08 Opened (Date/Time): 10:00 By: AE

1. Samples were received via? ☐*US Mail* ☐*Fedex* ☑*UPS* ☐*DHL* ☐*Courier* ☐*Hand Delivered*
2. Samples were received in: (circle) ☑*Cooler* ☐*Box* ☐ *Other*_____ ☐*NA*
3. Were custody seals present on coolers? ☐Y ☑N If yes, how many and where?_____
   If present, were custody seals intact? ☐Y ☐N If present, were they signed and dated? ☐Y ☐N
4. Is shipper's air-bill filed? ☐NA ☑Y ☐N If not, record air bill number:_____
5. Temperature of cooler(s) upon receipt (°C): 2
6. If applicable, list Chain of Custody numbers: _____
7. Were custody papers properly filled our (ink, signed, etc.)? ☐NA ☑Y ☐N
8. Packing material used: ☐*Inserts* ☑*Bubble Wrap* ☐*Blue Ice* ☑*Wet Ice* ☐*Sleeves* ☐*Other*_____
9. Were the correct types of bottles used for the tests indicated? ☑Y ☐N
   Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* ☑Y ☐N

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Initials
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	

10. Were all bottle labels complete (i.e. analysis, ID, etc.)? ☑Y ☐N
    Did all bottle labels and tags agree with custody papers? *Indicate in the table below.* ☑Y ☐N

Sample ID on Bottle	Sample ID on COC		Sample ID on Bottle	Sample ID on COC

11. Additional notes, discrepancies, and resolutions:

_____

_____

_____

Page 1 of: ☑1 ☐2

Sample Acceptance Policy

Custody Seals (desirable, mandatory if specified in SAP):

- ✓ On outside of cooler
- ✓ Seals intact, signed and dated

Chain-of-Custody documentation (mandatory):

- ✓ Properly filled out in ink & signed by the client
- ✓ Sign and date the coc for CAS/HOU upon cooler receipt
- ✓ Coc must list method number
- ✓ If no coc was submitted with the samples, complete a CAS/HOU coc for the client

Sample Integrity (mandatory):

- ✓ Sample containers must arrive in good condition (not broken or leaking)
- ✓ Sample IDs on the bottles must match the sample IDs on the coc
- ✓ The correct type of sample bottle must be used for the method requested
- ✓ The correct number of sample containers received must agree with the documentation on the coc
- ✓ The correct sample matrix must appear on the coc
- ✓ An appropriate sample volume or weight must be received

Temperature Preservatives (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C
- ✓ The sample temperature must be recorded on the coc
- ✓ Notify a Project Chemist if any samples are outside the acceptance temperature or have compromised sample integrity – the client must decide re: replacement sample submittal or continue with the analysis

Cooler Receipt Form, CRF (mandatory):

- ✓ Cooler receipt forms must be completed for each coc & SR#
- ✓ Sample integrity issues must be documented on the CRF
- ✓ A scan of the carrier and the airbill number must be recorded in CAS LIMS

Sample Integrity Issues/Resolutions (mandatory):

- ✓ Sample integrity issues are documented on the CRF and given to the Project Chemist for resolution with the client
- ✓ Client resolution is documented in writing (typically email or on the CRF) and filed in the project folder(s)

Service Request Summary

Folder #: **E0800739**
Client Name: Geo Engineers
Project Name: Method 1613B
Project Number: 0615-034-02

Report To: Jay Lucas
Geo Engineers Inc
1101 S. Fawcett Ave, Suite 200
Tacoma, WA 98401
Phone Number:
Cell Number:
Fax Number:
E-mail: jlucas@geoengineers.com

Project Chemist: Jane Freemyer
Originating Lab: HOUSTON
Logged By: AENNIS
Date Received: 07/30/2008
Internal Due Date: 08/13/2008
QAPP: LAB QAP
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: N
Report to MDL?: Y
P.O. Number: 0615-034-02
EDD: BASIC_WQC_CASNo

4 - 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserv

Location: E-WIC01

CAS Samp No.	Client Samp No.	Matrix	Collected		SVM Dioxins Furans/ 1613B
E0800739-001	MW-16-072908-W	Water	7/29/08	1015	IV
E0800739-002	MW16-F-072908-W	Water	7/29/08	1018	IV(H)

Preparation Information Benchsheet

Prep Run#: 71538
Team: Semivoa GCMS/SMALHOTRA

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 08/11/2008 03:00 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	EQ0800341-01	MB		1613B/Dioxins Furans		Liquid	1000mL	
2	EQ0800341-02	LCS		1613B/Dioxins Furans		Liquid	1000mL	
3	EQ0800341-03	DLCS		1613B/Dioxins Furans		Liquid	1000mL	
4	E0800735-001RE	2008-07-23-I	.01	1613B/Dioxins Furans	3	Water	1010mL	Yellow clear liquid
5	E0800735-002RE	2008-07-25-G	.01	1613B/Dioxins Furans	4	Water	1017mL	Yellow clear liquid
6	E0800739-001RE	MW-16-072908-W	.01	1613B/Dioxins Furans	8	Water	1043mL	Very pale yellow clear liquid
7	E0800742-001RE	01F	.01	1613B/Dioxins Furans	7	Water	898mL	Colorless clear liquid
8	E0800742-002RE	02F	.01	1613B/Dioxins Furans	7	Water	945mL	Colorless clear liquid
9	E0800762-001	A-Line Bl. Plant	.01	1613B/Dioxins Furans	2	Water	1080mL	Yellow, cloudy liquid
10	E0800762-002	B-Line Bl. Plant	.01	1613B/Dioxins Furans	4	Water	973mL	Yellow, cloudy liquid
11	E0800763-001	01I	.01	1613B/Dioxins Furans	7	Water	983mL	Clear, colorless liquid
12	E0800769-014	08A-0067-C3FR	.01	1613B/Dioxins Furans	5	Misc. Aqueous	0mL	Hexane, clear
13	E0800770-001	18H 0018-01 WW effluent	.01	1613B/Dioxins Furans	7	Water	940mL	Very light yellow clear liquid
14	E0800772-001	OUTFALL 004	.01	1613B/Dioxins Furans	4	Wastewater	983mL	Orange, cloudy liquid
15	E0800772-002	OUTFALL 005	.01	1613B/Dioxins Furans	7	Wastewater	945mL	Orange, cloudy liquid
16	E0800774-001	08080726	.01	1613B/Dioxins Furans	8	Water	1023mL	White, slightly cloudy liquid
17	E0800776-001	01H	.01	1613B/Dioxins Furans	7	Water	998mL	Clear, colorless liquid
18	E0800777-001	01H	.01	1613B/Dioxins Furans	7	Water	998mL	Clear, colorless liquid
19	J0803766-002	Dioxins/21-2	.01	1613B/Dioxins Furans	3	Water	983mL	Yellow, cloudy liquid
20	J0803766-004	Dioxins/13-3	.01	1613B/Dioxins Furans	3	Water	967mL	Yellow, cloudy liquid
21	J0803766-006	Dioxins/13-4	.01	1613B/Dioxins Furans	3	Water	986mL	Yellow, cloudy liquid
22	K0806915-001RE	Bogue Losa	.05	1613B/Dioxins Furans	6	Drinking Water	980mL	Colorless clear liquid
23	P0802464-001	1133924	.01	1613B/Dioxins Furans	7	Water	973mL	Tan, cloudy liquid

Preparation Information Benchsheet

Prep Run#: 71538
Team: Semivoa GCMS/SMALHOTRA
Prep WorkFlow: OrgExtAq(365)
Prep Method: Method
Status: Prepped
Prep Date/Time: 08/11/2008 03:00 PM

Spiking Solutions

Name:	1613B Matrix Working Standard	Inventory ID	4296	Logbook Ref:	D9-65-2B	Expires On:	06/13/2018

EQ0800341-02	100.00uL	EQ0800341-03	100.00uL

Name:	8290/1613B Cleanup Working Standard	Inventory ID	4863	Logbook Ref:	D9-73-5A/B	Expires On:	08/11/2018

E0800735-001	100.00uL	E0800735-002	100.00uL	E0800739-001	100.00uL	E0800742-001	100.00uL	E0800742-002	100.00uL	E0800762-001	100.00uL
E0800762-002	100.00uL	E0800763-001	100.00uL	E0800769-014	100.00uL	E0800770-001	100.00uL	E0800772-001	100.00uL	E0800772-002	100.00uL
E0800774-001	100.00uL	E0800776-001	100.00uL	E0800777-001	100.00uL	EQ0800341-01	100.00uL	EQ0800341-02	100.00uL	EQ0800341-03	100.00uL
J0803766-002	100.00uL	J0803766-004	100.00uL	J0803766-006	100.00uL	K0806915-001	100.00uL	P0802464-001	100.00uL		

Name:	1613B Labeled Working Standard	Inventory ID	4911	Logbook Ref:	D9-73-4B	Expires On:	02/09/2009

E0800735-001	1,000.00uL	E0800735-002	1,000.00uL	E0800739-001	1,000.00uL	E0800742-001	1,000.00uL	E0800742-002	1,000.00uL	E0800762-001	1,000.00uL
E0800762-002	1,000.00uL	E0800763-001	1,000.00uL	E0800769-014	1,000.00uL	E0800770-001	1,000.00uL	E0800772-001	1,000.00uL	E0800772-002	1,000.00uL
E0800774-001	1,000.00uL	E0800776-001	1,000.00uL	E0800777-001	1,000.00uL	EQ0800341-01	1,000.00uL	EQ0800341-02	1,000.00uL	EQ0800341-03	1,000.00uL
J0803766-002	1,000.00uL	J0803766-004	1,000.00uL	J0803766-006	1,000.00uL	K0806915-001	1,000.00uL	P0802464-001	1,000.00uL		

Preparation Materials

Silica Gel Reagent Grade	C2-6-004 (3305)	Carbon, High Purity	C2-9-004 (3628)	Glass Wool	C2-1-004 (3060)
Acetone 99.5% Minimum	C1-124-004 (3063)	Nonane (n-Nonane) 99%	C2-4-003 (3304)	Sodium Chloride Reagent Grade I	C1-104-2 (3306)
Sodium Sulfate Anhydrous Reage	C2-10-001 (3635)	Dichloromethane (Methylene Chl	C2-9-007 (3629)	Toluene 99.9% Minimum	C2-9-005 (3634)
Ethyl Acetate 99.9% Minimum Et	C2-1-005 (3059)	Hexane (n-Hexane) 98.5% Minim	C2-9-006 (3631)	Tridecane (n-Tridecane)	C2-7-002 (3360)
Sulfuric Acid Reagent Grade H2S	C2-7-005 (3357)	pH Paper 0-14	(1008)		

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	8/11/08 15:00	Started:	8/12/08 08:00	Started:	8/12/08 15:00	Started:	8/13/08 08:00
Finished:	8/11/08 18:00	Finished:	8/12/08 08:00	Finished:	8/12/08 18:00	Finished:	8/13/08 12:00
By:	NBROWN	By:	NBROWN	By:	NBROWN	By:	NBROWN

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Columbia Analytical Services, Inc.

Nonconformity and Corrective Action Report

NONCONFORMITY

PROCEDURE (SOP or METHOD): 1613

EVENT:
- ☐ Missed Holding Time
- ☒ QC Failure
- ☐ Lab Error (spilled sample, spiking error, etc.)
- ☐ Method Blank Contamination
- ☐ Login Error
- ☐ Project Management Error
- ☐ Equipment Failure
- ☐ Unacceptable PT Sample Result
- ☐ SOP Deviation
- ☐ Other (describe):

SAMPLES / PROJECTS / CUSTOMERS / SYSTEMS AFFECTED

EQ0800332-01 MB E0800735 E0800738 E0800739 E0800742 E08007347 E0800748 E0800749 J0803628 K0806915

DETAILED DESCRIPTION

Low internal standard recovery.

ORIGINATOR: Rolando Diaz DATE: *08/08/08*

CORRECTIVE ACTION AND OUTCOME

Re-establishment of conformity must be demonstrated and documented. Describe the steps that were taken, or are planned to be taken, to correct the particular Nonconformity and prevent its reoccurrence. Include any Project Manager instructions here.

Re-extract ½ original sample size.

Is the data to be flagged in the Analytical Report with an appropriate qualifier? ☐ **No** ☒ **Yes**

APPROVAL AND NOTIFICATION

Supervisor Verification and Approval of Corrective Action _____ Date: 8/19/08

Comments:

QA PM Verification and Approval of Corrective Action Andrew Biddle Date: 08/08/08

Comments:

Customer Notified by ☐ Telephone ☐ Fax ☑ E-mail ☑ Narrative ☐ Not notified

Project Manager Verification and Approval of Corrective Action _____ Date: 8/19/8

Comments:

(Attach record or cite reference where record is located.) Project folder archives

APPENDIX D
SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN

SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN REMEDIAL INVESTIGATION WORK PLAN EAST BAY REDEVELOPMENT PORT OF OLYMPIA OLYMPIA, WASHINGTON

OCTOBER 22, 2008

FOR
PORT OF OLYMPIA

GeoEngineers

Sampling and Analysis Plan and Quality Assurance Project Plan

File No. 0615-034-07

October 22, 2008

Prepared for:

Port of Olympia
915 Washington Street NE
Olympia, Washington 98501-6931

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DAC:JCL:bmw
SEAT:\0\0615034\07\Finals\Revised RI Workplan Oct 08\061503407RI WP Apdx D SAP & QAPP Revised Oct 08.doc

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SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN REMEDIAL INVESTIGATION WORK PLAN EAST BAY REDEVELOPMENT, PORT OF OLYMPIA OLYMPIA, WASHINGTON FOR PORT OF OLYMPIA

1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) describe sample collection, handling and analysis procedures associated with the Remedial Investigation Work Plan (RIWP) for the Port of Olympia's (Port) 13-acre East Bay Redevelopment Site (Site). The Site is located in Olympia, Washington, as shown in Figure 1. This SAP must be used in conjunction with the RIWP and the project-specific Health and Safety Plan (HASP).

Detailed descriptions of the field sampling procedures are provided in this document. Site conditions may make it necessary to modify these procedures. Any variations or modifications that become necessary during the investigation will be coordinated with Port personnel, the Washington State Department of Ecology (Ecology) and other involved parties, as appropriate. Variations or modifications implemented during the investigation and the reason for the modification will be documented in field records.

This SAP describes field activities, sampling equipment, sampling locations and procedures that will be used during investigations at the Site. This SAP also includes a QAPP (Section 11), which identifies quality assurance/quality control (QA/QC) procedures that will be implemented during field sampling activities and laboratory analyses.

2.0 PURPOSE AND SCOPE

The purpose of this SAP is to present the detailed procedures that will be used to obtain samples during the supplemental remedial investigation (RI). The objective of this sampling is to provide information to:

- Characterize the nature and extent of contamination at the Site;
- Assess the potential risk to human and ecological receptors; and
- Provide the information that will allow selection of cleanup action alternatives.

Rationale for sample locations and depths and monitoring wells are described in Tables 1 through 3.

Activities to be performed by GeoEngineers during the RI include the following:

1. Update the Project HASP and SAP for use by GeoEngineers' personnel during the RI.
2. Retain public and private utility locating services to identify and locate underground utilities in the exploration areas in coordination with the Port.
3. Retain a concrete coring contractor to core through paved surfaces, as necessary.
4. Monitor the advancement of soil explorations using direct-push and/or hollow-stem auger techniques to depths specific to proposed sample locations. If field screening indicates

contamination is present at the target total depth for a boring, the boring will be advanced until field screening indicates contamination is not present.

a. Soil borings will be located by measuring from known previously surveyed features (roads, existing monitoring wells, etc) and GPS readings.

b. Samples of soil will be collected continuously for the total depth of each boring. Samples for potential chemical analyses will be collected approximately every two feet. Soil will be visually classified in the field according to the Unified Soil Classification System. Contacts between soil lithologies and fill episodes, if feasible, will also be described.

c. Groundwater monitoring wells may be constructed in five borings as described in Table 2.

5. Obtain soil samples as specified in this SAP and the RIWP. Field screening will be performed on each sample using visual, water sheen and headspace vapor screening methods. The field screening results will be used as a general guideline to approximate the vertical extent of petroleum-related contamination in the soil samples. In addition, screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis.

6. Explore the locations and nature of water seeps along the shoreline embankment and collect data to determine if the seeps represent groundwater.

7. Obtain groundwater samples from existing and new monitoring wells for chemical analytical testing using low-flow sampling methodology. Measure depth to water using an electric water level indicator.

a. Collect water samples from seeps if the seeps represent groundwater.

8. Contain soil cuttings, purge water and decontamination water in steel drums and store the drums in a secure location designated by the Port to await off-site transport and disposal. The drums will be labeled according to standard GeoEngineers' practice.

9. Submit soil and groundwater samples to a subcontracted chemical analytical laboratory for chemical analysis. The chemical constituents for each sample have been determined based on existing data and assumptions of the chemicals of potential concern (COPCs) present. Sample locations, depth intervals, and COPCs are described in Tables 1 through 3. The chemical analysis may include one or more of the following:

a. Gasoline-, diesel- and motor oil-range petroleum hydrocarbons by Ecology Methods NWTPH-Gx and NWTPH-Dx,

b. Metals by U.S. Environmental Protection Agency (EPA) Method 6000/7000 series,

c. Volatile organic compounds (VOCs) by EPA Method 8260B,

d. Semivolatile organic compounds (SVOCs) including carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270 SIM,

e. Polychlorinated biphenyls (PCBs) by EPA Method 8082, and

f. Dioxins/furans by EPA Method 1613B or Method 8290.

Tables 4 and 5 summarizes the target analytical reporting limits and analytical methods that will be used for soil and groundwater.

10. Document sample methodology and sample locations using detailed field logs.

11. Use database and geographic information system (GIS) technologies to manage chemical analytical data and sample locations.

3.0 PROJECT SCHEDULE

Field work for the supplemental RI will be conducted in phases. The initial phase of the RI will be completed in Fall 2008 in order to provide data critical to the planning of the infrastructure improvement project. The initial phase includes completing eight explorations located in or near the infrastructure corridor. The initial eight exploration locations include borings DP27, DP30, DP32, DP33, DP34, DP36, DP38, and DP40, which are also highlighted on Table 1. The initial phase will also include locating suspected artesian wells, as described in Appendix B of the RI Workplan. Subsequent phase of field work will be completed after data from the first phase has been evaluated and after decommissioning of the artesian wells.

4.0 ROLES AND RESPONSIBILITIES

This section outlines the individuals directly involved with the RI. Work performed under this SAP will be in cooperation with the Port.

Key personnel for this project are as follows:

Position	Name	Affiliation	Telephone Number
Ecology Project Coordinator	Steve Teel	Washington State Department of Ecology	360-407-6247
Port Project Coordinator	Joanne Snarski	Port of Olympia	360-528-8061
Principal-in-Charge	David Cook	GeoEngineers, Inc.	206-728-2674
Project Manager	Jay Lucas	GeoEngineers, Inc.	206-239-3221

- The **Ecology Project Coordinator** is responsible for providing timely technical review and guidance regarding compliance with the Agreed Order (AO) and is responsible for overseeing implementation of the AO for Ecology.
- The **Port Project Coordinator** is responsible for administering the contract with the consultant and is responsible under the AO for overseeing implementation of the AO for the Port.
- The **Principal-in-Charge** works with the Project Manager and is responsible for project document QA/QC review.
- The **Project Manager** reports directly to the Port Project Coordinator and the Principal-in-Charge. The Project Manager is responsible for coordinating project activities and submitting deliverables to the Port. The Project Manager's duties consist of providing concise technical work statements for project tasks, selecting project team members, determining the degree of subcontractor participation, establishing and adhering to budget and schedule, providing technical oversight and providing review of all work.

5.0 FIELD PROCEDURES

The rationale, depths and chemical program for soil and groundwater samples are presented in Tables 1 through 6 of this SAP and are described in the RIWP. The soil and groundwater samples will be obtained and submitted to a Washington State accredited laboratory for chemical analysis.

Note that Sampling and Testing associated with the RI, as outlined in this SAP, includes a phased approach to facilitate early decisions regarding the infrastructure improvements and associated excavation. The phased explorations and testing approach are highlighted in Table 1 of this SAP.

5.1 UNDERGROUND UTILITY LOCATE

Prior to sampling activities, an underground utility locate will be conducted in the area of the proposed sample locations to identify any subsurface utilities and/or potential underground physical hazards.

5.2 SUBSURFACE SOIL SAMPLING

5.2.1 Sample Collection Method

Subsurface soil sampling will be conducted using a direct-push drilling rig equipped with a core barrel lined with disposable acetate sleeves. Soil samples will be obtained every two feet for potential chemical analytical testing and field screening, as described in Table 1. Samples obtained for chemical analytical testing will consist of approximately four- to six-inches of the soil core. The depth of each sample will be measured from the bottom of the sample interval. The depth to the groundwater table, if present, may also be measured at each sample location, using an electric water level indicator.

Samples to be analyzed for gasoline-range petroleum hydrocarbons and VOC analysis following EPA Method 5035A (Ecology 2004) will be obtained first. Samples obtained for non-volatile analyses will be obtained from the same general intervals as the volatile samples. Planned sample depths are based on results from earlier studies and are outlined in Table 1. Sample containers will be labeled in the field and stored in an iced cooler prior to and during shipment to the chemical analytical laboratory.

Sampling activities will be conducted by a GeoEngineers representative, and soil will be visually classified in the field according to the Unified Soil Classification System (USCS) and American Society for Testing and Materials (ASTM) Standard 2488.

Field personnel will record the sample locations using hand-held Trimble GeoXT global positioning system (GPS) units with sub-meter accuracy during sampling activities. Sub-meter accuracy standards will be used during data collection to record latitude and longitudinal data. A minimum of four satellites will be required for a position dilution of precision (PDOP) value of less than 6. Satellite elevation must be at least 15 degrees above the horizon, with a minimum signal-to-noise ratio (SNR) of 39 bBHz. GPS data collected in the field will be subsequently processed in the office using measurements from the nearest reference station to each collection point.

5.2.2 Sample Locations

Twenty-two new boring locations are planned and shown in Figures 2 and 3. The borings are placed in areas to further evaluate the lateral and/or vertical extent of contamination that has been identified in previous studies. The rationale for sample locations and depth intervals are described in Table 1.

5.2.3 Phase 1: Infrastructure Construction Corridor Sample Locations

Locations of eight borings are within utility corridors associated with the infrastructure improvements. These borings may be completed during an initial phase of exploration to accommodate the construction schedule. These borings are highlighted in Table 1 and Figure 2. Sampling in the infrastructure corridor will provide data to characterize soil that will be removed during excavation activities.

5.3 FIELD SCREENING

Field screening for evidence of possible contamination will be performed on soil samples obtained from the explorations. Field screening results will be recorded on the field logs, and the results will be used as a general guideline to delineate areas of possible contamination. Screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis. The following screening methods will be used: (1) visual screening, (2) water sheen screening and (3) headspace vapor screening. Visual screening and water sheen screening are qualitative methods; therefore, precision, accuracy and detection limits are not quantified for these methods. Headspace vapor screening is a semi-quantitative method; however, precision and accuracy will not be quantified for this method. Instrument accuracy and detection limits are described below. Field screening results are site- and location-specific. The results may vary with temperature, moisture content, soil type and chemical constituent.

5.3.1 Visual Screening

The soil will be observed for unusual color and stains and/or odor indicative of possible contamination.

5.3.2 Water Sheen Screening

A portion of the soil sample will be placed in a pan containing distilled water. The water surface will be observed for signs of sheen. The following sheen classifications will be used:

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

5.3.3 Headspace Vapor Screening

Headspace vapor screening will be performed on a portion of the soil sample placed into a resealable plastic bag. Ambient air will be captured in the bag; the bag will be sealed and then shaken gently to expose the soil to the air trapped in the bag. The bag will remain closed for approximately 5 minutes at ambient temperature before the headspace vapors are measured. Vapors present within the sample bag's headspace will be measured by inserting the probe of a photoionization detector (PID) through a small opening in the bag. A PID measures the concentration of organic vapors ionizable by a 10.6 electron volt (eV) lamp in parts per million (ppm) and quantifies organic vapor concentrations in the range between 0.1 ppm and 2,000 ppm (isobutylene equivalent) with an accuracy of 1 ppm between 0 ppm and 100 ppm. The maximum value on the instrument and the ambient air temperature will be recorded on the field log for each sample. The PID will be calibrated to 100 ppm isobutylene.

5.4 GROUNDWATER SAMPLING

5.4.1 Monitoring wells

Groundwater will be sampled from 17 existing and new monitoring wells for chemical analytical testing as shown in Table 3. Monitoring wells will be sampled using low-flow sampling methodologies, as described below.

- Prior to sampling, measure depth to water with an electric water level indicator.
- Purge groundwater from the monitoring wells using dedicated tubing, a peristaltic pump (or equivalent), a flow-through cell and water parameter analyzer (Horiba U-20). Purge monitoring wells using a flow rate between 100 and 500 milliliters per minute (mL/min) that does not create significant drawdown in the well. When field parameters have stabilized or at least three well volumes of water have been purged from the well, disconnect the flow-through cell and sample groundwater directly from down-well tubing, maintaining a low-flow pumping rate. Water quality parameters to be monitored during purging include: conductivity, dissolved oxygen, pH, salinity, total dissolved solids, turbidity, oxidation-reduction potential and temperature.
- Place each groundwater sample directly into a laboratory-prepared sample container, label the container, log the sample on the chain-of-custody and sample collection form, and place the container into a cooler with ice.

5.4.2 Groundwater Seeps

Greylock Consulting identified four seep locations along the shoreline during a low tide on July 16, 2008. These locations, as well as other seep locations that may be identified during site visits, will be evaluated to determine if they represent groundwater rather than surface water, irrigation water or discharge from buried pipes.

The evaluation will be based on several lines of evidence that will include:

- Physical observations of the proximity of the seeps to known utilities that could represent areas where water leaks from stormwater drains or from the fill around buried utilities.
- Explore the soil above the seeps to determine if the soil is saturated above the seepage point, and follow the saturation to its point of origin. This exploration will be conducted with hand digging equipment.
- Measure the temperature, salinity and conductivity of the water discharging from the seeps and compare these values to that representative of groundwater and of marine water. This will help determine if the seeps represent delayed drainage of sea water, rather than groundwater.
- Determine if the seeps originate at a higher elevation that the groundwater table. If a seep originates above the elevation of the groundwater table or high tide elevation that day, it is evidence that the seep does not represent groundwater. The elevation of the groundwater table will be based on water levels measured in the nearest monitoring well during the high tide and the low tide of that day's tidal cycle.

If water from an area of seepage is identified as groundwater, a representative sample will be collected for chemical testing as identified in Table 3. The sample will be collected by pushing a short PVC pipe into the seep so the water drains from the end of the pipe. Following insertion of the PVC pipe, a sample of the water will be collected after turbidity caused by the initial disturbance has descreased. Conductivity, temperature, and salinity water quality parameters will be measured as described above for the monitoring well samples. Up to four samples representative of groundwater seeps will be collected. The PVC pipe will be decontaminated prior to collection of each sample.

5.5 FIELD EQUIPMENT CALIBRATION PROCEDURES

Field equipment requiring calibration will be calibrated to known standards in accordance with manufacturers' recommended schedules and procedures for each instrument. If field equipment becomes inoperable, it will be replaced with a properly calibrated instrument.

6.0 CHEMICAL ANALYTICAL PROGRAM

All samples will be submitted to a Washington State accredited laboratory. Tables 1 and 3 summarize the chemical analyses for soil and groundwater samples from monitoring wells, respectively. Tables 4 and 5 summarize the target analytical reporting limits.

7.0 SAMPLE HANDLING AND CUSTODY REQUIREMENTS

The following procedures will be used when obtaining soil and/or groundwater samples during the investigation activities.

- Dedicated nitrile gloves will be worn when obtaining each sample, including quality control (QC) samples.
- Soil samples obtained for chemical analysis of gasoline-range petroleum hydrocarbons and VOCs will be obtained using EPA Method 5035A.
- Samples obtained for chemical analysis will be transferred into clean sample containers supplied by the analytical laboratory. Table 6 lists the sample containers to be used.
- Sufficient sample volume will be obtained for the laboratory to complete the method-specific QC analyses on a laboratory-batch basis.
- Sample labels will be completed for each sample following the procedures provided in this section. Immediately after the samples are obtained, they will be stored in a cooler with ice until they are delivered to the analytical laboratory.
- Standard chain-of-custody procedures will be followed for all samples obtained.

7.1 CUSTODY SEALS

Custody seals are signed and dated seals that are affixed to the lid of a shipping container (for example, cooler) and are used to indicate if the container has been opened before it reaches the intended recipient. Custody seals will be attached to containers by GeoEngineers personnel before they are transferred to the chemical analytical laboratory.

7.2 CUSTODY PROCEDURES

Chain-of-custody procedures will be used to track the possession of the samples from the time they are obtained in the field through analysis and final disposition. Each time the samples change hands, both the sender and receiver will sign and date the chain-of-custody record form. A chain-of-custody record form will be used to track possession of the samples and to document the analyses requested. The form will be completed at the end of each sampling day prior to transfer of samples off-site and will accompany the samples during transfer to the laboratory.

When the samples are shipped to the laboratory via common carrier, one copy of the chain-of-custody record form will be retained for project files, and the remaining copies will be enclosed in a plastic bag and secured to the inside of the cooler prior to shipment.

Upon receipt of the samples at the laboratory, the custody seals will be broken, the chain-of-custody form will be signed as received by the laboratory, and the conditions of the samples will be recorded on the form. The original chain-of-custody form will remain with the laboratory, and copies will be returned to the relinquishing party.

8.0 DOCUMENTATION OF FIELD ACTIVITIES

Daily field activities, including observations and field procedures, will be recorded on appropriate forms. The original field forms will be maintained in GeoEngineers' office files. Copies of the completed forms will be maintained in a sequentially numbered field file for reference during field activities. Photographic documentation of field activities will be performed as appropriate.

8.1 SAMPLE DESIGNATION

Each sample obtained during field activities will be identified by a unique sample designation. The sample designation will be included on the sample label. For soil samples, the designation also will be included with the corresponding sample information on the appropriate field log. For groundwater sampling from monitoring wells, the corresponding sample information will be recorded on the monitoring well sampling field sheet. The following sample designation system will be used for this project.

All samples will be assigned a unique identification code based on a consistent sample designation scheme. The sample designation scheme is designed to suit the needs of the field staff, data management and data users. All samples will consist of three components separated by a dash. These components are station code, date and sample interval. The sample designation scheme is as follows:

Station Code	Date	Sample Interval
SSnn	YYMMDD	XXX
MWnn	YYMMDD	W

The three components are described below.

8.1.1 Station Code

The station code component is a four-character code that uniquely identifies each sampling station. The station code component has two parts: a two-letter station designation ("SS" or "MW") followed by a sequential two-digit number component "nn." The two-letter "SS" designation will be determined by how the soil sample was obtained (for example, drilling method, grab) as described below. The sequential "nn" component will begin at 26 (that is, 26, 27, 28) to accommodate samples previously obtained at the Site during previous studies. For groundwater samples, the "MWnn" designation will correspond to the monitoring well number (for example, MW25S).

The station designations are:

- DP – Direct-Push
- SB – Soil Boring using Hollow-Stem Auger (HSA) Drilling Techniques
- TP – Test Pit
- GB – Grab Sample

8.1.2 Date

The date component is a six-character code that presents the date that the sample was obtained in the following format: year, month, day (YYMMDD).

8.1.3 Sample Interval

The sample interval component corresponds to sample depth for soil samples, and is a three-character code that identifies each sampling interval. Soil sample depth determinations will be made to the nearest 0.5 foot, with the depth determination representing *either* the sample collection point (for VOC) *or* the beginning of the sampling interval (that is, 050 will represent the 5- to 5.5-foot interval). For groundwater, a "W" will be used for the sample interval component.

8.1.3.1 Field Quality Control (QC) Samples

Field QC samples will be identified by adding characters to the end of the sample interval field. The following characters are associated with the following field QC sample types:

- TB – VOC trip blank
- DUP – duplicate sample

8.1.4 Examples

Examples of complete sample numbers with descriptions are as follows:

- DP30-080825-020 A field sample collected at station DP30 on August 25, 2008, from 2 to 2.5 feet bgs.
- MW04-080825-W A groundwater sample collected at monitoring well MW04 on August 25, 2008.

Under the sample designation method described above, the identifier will be unique (that is, no two samples will have the same identifier) and informative (that is, location, date and sample interval). This designation scheme will facilitate overall data management and submittal into Ecology's Environmental Information Management (EIM) database.

8.2 SAMPLE LABELING

Sample information will be printed legibly onto the sample labels in indelible ink. Field identification will be sufficient to enable cross-reference with the project logbook.

To minimize handling of sample containers, labels will be completed before sample collection to the extent possible. The label will be filled out completely in the field and attached firmly to the sample container. The sample label will provide the following information:

- GeoEngineers' job number
- Sample designation
- Date of sample collection (month/day/year)
- Time of sample collection (hours: minutes)
- Chemical analyses to be conducted

- Sample preservation, if applicable
- Initials of sampler

8.3 FIELD LOGBOOKS AND DATA FORMS

Field logbooks (or daily logs) and data forms are necessary to document daily activities and observations. Documentation will be sufficient to enable participants to reconstruct events that occurred during the project accurately and objectively at a later time. All entries will be written in ink, dated and signed daily. No pages will be removed from logbooks for any reason. If corrections are necessary, these corrections will be made by drawing a single line through the original entry (so that the original entry is legible) and writing the corrected entry alongside. The correction will be initialed and dated. Corrected errors may require a footnote explaining the correction.

8.4 PHOTOGRAPHS

Documentation of a photograph is crucial to its validity as a representation of an existing situation. The following information will be noted in the field logbook or data forms concerning photographs:

- Date, time and location where photograph was taken
- Photographer
- Description of photograph taken
- Sequential number of the photograph and the film roll number, or sequence in the digital log
- Compass direction

9.0 DECONTAMINATION PROCEDURES

The objectives of decontamination procedures are to minimize the potential for cross-contamination between individual samples, to prevent contamination from leaving the sampling site by way of equipment or personnel and to prevent exposure of field personnel to contaminated materials. This section discusses general decontamination procedures.

9.1 PERSONNEL

Personnel decontamination procedures depend on the level of protection specified for a given activity. The HASP identifies the appropriate level of protection for each type of fieldwork involved in this project, as well as appropriate decontamination procedures.

9.2 SAMPLING EQUIPMENT

Decontamination procedures are designed to remove trace-level contaminants from sampling equipment to prevent cross-contamination of samples. Non-dedicated sampling or measurement equipment, including stainless steel sampling tools, soil sampling equipment and water level measurement instruments, will be decontaminated prior to and after each sampling attempt or measurement by washing with a nonphosphate detergent solution (for example, LiquiNox® and distilled water) and rinsing with distilled water.

10.0 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) generated from the subsurface investigations will be contained in 55-gallon steel drums and temporarily stored in a secured location as designated by the Port. The IDW is

anticipated to consist of soil cuttings, decontamination water, monitoring well development and purge water. The IDW will be separated by media (that is, soil and water) and labeled appropriately. Chemical analytical results from soil and groundwater sample analyses may be used to profile IDW for disposal at an appropriate off-site disposal facility. Solid waste from sampling activities (used gloves, tubing, etc.) will be contained in plastic trash bags and disposed as solid waste.

11.0 QUALITY ASSURANCE PROJECT PLAN

11.1 QUALITY ASSURANCE OBJECTIVES

The general quality assurance (QA) objectives for this project are to develop and implement procedures for obtaining and evaluating data of a specified quality that can be used to assess site conditions and risks. Field QA procedures to be followed include completing all appropriate sample documentation. Measurement data should have an appropriate degree of accuracy and reproducibility; samples obtained should be representative of actual field conditions, and samples should be obtained and analyzed using proper chain-of-custody procedures.

11.2 FIELD QA/QC PROCEDURES

Field QA/QC procedures to be followed include completing all appropriate sample documentation and preservation. One trip blank will be placed in each sample shipping container (for example, cooler) and analyzed for VOCs.

11.2.1 Trip Blanks

The analytical results of field trip blanks will be reviewed to evaluate the possibility for contamination resulting from the laboratory-prepared sample containers or the sample transport containers. Trip blanks will be analyzed at a frequency of one for each shipment of samples containing field samples for chemical analysis of VOCs. The trip blanks will be labeled with a "TB" sample identifier as described earlier in the "Sample Designation" section (Section 8.1) and delivered to the laboratory with the normal shipment of samples.

11.2.2 Sample Preservation and Containers

Samples will be kept in a cooler with ice before and during transport to the laboratory. The sampling extraction and analysis dates will be reviewed to confirm that extraction and analyses were completed within the recommended holding times, as specified by EPA protocol. Appropriate laboratory-assigned data qualifiers will be noted if holding times are exceeded or containers do not contain the appropriate sample preservation. Table 6 summarizes sample preservation and containers.

11.3 LABORATORY QA/QC PROCEDURES

The data quality objectives will be met in the laboratory by using established instrument calibration and sample handling procedures, analysis according to standard analytical methods and analysis of quality control samples. Laboratory quality control will consist of analysis of surrogate spikes, method blanks, duplicates, matrix spikes and matrix spike duplicates and reporting of all data including holding times.

11.3.1 Equipment Calibration Procedures and Frequency

All instruments and equipment used by the laboratory will be operated, calibrated and maintained according to manufacturer's guidelines and recommendations. Operation, calibration and maintenance

will be performed by personnel who have been properly trained in these procedures. A routine schedule and record of instrument calibration and maintenance will be kept on file at the laboratory.

11.3.2 Analytical Procedures

Samples will be analyzed according to analytical methods listed in Tables 1, 3, 4 and 5. EPA standard analytical methods are specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846* (through update III), dated December 1996. Washington analytical methods for petroleum hydrocarbons are specified in the Model Toxics Control Act (MTCA) regulations, as outlined in Washington Administrative Code (WAC) 173-340.

11.3.3 Laboratory QA/QC Samples

Laboratory QC samples will be analyzed at a frequency of 5 percent (1 in 20) on a laboratory batch basis. Laboratory QC samples will consist of duplicates, method blanks, matrix spikes and matrix spike duplicates. In addition, each organic analysis will include addition of surrogate compounds to the sample for surrogate spike analysis.

11.3.4 Laboratory Deliverables

The following information will be provided in the laboratory reports submitted for this project:

- Transmittal letter, including information about the receipt of samples, the testing methodology performed, any deviations from the required procedures, any problems encountered in the analysis of the samples, any problems meeting the method holding times or laboratory control limits, and any corrective actions taken by the laboratory relative to the quality of the data contained in the report.
- Sample analytical results, including sampling date, date of sample extraction or preparation, date of sample analysis, dilution factors and test method identification; soil sample results in milligrams per kilogram (mg/kg), micrograms per kilogram (µg/kg) or nanograms per kilogram (ng/kg); and detection limits for undetected analytes. Results will be reported for all field samples, including field duplicates and blanks submitted for analysis.
- Method blank results, including reporting limits for undetected analytes.
- Surrogate recovery results and corresponding control limits for samples and method blanks (organic analyses only).
- Matrix spike/matrix spike duplicate and/or blank spike/blank spike duplicate spike concentrations, percent recoveries, relative percent differences and corresponding control limits.
- Laboratory duplicate results for inorganic analyses, including relative percent differences and corresponding control limits.
- Sample chain-of-custody documentation.

The raw analytical data, including calibration curves, instrument calibration data, data calculation work sheets and other laboratory support data for samples from this project, will be compiled and kept on file at the laboratory's office for reference.

11.4 REVIEW OF FIELD AND LABORATORY QA/QC DATA

The sample data, field and laboratory QA/QC results will be evaluated for acceptability with respect to the RI data quality objectives (DQOs). Each group of samples will be compared with the DQOs and

evaluated using data validation guidelines contained in the following documents: *Guidance Document for the Assessment of RCRA Environmental Data Quality*, draft dated 1988 and *National Functional Guidelines for Organic Data Review*, draft 1999. To accomplish data evaluation, the criteria listed in the following subsections will be assessed.

11.5 PRECISION, ACCURACY AND COMPLETENESS

11.5.1 Precision

Precision is a measure of data variability. Variability can be attributed to sampling activities and/or chemical analysis. Relative percent difference (RPD) is used to assess the precision of the sampling and analytical method and is calculated as follows.

RPD = 100[(Xs - Xd)/(Xs + Xd)]/2

where

RPD	=	relative percent difference
Xs	=	sample analytical result
Xd	=	duplicate sample analytical result

11.5.2 Accuracy

Accuracy is a measure of the error between chemical analytical results and the true sample concentrations. Accuracy is a measure of the bias in a system and will be expressed as the percent recovery of spiked samples. The accuracy will be presented as percent recovery and will be calculated as follows.

PR = 100(Xss - Xs)/T

where

PR	=	percent recovery
Xss	=	spike sample analytical result
Xs	=	sample analytical result
T	=	known spike concentration

11.5.3 Completeness

Completeness is evaluated to assess whether a sufficient amount of valid data is obtained. Completeness is described as the ratio of acceptable measurements to the total planned measurements. Completeness is calculated as follows.

C = (Number of samples having acceptable data)/
(total number of samples analyzed) x 100%

where

C	=	completeness

11.6 REPORTING, DOCUMENTATION, DATA REDUCTION AND CORRECTIVE ACTION

Upon receipt of each laboratory data package, data will be evaluated against the criteria outlined in the previous sections. Any deviation from the established criteria will be noted and the data will be qualified, as appropriate. A review and discussion of analytical data QA/QC will be submitted in a report to be attached to the RI report. Data validation procedures for all samples will include checking the following, when appropriate.

1. Holding times
2. Detection limits
3. Field equipment rinseate blanks
4. Laboratory blanks
5. Laboratory matrix spikes
6. Laboratory matrix spike duplicates
7. Laboratory blank spikes
8. Laboratory blank spike duplicates
9. Surrogate recoveries

If significant quality assurance problems are encountered, appropriate corrective action as determined by GeoEngineers' project manager and/or the chemical analytical laboratory will be implemented as appropriate. All corrective action will be defensible, and the corrected data will be qualified.

Spatial information collected during the field event will be analyzed and displayed using ArcGIS 9.1 and EQUIS 3 to manage the chemical analytical data.

12.0 REFERENCES

Ecology (Washington State Department of Ecology). June 2004. *Collecting and Preparing Soil Samples for VOC Analysis – Implementation Memorandum #5.* Publication 04-09-087.

Ecology. April 2003. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. Publication 90-53.

Ecology. February 2001. *Model Toxics Control Act, Chapter 173-340*, Washington State Department of Ecology Toxics Cleanup Program, Olympia, Washington.

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses								Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
				NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]		
1. Additional characterization is needed to define the extent of soil contamination at the site. The aerial and vertical extent of soil contamination needs to be further defined in the vicinity of DP02 and DP04 (including westward beneath Jefferson Street and on adjacent offsite parcels if necessary) and north of DP18.	TPH-D, TPH-MO, arsenic, and cadmium in the 2-6 feet interval were the only COPC exceedances at DP04. These COPCs have been delineated laterally in this interval to the northeast and south with MW08 and DP03, respectively. A new soil boring will be advanced northwest of DP04 to complete the lateral delineation of COPC screening level exceedances in the 2-6 feet interval. Soil samples will also be obtained from beneath existing railroad tracks to be removed during infrastructure construction activities. The railroad tracks are currently embedded in the asphaltic pavement along Jefferson Street and we expect that the section beneath the pavement will consist of railroad ties supporting the rail and ballast material (typically 3 feet of crushed rock) supporting the ties. Soil samples will be collected at the soil/ballast interface. We will analyze soil collected beneath the ballast material for cPAHs (using EPA Method 8270C), TPH, and metals to assess potential residual soil contamination associated with the ties.	DP37	0-2										
			2-6	x [a]	X	X	x		x	X			light sand fill
			6-10	X	X	X	x			X			dark sand fill
	TPH-MO in the 2-6 feet interval was the only significant COPC exceedance at DP02. This COPC has been delineated laterally in this interval to the north and southeast with DP03 and DP16, respectively. A new soil boring will be advanced southwest of DP02 to complete the lateral delineation of the TPH-MO screening level exceedance in the 2-6 feet interval. A sample from 10 to 14 feet from the monitoring well boring for MW25S will be tested for TPH-MO to evaluate the vertical extent of this COPC identified in previous samples from DP02. Proposed shallow screen interval for MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04. Soil samples from below the railroad tracks will also be collected and analyzed from DP38 and analyzed for PAHs. PAHs will be tested in sample from 10 to 14 foot depth interval in the boring for MW25S to evaluate the vertical extent of this COPC identified previously at DP02 and DP16. One sample from DP38 will be tested for dioxins/furans to evaluate soil within the infrastructure corridor.	DP38	1-3				x		x				
			4-6	x	X	X	x	x	x		x		light sand fill
			6-10	X	X	X	x	x	x		x	9	Silt or dark sand fill
		MW25S	0-2										
			2-6										
			6-10	x	X	X	X		X				Silt or dark sand fill
			10-14	x	X	X	X		x				Silt or dark sand fill
	TPH-MO in the 10-14 feet interval was the only significant potential COPC exceedance at DP18. This COPC has been delineated latreally in the vadose zone and saturated zone with MW03, MW16, and DP17 but has not been delineated laterally north of DP18. Soil samples from the boring for MW23S will provide this information. Proposed screen interval for MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18. TPH-MO will be tested in MW-23S at the 6 to 10 and 10 to 14 foot intervals to evaluate the vertical extent of TPH-MO identified previously at DP18.	MW23S	0-2										
			2-6										
			6-10	x [a]	X	X	X		X				light sand fill
			10-14	x	X	X	X		X				light sand fill
2. Additional characterization is needed to define the extent of soil contamination at the site. The vertical extent of contamination needs to be defined in the vicinity of DP06 and DP08.	TPH-G in the 2-6 feet interval was the only significant potential COPC exceedance at DP06 and needs to be defined at depth and to the south. TPH-D and TPH-MO in the 2-6 feet interval were the only significant potential COPC exceedances at DP08. TPH-D and TPH-MO exceedance was identified in the 2-6 feet interval in DP-13. The vertical extent of gasoline, diesel and oil contaminated soil has been delineated with DP24, DP15, DP14, MW-5, MW-8 and MW-10. MW24S, along with the other proposed and existing wells, will be used to evaluate the leaching to groundwater pathway via empirical demonstration per WAC 173-340-747(9) an (10)(c). Proposed shallow screen interval for MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	MW24S	4-6	X	X	X	X		X				
			6-10	X	X	X	X		X				
	Evaluate lateral extent of TPH-D and MO identified previously at DP08 and DP13. Evaluate lateral extent of gasoline exceedance at DP08 and DP13.	DP39	0-2	X	X	X	X		X				
			2-6	x [a]	X	X	X		X				dark sand fill
	Lateral and vertical extent of dioxins/furans by TP03. Evaluate thickness of pre-1891 fill. Collect data to support management of soil that will be excavated as part of the infrastructure improvements. DP40 will also help evaluate the extent of diesel and oil contamination previously observed in DP13 and DP08 at 2-6 feet.	DP40	0-2	x	X	X	x	x	x				light sand fill
			2-4	x	X	X	x	x	x		x		light sand fill
			4-6	x	X	X	x	x	x		x	3.5	dark sand fill
3. Additional characterization is needed to define the extent of soil contamination at the site. The aerial extent of contamination has not been defined in the vicinity of MW19.	TPH-G in the 2-6 feet interval was the only potential COPC exceedance at MW19. Two soil borings (DP28 and the boring for MW21s) will be located near MW19 to evaluate the aerial extent of the screening level exceedance of TPH-G at MW19 in the 2-6 feet interval. The proposed screen interval (2 to 7 feet bgs) for MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19. Moreover, a soil boring advanced to the west of MW19 in response to Ecology Comment #7 (i.e. DP27) will also be sampled for TPH-G in the 2-6 feet interval to provide lateral delineation to the west. To address Ecology comment 7, if evidence of burned wood or ash is observed in boring DP28, which is located on the northern edge of parcel 1 near the former Refuse Fire Area, a sample of this material will be analyzed for dioxins and furans.	DP28	0-2	X	X	X	X						
			2-6	X	x	X	X						light sand fill
		MW21S	0-2										
			2-6		x [a]								light sand fill

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
4. Additional characterization is needed to define the extent of soil contamination at the site. Area of Concern (AOC) #16 (pad mounted transformer) needs to be evaluated. Soil samples should be collected from this area for petroleum hydrocarbons and PCBs. The location of well MW04 does not appear to be close enough to this AOC to be adequate.	One new boring will be advanced and sampled within AOC 16 as recommended by Ecology. The targeted depth for the soil sample collected from this boring is the elevation of the former transformer pad located in AOC 16. The sample from this boring will be analyzed for PCBs and mineral oil range petroleum hydrocarbons (NWTPH-Dx).	DP35	0-2										
			2-6	x						x			gravel fill
5. Parcel 1 needs to be assessed. AOCs #43 through 48 and #50 have not been adequately assessed. Also, the northern portion of Parcel 1 needs to be assessed.	The first sentence of this comment does not apply because the East Bay Redevelopment Project Area only includes the northwest portion of Parcel 1. A new boring (DP36) located in the right-of-way of Olympia avenue adjacent to the northwest portion of Parcel 1will address Ecology's concern regarding the northern portion of Parcel 1. However, the primary purpose of this boring is to evaluate soil conditions to assist in planning of future infrastructure improvements in this area and evaluate residual concentrations of COPCs in an area where historical sources were not located.	DP36	1-3					x					gravel fill
			2-6	x	x	X	x	X					silt
			6-10					X				9	silt
6. Additional characterization of dioxins/furans is needed. As shown in the report, concentration of dioxins/furans that exceed the MTCA Method B Soil Cleanup Level of 11 nanograms per kilogram (ng/kg) or parts per trillion (ppt), expressed as a Total Toxicity Equivalency Factor (TEF), were observed at all four locations tested for this constituent. The reported TEF values from these locations range from 57.9 to 645 ng/kg. Because the highest concentration (TP02) is near the east property line and near an adjacent public walking path and grassy area, additional samples for dioxins/furans should be collected in this adjacent area. Also, an analysis of wind direction should be performed to help predict locations that may show higher dioxin concentrations.	New boring DP33 will provide vertical profile of dioxins/furans concentrations near TP2. Selection of sample locations based on prediction of wind direction is not necessary because the proposed dioxins/furans sample locations (as outlined in this table) provide spatial coverage across the site.	DP33	0-2					x	x	x			gravel fill
			2-4				x	x	x		x		gravel fill
			4-6				x	x	x				light sand fill
			6-8					x				9	light sand fill
7. Additional characterization of dioxins/furans is needed. Parcel 7 is located adjacent to the Refuse Fire Area (Area of Concern #1), which is a potential source of dioxins/furans contamination. Additional soil samples for dioxins/furans analyses should be performed in Parcel 7. These samples will provide additional dioxins/furans data for the site and may help to determine whether AOC #1 was a source.	Additional samples which address Ecology's comment 7 will be collected and tested for dioxins/furans from a boring advanced near AOC 1 (DP27) and a boring advanced at the northern edge of Parcel 7 (DP28). In addition, DP27 will be sampled for TPH-G to address gasoline contamination identified in soil at MW-19 (see response to Ecology Comment #3). Samples from boring DP27 will also be analyzed for PAHs to evaluate the lateral and vertical extent of cPAHs identified in soil samples from MW-20, near the Refuse Fire Area. Note that Parcel 8, which is adjacent to the northwest portion of the Site, is being addressed by LOTT Alliance through Ecology's Voluntary Cleanup Program.	DP27	0-2					x	x	x			light sand fill
			2-4		x	X	x	x	x		x		light sand fill
			4-6				x	x	x		x		silt
			6-8				x	x				3	silt

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
8. Additional characterization of dioxins/furans is needed. Section 4.3.1 states that "dioxin testing appears to indicate that the historical working surface (depth of about 2 feet below existing grade) is impacted." Please provide more detail on what is meant by "historical working surface" and how it is distinguished. According to the Supplemental Site Use History report, the boiler house (AOC #17) operated circa 1932 and the power house (AOC #22-24) operated from at least 1941 through 1958. Was 2.0 feet below current grade the historical grade for these facilities? If so, what evidence is there for this? Dioxin samples were collected at the 2.0 foot depth at AOC #17, at the 3.5 depth at AOC #22-24, and at the 1.5 and 2.0 foot depths at the two randomly selected locations. It is recommended that additional samples be collected at AOC #17 so that a concentration verses depth profile can be determined.	The "historical working surface" is the sometimes woody and compacted historical grade where industrial buildings were located and operations were conducted on the property prior to later filling and grading. Based on our review of historical information the working surface is located about 1 to 4 feet below existing grade, however it can be difficult to identify in borings due to similarity in lithology of fill in this depth interval. Because of Ecology's questioning of the historical working surface and difficulty in determining its exact location in borings, a more appropriate rationale for the location of explorations where vertical profiles for dioxins/furans testing is as follows:1) complete a profile (DP33) adjacent to previous sample with high dioxins concentrations (TP02) and 2) complete a profile that represents temporal fill sequences.	See DP 33 (Comment 6) and borings and "Additional Explorations" rationale below.										
9. Additional characterization of groundwater contamination, flow direction, and gradient is needed. Groundwater monitoring wells MW-1 through MW·11 and MW-14 were installed with their screened interval submerged below the water table. Wells that monitor for light non-aqueous phase liquids (LNAPL, such as petroleum hydrocarbons) should be completed so that their screen straddles the water table. Therefore, to accurately evaluate whether groundwater is contaminated from LNAPL constituents, it will be necessary to install additional groundwater monitoring wells with screens that extend above the water table at selected locations where the existing monitoring wells are not adequate. Please present your proposed new well locations to us for review and approval.	Given the general lack of dissolved-phase petroleum constituent detections in the groundwater samples collected from existing MWs (as well as the relatively low TPH soil concentrations detected in soil samples collected from areas with suspected hydrocarbon contamination), it is unlikely that the typical placement of the screened intervals straddling the water table would result in measurable LNAPL thicknesses or even a screening level TPH exceedance at any MW at this site. Nonetheless, five shallow MWs (MW21S through MW25S) with screens straddling the water table are proposed to address this comment. MW21S and MW24S are discussed in the responses to Ecology Comments #2 and #3, respectively. Proposed MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06. MW23S and MW25S are discussed in the response to Ecology Comment #1. This Ecology comment is further addressed by in the Groundwater Monitoring Plan. Based on recent comments from Ecology (9/22/08 Ecology comment letter and subsequent discussion), because artesian wells at the Site may be influencing shallow groundwater, an attempt will be made to locate and decommission or otherwise mitigate leakage from the artesian wells. If the artesian wells are found and decommissioned, water levels and the need for shallow monitoring wells will be reevaluated.	MW22S	No analysis of soil samples unless field observations indicate the presence of contamination. Anticipated screened interval is 1-6 feet bgs.									
Additional Explorations													
Additional explorations to evaluate the nature and extent of contamination, including dioxins/furans. These explorations will provide data related to: a) regional area background concentrations of dioxins/furans and metals not related to a site release, b) management of soil that will be excavated as part of the infrastructure improvements, and c) evaluation of COPC distribution in different fill types and spatial coverage related to general extent of COPCs.	Evaluate extent of lead and PAHs at DP11.	DP29	0-2						x				light sand fill
			2-6				x						silt or gravel
			6-10				x						silt or gravel
			10-14						x				silt or gravel
	Evaluate dioxins/furans in fill (1891 to 1908 time interval), evaluate dioxins/furans in soil within the infrastructure corridor, and provide additional sampling data for parcel 9.	DP30	0-2				x	x					light sand fill
			2-4				x	x	x				light sand fill or silt
			6-8				x	x (if silt)				9	light sand fill or silt

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration	Sampling Depth Interval (ft bgs)[1]	Soil Analyses								Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
		Boring (DP) Well (MW)		NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]		
	Locations DP31 and DP41 are selected to obtain dioxins/furans data from soil not associated with any AOC source. This data will be used to evaluate dioxins/furans concentrations related to regional dioxin sources and regional background levels as it is possible that detected concentrations of dioxins/furans and metals in soil samples collected to date are attributable to an area or regional background rather than a site release. DP31 is located on parcel 6 in an area where no historical sources (AOCs) were located and the underlying fill is from the 1948 to 1975 time period. DP41 is located on parcel 2 in an area where no historical sources (AOCs) were located and the underlying fill is from the post 1975 time period.	DP31	0-2					x					light sand fill
			2-6	x			x	x					light sand fill
		DP41	0-2					x					gravel fill
			2-6				x	x					silt
	Evaluate dioxins/furans in post-1975 fill within the infrastructure corridor. These data will assist with evaluating background conditions as well as inform waste characterization and disposal associated with the excavated infrastructure corridor soils.	DP32	0-2					x			x		gravel fill
			2-6				x	x	x		x		gravel fill
			6-9					x				9	gravel fill
	Evaluate dioxins/furans in fill (1891 to 1908 time interval) near infrastructure corridor and on Parcel 4.	DP34	0-2					x					light sand fill
			2-6	X	X	X	x	x	x		x		light sand fill
			8-10	X	X	X	x	x	x			10	light sand fill or gravel
	These borings are located on Parcel 4 and the locations were selected to gather information to support soil characterization during construction activities associated with the Children's Hands on Museum.	DP26	0-2				X	x	X				light sand fill
			2-6					x	X				silt or light sand fill
			6-10				X	X					
		DP42	0-2				X	x					gravel fill
			2-6				X	x					light sand fill
			6-10				X	X					

Notes:

Blank boxes (no X) indicate that soil samples will be collected from the specified depth intervals and held for potential analyses by the analytical laboratory

Shaded cells indicate explorations and samples that will be collected in first phase of investigation

[1] Samples will be collected approximately every 2 feet in soil borings for field screening and potential chemical analyses. Discrete soil samples will be obtained from within the depth intervals shown in this column (rather than composite samples.) The depth ranges represent the intervals that a sample will be analyzed for the COPCs identified in the Soil Analyses columns. Additional samples may be analyzed if field observations indicate the presence of contamination.

[2] The metals listed; arsenic, cadmium and lead, represent metals that had concentrations exceeding screening levels in one or more locations. Some soil samples collected from the infrastructure corridor may also be analyzed for "RCRA 8" metals to provide data needed by soil disposal facilities. The RCRA metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium & silver.

[3]TOC= total organic carbon. TOC and other physical soil properties such as grain size may also be analyzed at various locations for the possibility of establishing site specific Method B cleanup levels.

[a] Also analyze for EPH.
[b] Also analyze for total organic carbon
x = sample collected for analytical testing. Red X = additional analytical testing requested by Ecology in it's September 22, 2008 comment letter.
As = Arsenic, Cd = Cadmium, Pb = Lead
PCBs = Polychlorinated biphenyls
HCID = Hydrocarbon Identification test (NWTPH-HCID)
NWTPH-Dx = Diesel-range and motor oil-range total petroleum hydrocarbons
TPH-MO = motor oil-range petroleum hydrocarbons
D/F = Dioxins and furans
NWTPH-G = Gasoline-range total petroleum hydrocarbons

TABLE 2
PROPOSED NEW MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

				Existing Well Data[2]		
Well I.D.	**Purpose**	**Installation Method/Well Diameter**	**Proposed Well Screen Interval (BGS-feet)[1]**	**Nearest Existing well**	**Highest DTW**	**Lowest DTW**
MW21s	MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19.	Direct push/1-inch	2 to 7	MW19	3.47	3.78
MW22s	MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06.	Direct push/1-inch	1 to 6	MW6	0.84	1.14
MW23s	MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18.	Direct push/1-inch	4 to 9	MW16	5.41	6.35
MW24s	MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	Direct push/1-inch	2.5 to 7.5	MW10	3.48	3.8
MW25s	MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04	Direct push/1-inch	2 to 7	MW7 and MW8	5.0 & 2.55	5 & 2.62

Notes:

Based on recent comments from Ecology, because artesian wells at the Site may be influencing groundwater levels, an attempt will be made to locate and decommission the artesian wells. If the artesian wells are found and decommissioned, the need for shallow monitoring wells will be reevaluated.

[1]Across water table with one foot of screen above predicted high water table elevation and four feet of screen below this elevation, subject to approval by Ecology and issuance of well construction variance.

[2] Based on depth to water measurements collected August 2007 and July 2008 during low and high tides.

bgs=below ground surface

DTW = depth to water in feet as measured from top of well casing. Top of well casings for referenced wells is approximately at ground surface.

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TABLE 3
PROPOSED GROUNDWATER MONITORING AND CHEMICAL ANALYTICAL TESTING PLAN
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Well No.[3,4,5]	Associated Historic Source Area/Concern and Contaminant of Potential Concern (COPC)	Past Groundwater Monitoring and Sampling Events												Proposed Future Groundwater Monitoring									
		Last Sampling Events			Chemical Analytical Testing Completed									Physical Parameter Monitoring		Chemical Analytical Testing Proposed							
		Jan-07	Jun-07	Aug-07	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs	Total PP Metals	SVOCs (and PAHs)[6]	PCBs[7]	Dioxins/Furans[8]	Previous Exceedance of Screening Level (MTCA A or B)	Depth to Water	Conductivity, pH, ORP, Turbidity, DO, Salinity, Fe^{2+} (using a Horiba U-10 flow through cell)	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs (BETX and HVOCs)	Total RCRA Metals	PAHs[6]	PCBs[7]	Dioxins/Furans[8]
MW01	Oil House (TPH)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW02	Machine Shops (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x [1]	x	--	--
MW03	Tar Dipping Tank (TPH, PAHs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW04	Near former Transformers (PCBs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	x	--
MW05 [2]	Power House Area (TPH, metals, VOCs, D/F)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	x	x
MW06	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW22s (if MW22s is not installed, MW06 wil be sampled for parameters planned for MW22s)							
MW07	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW08	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW09	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW10	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW24s (if MW24s is not installed, MW10 wil be sampled for parameters planned for MW24s)							
MW11	None: downgradient from offsite gasoline station	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW12 [2]	Power House Area (TPH, metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW13	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic, diesel**	x	x	x	x	x	x	x [1]	x	--	--
MW14	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	N	N	N	N	N	N	N	N	N	N/A	x	x	x	x	x	x	x	x	--	--
MW15 [2]	None	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW16 [2]	Boiler House Area (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	x (tested Aug-08)
MW17	Shops (TPH, PAHs, Metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	--	--
MW18 [2]	None: downgradient well near Marine View Drive	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW19	Panel Oiling (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW21s (if MW21s is not installed, MW19 wil be sampled for parameters planned for MW21s)							
MW20	Refuse Fire Area (TPH, metals, PAHs, D/F)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
Proposed Wells and/or Sampling Locations																							
MW21s (paired with MW19)[9]	Panel Oiling (TPH, PAHs)													x	x	x	x	x	x	x	x	--	--
MW22s (paired with MW06)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW23s (paired with MW16)[9]	Boiler House Area (TPH, PAHs)													x	x	x	x	x	--	--	--	--	--
MW24s (paired with MW10)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW25s (no pairing)	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
Seep 1[10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 2 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 3 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 4 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--

Notes:

[1]Dissolved metals to be tested in addition to total metals at locations where metals exceedances have been measured. Also test these samples for aluminum and iron (Al and Fe^{3+}) to represent suspended clay particles. Results to potentially be used for evaluating sorption of COPCs.

[2]MW05, MW12, MW16 and MW18 are downgradient wells between the subject property and East Bay. These wells will be considered for potential future compliance wells.

[3]MW04, 05, 06, 07, 08, 10 were sampled and tested July 13, 2007 for diesel-range hydrocarbons only.

[4]MW01 through MW10 were installed in January 2007. MW11 through MW20 were installed in July and August 2007.

[5]MW14 was not sampled in 2007 because other monitoring wells surrounding MW14 were sampled and tested.

[6]Note on SVOCs. The only SVOC exceedances were cPAHs, therefore only cPAHs will be analyzed, rather than the full SVOC list.

[7]Note on PCBs. PCBs have not been detected in any of the groundwater samples obtained from MW01 through MW20 at the site; nor have they been detected above soil screening levels. Therefore PCBs will only be tested at locations where low level detections of PCBs were detected in soil on Parcel 3 and near the former transformer location (MW04).

[8]Note on Dioxins/Furans. Dioxin/Furans were not detected in a groundwater sample obtained and tested from MW16 in August 2008. Dioxin sampling and testing approach is based on obtaining samples from potential source area wells that are also downgradient compliance wells (MW05 and MW16). If dioxins/furans are detected in groundwater at MW05 or MW16, then additional testing will be conducted at the other compliance wells (MW04, MW11, MW12

[9]This well will not be installed if water levels drop sufficiently after the artesian wells are decommissioned if the existing paired monitoring well screen is not totally submerged.

[10]Water from this seep area will only be sampled if it is determined to represent groundwater (see Section 5.4.2 of Sample and Analysis Plan)

x = sample collected for analytical testing
Y = Yes; N = No; NA = not applicable; "--" = Not tested
TPH-Gasoline by Ecology Method NWTPH-Gx
TPH-Diesel and Oil by Ecology Method NWTPH-Dx
VOCs (volatile organic compounds) by EPA Method 8260B
RCRA Metals (As, Ba, Cd, Cr, Pb, Ag, Se, Hg) by EPA Methods 6000/7000
PAHs (polycyclic aromatic hydrocarbons) by EPA Method 8270sim
PCBs (polychlorinated biphenyls) by EPA Method 8082
Dioxins/Furans by EPA Method 1613B
ORP = Oxidation Reduction Potential
DO = Dissolved Oxygen
Fe = Iron
Al = Aluminum
COPCs = contaminants of potential concern

TABLE 4
SOIL ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1]	
		Target Reporting Limits	Analytical Method
Total Petroleum Hydrocarbons			
Gasoline-Range	mg/kg	5.0E+00	NW-TPH-Gx
Diesel-Range	mg/kg	5.0E+00	NW-TPH-Dx
Oil-Range (including Mineral O	mg/kg	1.0E+01	NW-TPH-Dx
Metals			
Arsenic	mg/kg	5.0E+00	6010B ICP
Cadmium	mg/kg	2.0E-01	6010B ICP
Lead	mg/kg	2.0E+00	6010B ICP
Volatile Organic Compounds[2]			
BTEX	mg/kg	1.0E-03	EPA 8260B
Semivolatile Organic Compounds[2]			
SVOCs	mg/kg	6.7E-02	EPA 8270
4-Chloro-3-methylphenol	mg/kg	3.3E-01	EPA 8270
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	mg/kg	5.0E-03	EPA 8270D SIM
Polychlorinated Biphenyls[2]			
Total PCBs	mg/kg	4.0E-03	8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	mg/kg	5.0E-07	1613/8290
2,3,7,8-TCDF	mg/kg	5.0E-07	1613/8290
-Penta, Hexa, Hepta	mg/kg	2.0E-06	1613/8290
-Octa	mg/kg	5.0E-06	1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

mg/kg = milligrams per kilogram
SVOCs = Semivolatile Organic Compounds
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TCDF = Tetrachlorinated Dibenzofurans
PCBs =Polychlorinated Biphenyls
BTEX = benzene, toluene, ethylbenzene, and xylenes
PAHs = Polycyclic Aromatic Hydrocarbons

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TABLE 5
GROUNDWATER ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1] Target Reporting Limits	Analytical Method
Petroleum Hydrocarbons			
Gasoline-Range	mg/L	0.03	NWTPH-G
Diesel-Range	mg/L	0.25	NW-TPH-Dx
Oil-Range	mg/L	0.50	NW-TPH-Dx
Si/Acid Cleaned TPH-D	mg/L	0.25	NW-TPH-Dx
Si/Acid Cleaned TPH-O	mg/L	0.50	NW-TPH-Dx
Metals *(Total or Dissolved)*			
Arsenic	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Barium	mg/L	0.01	EPA 6020/200.8 ICP-MS
Cadmium	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Chromium	mg/L	0.0005	EPA 6020/200.8 ICP-MS
Lead	mg/L	0.001	EPA 6020/200.8 ICP-MS
Mercury	mg/L	0.00002	EPA 7470 GFAA & CVAA
Selenium	mg/L	0.1	EPA 6020/200.8 ICP-MS
Silver	mg/L	0.02	EPA 6020/200.8 ICP-MS
Volatile Organic Compounds[2]			
VOCs	µg/L	1.0	EPA 8260B (5 mL purge)
Methylene Chloride	µg/L	2.0	EPA 8260B (5 mL purge)
Acetone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Butanone	µg/L	5.0	EPA 8260B (5 mL purge)
Vinyl Acetate	µg/L	5.0	EPA 8260B (5 mL purge)
4-Methyl-2-Pentanone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Hexanone	µg/L	5.0	EPA 8260B (5 mL purge)
Tetrachloroethene	µg/L	0.2	EPA 8260B (20 mL purge)
1,1,2-Trichlorotrifluoroethane	µg/L	2.0	EPA 8260B (5 mL purge)
Acrolein	µg/L	50	EPA 8260B (5 mL purge)
1,2-Dibromo-3-Chloropropane	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichloropropane	µg/L	2.0	EPA 8260B (5 mL purge)
trans-1,4-Dichloro-2-Butene	µg/L	5.0	EPA 8260B (5 mL purge)
Hexachlorobutadiene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,4-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Naphthalene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Semivolatile Organic Compounds[2]			
SVOCs	µg/L	1.0	EPA 8270D
Benzyl Alcohol	µg/L	5.0	EPA 8270D
N-Nitroso-Di-N-Propylamine	µg/L	5.0	EPA 8270D
Hexachloroethane	µg/L	2.0	EPA 8270D
2-Nitrophenol	µg/L	5.0	EPA 8270D
Benzoic Acid	µg/L	10	EPA 8270D
bis(2-Chloroethoxy) Methane	µg/L	1.0	EPA 8270D
2,4-Dichlorophenol	µg/L	5.0	EPA 8270D
1,2,4-Trichlorobenzene	µg/L	1.0	EPA 8270D
Naphthalene	µg/L	1.0	EPA 8270D
4-Chloroaniline	µg/L	5.0	EPA 8270D
4-Chloro-3-methylphenol	µg/L	5.0	EPA 8270D
Hexachlorocyclopentadiene	µg/L	5.0	EPA 8270D
2,4,6-Trichlorophenol	µg/L	5.0	EPA 8270D
2,4,5-Trichlorophenol	µg/L	5.0	EPA 8270D
2-Nitroaniline	µg/L	5.0	EPA 8270D
3-Nitroaniline	µg/L	5.0	EPA 8270D
2,4-Dinitrophenol	µg/L	10	EPA 8270D
4-Nitrophenol	µg/L	5.0	EPA 8270D
2,6-Dinitrotoluene	µg/L	5.0	EPA 8270D
2,4-Dinitrotoluene	µg/L	5.0	EPA 8270D
4-Nitroaniline	µg/L	5.0	EPA 8270D
Pentachlorophenol	µg/L	5.0	EPA 8270D
3,3'-Dichlorobenzidine	µg/L	5.0	EPA 8270D
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	µg/L	0.01	8270M GC/MS Low Level
Polychlorinated Biphenyls			
Total PCBs	µg/L	0.01	EPA 8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	µg/L	0.000005	EPA 1613/8290
-Penta, Hexa, Hepta	µg/L	0.000025	EPA 1613/8290
-Octa	µg/L	0.00005	EPA 1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

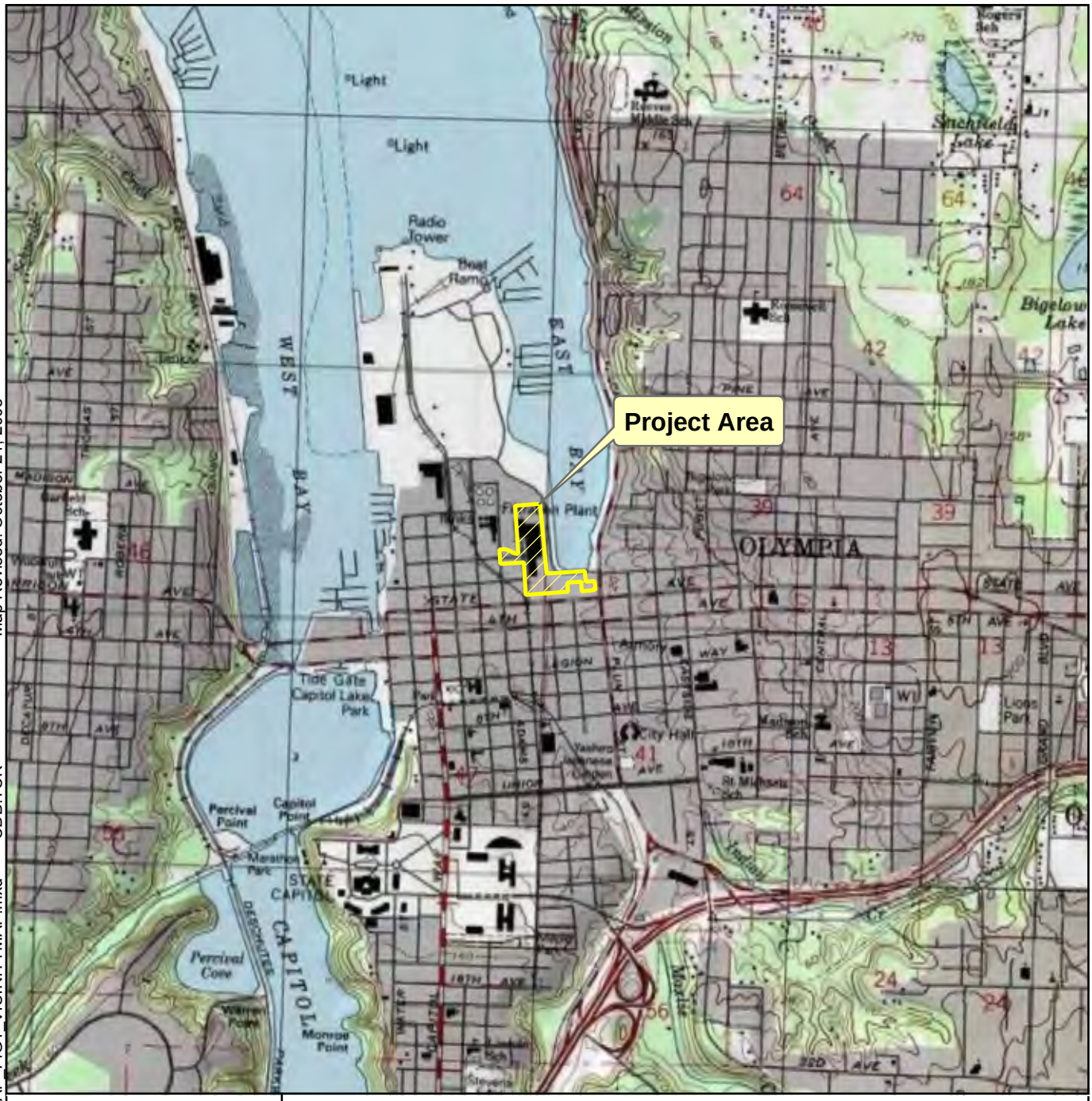
mg/L = milligrams per liter
µg/L = micrograms per liter
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TPH-O = Oil-range Petroleum Hydrocarbons
TPH-D = Diesel-range Petroleum Hydrocarbons
SVOC = Semivolatile Organic Compound
VOCs = volatile organic compounds
PCB = Polychlorinated Biphenyls
PAHs = polycyclic aromatic hydrocarbons

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TABLE 6
SAMPLE CONTAINERS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

		Soils				Waters			
Analysis	Method	Minimum Sample Size	Sample Containers	Sample Preservation	Holding Times	Minimum Sample Size	Sample Containers	Sample Preservation	Holding Times
Diesel Range Hydrocarbons	NWTPH-Dx	100 g	8 or 16 oz amber glass wide-mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4 C, HCl to pH < 2	14 days to extraction 40 days from extraction to analysis
Gas Range Hydrocarbons	NWTPH-G	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
VOC	SW-846 8260B	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
Metals (including Mercury)	SW-846 6010/6020 SW-846 7470/7471	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	180 days/ 28 days for Mercury	500 mL	1 L poly bottle	HNO_3 - pH<2 (Dissolved metals preserved after filtration)	180 days (28 days for Mercury)
SVOCs (PAHs)	SW-846 8270C	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCB	SW-846 8082	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCDD/PCDF	SW-846 8290	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	30 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	30 days to extraction 40 days from extraction to analysis

Note:
Holding Times are based on elapsed time from date of collection
VOC = Volatile Organic Compounds
SVOC = Semivolatile Organic Compound
PCDD = Polychlorinated Dibenzo-p-dioxins
PCDF = Polychlorinated Dibenzofurans
PCB =Polychlorinated Biphenyls
HCl = Hydrochloric Acid
HNO_3 = Nitric Acid
oz = ounce
mL = milliliter
L = liter
g = gram



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.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: Interstates, state routes, and roads from TIGER 2000. County boundaries, cities, and waterbodies from Department of Ecology. U.S. topographic map from National Geographic Society.

Lambert Conformal Conic, Washington State Plane North, North American Datum 1983

Vicinity Map

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 1

Office: TAC Path: P:\0\061503402\GIS\061503407_SAP_FIG1_VICINITYMAP.mxd CDB:TCK Map Revised: October 21, 2008

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG2_EXPLOR_LOC.mxd CDB:TCK Map Revised: October 21, 2008



Proposed Direct-Push Boring Location

Phase 1 Explorations

Test Pit (GeoEngineers, Inc. - Oct. 2007)

Direct-Push Boring (GeoEngineers, Inc. - Sept. 2006, Jan. & July 2007)

Direct-Push Boring (Brown and Caldwell - Nov. 2006, Jan. & Feb. 2007)

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

Direct-Push Boring (Northwest Testing Company, Oct. 2006)

Cone Penotrometer Test (Landau - May 2007)

Boring (Landau - May 2007)

N W E S

150 0 150

Feet

Reference: Aerial photograph (dated April 2008) and Approximate Infastructure Improvement Corridor from Skillings Connolly.
Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes: 1. The locations of all features shown are approximate.

2. This drawing is for infomation 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.

Site Plan and Exploration Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 2

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG3_MW_LOCS.mxd CDB:TCK Map Revised: October 21, 2008



Proposed Monitoring Well Location

Monitoring Well (GeoEngineers, Inc. - Jan. & July 2007)

Monitoring Well (Delta Environmental - June 2003)

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N
W E
S

150 0 150
Feet

Site Plan and Monitoring Well Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 3

Reference: Aerial photograph (dated April 2008) from Skillings Connolly. Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for infomation 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.

GeoEngineers

APPENDIX E
HEALTH AND SAFETY PLAN

GEOENGINEERS, INC.
SITE HEALTH AND SAFETY PLAN CHECKLIST
PORT OF OLYMPIA EAST BAY REDEVELOPMENT
PORT OF OLYMPIA - 0615-034-07

This checklist is to be used in conjunction with the GeoEngineers' Safety program manual. Together, the program and this checklist comprise the site safety plan for this project. This plan is to be used by GeoEngineers personnel on this site. If the work entails potential exposures to other substances or unusual situations, additional safety and health information will be included and the plan will be approved by the GeoEngineers Health and Safety Manager. All plans are to be used in conjunction with current standards and policies outlined in the GeoEngineers Health and Safety Program Manual.

1. GENERAL PROJECT INFORMATION

Project Name:	Port of Olympia East Bay Redevelopment
Project Number:	0615-034-07
Type of Project:	Drilling oversight, soil and groundwater sampling
Start/Completion:	TBD (start date estimated Fall 2008)
Contractors:	TBD

Liability Clause - This Site Safety Plan is intended for use by GeoEngineers Employees only. It does not extend to the other contractors or subcontractors working on this site. If requested by subcontractors, this site safety plan may be used as a minimum guideline for those entities to develop safety plans or procedures for their own staff to work under. In this case, Form C-3 shall be signed by the subcontractor.

2. SCOPE OF WORK

The scope of work identified in this HASP is associated with remedial excavation, soil stockpiling and soil sampling.

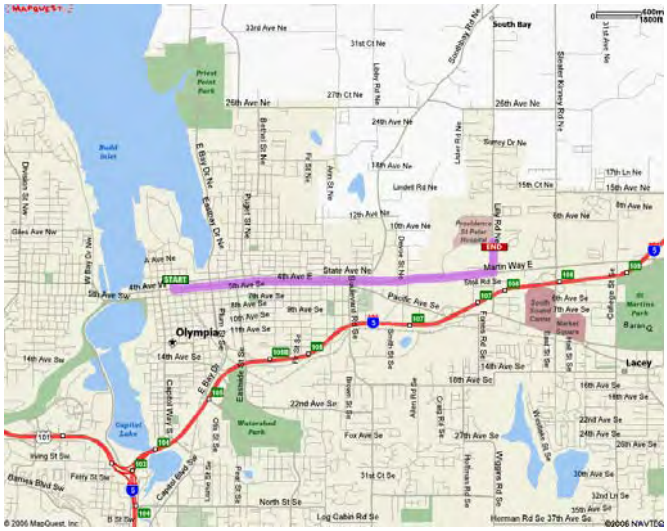
3. PERSONNEL/CONTACT INFORMATION PHONE NUMBERS

Title	Name	Telephone Numbers
Site Safety and Health Supervisor	GeoEngineers Field Staff	TBD
Project Manager	Jay Lucas	206-239-3221
Health and Safety Program Manager	Leah Alcyon, CIH	425-861-6098
Field Engineer/Geologist	GeoEngineers Field Staff	TBD
Client	Port of Olympia – Joanne Snarski	360-528-8020
Site Contact	Port of Olympia – Al Kulp	360-528-8006

Site safety and health supervisor -- The individual present at a hazardous waste site responsible to the employer and has the authority and knowledge necessary to establish the site-specific health and safety plan and verify compliance with applicable safety and health requirements.

4. EMERGENCY INFORMATION

Providence St. Peter Hospital
413 Lilly Road NE
Olympia, Washington 98506-5166
(360) 491-9480



Hospital Name and Address:	Providence St. Peter Hospital 413 Lilly Road NE Olympia, WA 98506-5166
Phone Numbers (Hospital):	(360) 491-9480
Starting from:	Corner of Jefferson St NE and State Ave NE Olympia, WA
Arriving at:	413 Lilly Road NE Olympia, WA
Distance:	3 miles
	1. Head west from State Ave NE - go 73 ft 2. Turn left at Franklin St NE - go 0.1 mi 3. Turn left at 4th Ave E - go 1.6 mi 4. Continue on Martin Way E - go 1.0 mi 5. Turn left at Lilly Rd NE - go 0.3 mi
Ambulance:	9-1-1
Poison Control:	9-1-1
Police:	9-1-1
Fire:	9-1-1
Location of Nearest Telephone:	Cell phones are carried by field personnel.
Nearest Fire Extinguisher:	Located in the GEI vehicle on site.
Nearest First-Aid Kit:	Located in the GEI vehicle on site.

4.1 Standard Emergency Procedures

1. Get help -
   - send another worker to phone 911 (if necessary)
   - as soon as feasible, notify GeoEngineers' project manager
2. Reduce risk to injured person -
   - turn off equipment
3. Get help -
   - send another worker to phone 911 (if necessary)
   - as soon as feasible, notify GeoEngineers' project manager

4. Reduce risk to injured person -
   - turn off equipment
   - move from injury location (if possible)
   - keep warm
   - perform CPR (if necessary)
5. Transport injured person to medical treatment facility (if necessary) -
   - by ambulance (if necessary) or GeoEngineers vehicle
   - stay with person at medical facility
   - keep GeoEngineers manager apprised of situation and notify human resources manager of situation

5. PERSONNEL TRAINING RECORDS

Name of Employees	Level of Training (24/ 40 hr)	Date of Last Training	HAZWOPER Supervisor Training	First Aid/ CPR	Respirator Fit Test

6. KNOWN (OR ANTICIPATED) HAZARDS

Note: A hazard assessment will be completed at every site prior to beginning field activities. Updates will be included in the daily log. This list is a summary of hazards listed on the form.

6.1 Physical Hazards

X	Drill rigs and concrete coring/slab cutting
	Backhoe
	Trackhoe
	Crane
	Front End Loader
	Excavations/trenching (1:1 slopes for Type B soil)
	Shored/braced excavation if greater than 4 feet of depth
X	Overhead hazards/power lines
X	Tripping/puncture hazards
X	Unusual traffic hazard – Street traffic

6.2 Physical Hazard Mitigation Measures or Procedures

- Work areas will be marked with reflective cones, barricades and/or caution tape. Personnel will wear blaze orange vests for increased visibility by vehicle and equipment operators.

- Field personnel will be aware constantly of the location and motion of heavy equipment. A safe distance will be maintained between personnel and the equipment. Personnel will be visible to the operator at all times and will remain out of the swing and/or direction of the equipment apparatus. Personnel will approach operating heavy equipment only when they are certain the operator has indicated it is safe to do so.
- Heavy equipment and/or vehicles used on this site will not work within 20 feet of overhead utility lines without first ensuring that the lines are not energized. This distance may be reduced to 10 feet depending on the client and the use of a safety watch.
- Personnel entry into unshored or unsloped excavations deeper than four feet is not allowed. Any trenching and shoring requirements will follow guidelines established in WAC 296-155, the Washington State Construction standards or OSHA 1926.651 Excavation Requirements. In the event that a worker is required to enter an excavation deeper than 4 feet, a trench box or other acceptable shoring will be employed or the side walls of the excavation will be sloped according to the soil type and guidelines as outlined in OSHA/WISHA regulations. If the shoring/sloping deviates from that outlined in the WAC, it will be designed and stamped by a PE. Prior to entry, personnel will conduct air monitoring as described later in this plan. All hazardous encumbrances and excavated material will be stockpiled at least two feet from the edge of a trench or open pit. If concentrations of volatile gases accumulate within an open trench or excavation, the means of entering shall adhere to confined space entry and air monitoring procedures outlined under the air monitoring recommendations in this plan and the GeoEngineers Safety Program Manual.
- Personnel will avoid tripping hazards, steep slopes, pit and other hazardous encumbrances. If it becomes necessary to work within 6 feet of the edge of a pit, slope, pier or other potentially hazardous area, appropriate fall protection measures will be implemented by the Site Safety Officer (SSO) in accordance with OSHA/WISHA regulations and the GeoEngineers Safety Program manual.

Engineering Controls:

_____ Trench shoring (1:1 slope for Type B Soils)

_____ Location work spaces upwind/wind direction monitoring

_____ Other soil covers (as needed)

_____ Other (specify)_____

_____

6.3 Chemical Hazards (potentially present at site)

Petroleum Hydrocarbons:

X Naphthalenes or paraffins

X Aromatic hydrocarbons (benzene, ethylbenzene, toluene, xylenes)

X Gasoline

X Diesel fuel

_____ Waste oil

X Other petroleum fuels (list) lube oil-range hydrocarbons

6.4 Hazards from Other Organic Compounds (present or potentially present at site)

X	Chlorinated hydrocarbons (Polychlorinated biphenyls) and PCE. Breakdown products of PCE have not been detected at the site.
X	Polycyclic aromatic hydrocarbons (PAHs)
	Pesticides/Herbicides
X	Other Dioxins/Furans

6.5 Metals (Potentially present at site)

X	Lead
X	Copper
X	Chromium
X	Zinc
X	Other metals (See known chemical characteristics in Site History)

Known chemical characteristics (maximum/ average concentrations for routine monitoring):	Soil Chemistry (mg/kg)	Water Chemistry (µg/l)
Diesel / Oil	21,000	500
Gasoline	290	ND
Dioxins/Furans	645 ng/kg	ND
Lead	2,500	ND
Arsenic	84	140
Cadmium	3.7	ND
PAHs (TEQ)	1.01	ND
PCBs	ND	ND

Summary of Petroleum Hazards

Compound/ Description	Exposure Limits/IDLHb	Exposure Routes	Toxic Characteristics
Diesel Fuel—liquid with a characteristic odor	None established by OSHA, but ACGIH has adopted 100 mg/m3 for a TWA (as total hydrocarbons)	Ingestion, inhalation, skin absorption, and skin and eye contact	Irritated eyes, skin, and mucus membrane; fatigue; blurred vision; dizziness; slurred speech; confusion; convulsions; and headache, and dermatitis
Gasoline (Unleaded)—clear liquid with a characteristic odor	PEL 300 ppm TLV 300 ppm STEL 500 ppm	Ingestion, inhalation, skin absorption, skin and eye contact	Irritated eyes, skin, and mucus membrane; fatigue; blurred vision; dizziness; slurred speech; confusion; convulsions; and headache, and dermatitis

Compound/ Description	Exposure Limits/IDLHb	Exposure Routes	Toxic Characteristics
Mineral Oil – As a mist	The current OSHA PEL for mineral oil mist is 5 mg/m3 of air as an 8-hr TWA	If the oil is not a mist, then route of exposure is skin and eye contact	Exposure to oil mists can cause eye, skin, and upper respiratory tract irritation
Mineral based crankcase oil – may contain metals, gas, antifreeze and PAHs	It depends on the contaminants	Ingestion, inhalation, skin absorption, skin and eye contact	It depends on the contaminants.

Notes:
IDLH = immediately dangerous to life or health
OSHA = Occupational Safety and Health Administration
mg/m^3 = milligrams per cubic meter
TWA = time-weighted average
PEL = permissible exposure limit
TLV = threshold limit value
STEL = short-term exposure limit
ppm = parts per million

6.6 Chemical Hazard Mitigation Measures or Procedures

Air monitoring will be conducted for flammable vapors and for establishing the level of respiratory protection.

- Half-face combination organic vapor/high efficiency particulate air (HEPA) or P100 cartridge respirators will be available on-site to be used as necessary. P100 cartridges are only to be used if PID measurements are below the site action limit. P100 cartridges are used for protection against dust, metals and asbestos, while the combination organic vapor/HEPA cartridges are protective against both dust and vapor. Ensure that the PID or TLV will detect the chemicals of concern on-site.
- Level D PPE will be worn at all times on-site. Potentially exposed personnel will wash gloves, hands, face, and other pertinent items to prevent hand-to-mouth contact. This will be done prior to hand-to- mouth activities including eating, smoking, etc.
- Adequate personnel and equipment decontamination will be used to decrease potential ingestion and inhalation.
- Individual PELs or action limits are not expected to be exceeded given the planned activities. If there are waste oil contaminants in the soil and conditions are damp, airborne dust is not likely to be an issue. If conditions are dry and dust is visible during site activities, personnel will use P100 cartridges on their respirator.

6.7 Biologic Hazards

_____	Poison Ivy or other vegetation	_____
_____	Insects or snakes	_____
_____	Used hypodermic needs or other infectious	**Do not pick up or contact**
_____	hazards	_____
_____	Others	_____

6.8 Biologic Hazard Mitigation Measures or Procedures

Site personnel shall avoid contact with or exposures to potential biological hazards encountered.

Additional Hazards _____

6.9 Additional Hazards (Update in Daily Log)

Include evaluation of:

- Physical Hazards (excavations and shoring, equipment, traffic, tripping, heat stress, cold stress and others)
- Chemical Hazards (odors, spills, free product, airborne particulates and others present)
- Biologic Hazards (snakes, spiders, other animals, discarded needles, poison ivy and others present)

7. LIST OF FIELD ACTIVITIES

Check the activities to be completed during the project

____	Site reconnaissance
X	Exploratory borings
____	Construction monitoring
____	Surveying
____	Test pit exploration
X	Monitoring well installation
X	Monitoring well development
X	Soil sample collection
X	Field screening of soil samples
X	Vapor measurements
X	Groundwater sampling
X	Groundwater depth and free product measurement
____	Product sample collection
____	Soil stockpile testing
____	Remedial excavation
____	Underground storage tank removal monitoring
____	Remediation system monitoring
____	Recovery of free product

8. SITE DESCRIPTION (ATTACH ANY ADDITIONAL SITE PLAN DETAILS AND CHEMICAL ANALYSES)

8.1 Site History

Address/Location: Corner of Jefferson Street NE and State Avenue NE Olympia, Washington

Site topography: Flat

Predominant wind direction: South to north

Site drainage:

- X Municipal drain
- X Surface water drainage
- X Engineered site drains
- ___ Other

Utility check complete: To be completed prior to drilling – see documentation Utility Checklist

Traffic or vehicle access control plans: NA

Site access control (exclusion zone) defined by:

- X Fence
- ___ Survey tape
- X Traffic cones
- X Other (traffic control barriers as required by the city)

Hot zone/exclusion zone (Define): ***Within 10 feet of borings***

Fence around site perimeter, if existing and available otherwise use flagging and/or cones.

N/A

Contamination reduction zone (Define): ***Decontamination will be set up and area will be delineated***

Fence around site perimeter, if existing and available otherwise use flagging and/or cones.

N/A

8.2 Personal Protective Equipment

8.2.1 Personal Protective Equipment (PPE)

Minimum level of protective equipment for these sites is Level D. After the initial and/or daily hazard assessment has been completed, select the appropriate protective gear (PPE) to preserve worker safety. Task-specific levels of PPE shall be reviewed with field personnel during the pre-work briefing conducted prior to the start of site operations.

Check applicable personal protection gear to be used:

- X Hardhat (if overhead hazards, or client requests)
- X Steel-toed boots (if crushing hazards are a potential or if client requests)
- X Safety glasses (if dust, particles, or other hazards are present or client requests)
- X Hearing protection (if it is difficult to carry on a conversation 3 feet away)
- X Rubber steel-toed boots (if wet conditions)

Gloves (specify):

X	Nitrile
	Latex
	Liners
	Leather
	Other (specify) _____

Protective clothing:

	Tyvek (if dry conditions are encountered, Tyvek is sufficient)
	Saranex (personnel shall use Saranex if liquids are handled or splash may be an issue)
X	Cotton
X	Rain gear (as needed)
X	Layered warm clothing (as needed)

Inhalation hazard protection:

X	Level D
	Level C (respirators with organic vapor filters/ P100 filters)

8.2.2 Limitations of Protective Clothing

PPE clothing ensembles designated for use during site activities shall be selected to provide protection against known or anticipated hazards. However, no protective garment, glove or boot is entirely chemical-resistant, nor does any PPE provide protection against all types of hazards. To obtain optimum performance from PPE, site personnel shall be trained in the proper use and inspection of PPE. This training shall include the following:

- Inspect PPE before and during use for imperfect seams, non-uniform coatings, tears, poorly functioning closures, or other defects. If the integrity of the PPE is compromised in any manner, proceed to the contamination reduction zone and replace the PPE.
- Inspect PPE during use for visible signs of chemical permeation such as swelling, discoloration, stiffness, brittleness, cracks, tears, or other signs of punctures. If the integrity of the PPE is comprised in any manner, proceed to the contamination reduction zone and replace the PPE.
- Disposable PPE should not be reused after breaks unless it has been properly decontaminated.

8.3 Respirator Selection, Use and Maintenance

GeoEngineers has developed a written respiratory protection program in compliance with OSHA requirements contained in 29 CFR 1910.134. Site personnel shall be trained on the proper use, maintenance and limitations of respirators. Site personnel that are required to wear respiratory protection shall be medically qualified to wear respiratory protection in accordance with 29 CFR 1910.134. Site personnel that will use a tight-fitting respirator must have passed a qualitative or quantitative fit test conducted in accordance with an OSHA-accepted fit test protocol. Fit testing must be repeated annually or whenever a new type of respirator is used.

8.3.1 Respirator Cartridges

If site personnel are required to wear air-purifying respirators, the appropriate cartridges shall be selected to protect personnel from known or anticipated site contaminants. The respirator/cartridge combination shall be certified and approved by NIOSH. A cartridge change out schedule shall be developed based on known site contaminants, anticipated contaminant concentrations and data supplied by the cartridge manufacturer related to the absorption capacity of the cartridge for specific contaminants. Site personnel shall be made aware of the cartridge change out schedule prior to the initiation of site activities. Site personnel shall also be instructed to change respirator cartridges if they detect increased resistance during inhalation or detect vapor breakthrough by smell, taste or feel although breakthrough is not an acceptable method of determining the change out schedule. At a minimum, cartridges should be changed a minimum of once daily.

8.3.2 Respirator Inspection and Cleaning

The SSO shall periodically (that is, weekly) inspect respirators at the project site. Site personnel shall inspect respirators prior to each use in accordance with the manufacturer's instructions. In addition, site personnel wearing a tight-fitting respirator shall perform a positive and negative pressure user seal check each time the respirator is donned to ensure proper fit and function. User seal checks shall be performed in accordance with the GeoEngineers respiratory protection program or the respirator manufacturer's instructions.

Respirators shall be hygienically cleaned as often as necessary to maintain the equipment in a sanitary condition. At a minimum, respirators shall be cleaned at the end of each work shift. Respirator cleaning procedures shall include an initial soap/water cleaning, a water rinse, a sanitizing soaking and a final water rinse. One capful of bleach per one gallon of water can be used to create the sanitizing soak solution. When not in use, respirators shall be stored to protect against damage, hazardous chemicals, sunlight, dust, excessive temperatures and excessive moisture. In addition, respirators shall be stored to prevent deformation of the face piece and exhalation valve.

8.3.3 Facial Hair and Corrective Lenses

Site personnel with facial hair that interferes with the sealing surface of a respirator shall not be permitted to wear respiratory protection or work in areas where respiratory protection is required. Normal eyeglasses can not be worn under full-face respirators because the temple bars interfere with the sealing surface of the respirator. Site personnel requiring corrective lenses will be provided with spectacle inserts designed for use with full-face respirators. Contact lenses should not be worn with respiratory protection.

9. AIR MONITORING PLAN

Work upwind if at all possible.

Check instrumentation to be used:

_____ TLV Monitor (flammability only, for methane and petroleum vapors)

__X__ Photoionization Detector (PID)

_____ Other (i.e., detector tubes): _____

Check monitoring frequency/locations: and type (specify: work space, borehole, breathing zone):

_____ **15 minutes - Continuous during soil disturbance activities or handling samples**

_____ 15 minutes

_____ 30 minutes

__X__ Hourly (in breathing zone during each excavation, drilling, sampling)

Additional personal air monitoring for specific chemical exposure:

9.1 Action Levels

- The workspace will be monitored using a PID. These instruments must be properly maintained, calibrated and charged (refer to the instrument manuals for details). Zero this meter in the same relative humidity as the area it will be used in and allow at least a 10-minute warm-up prior to zeroing. Do not zero in a contaminated area. The PID can be tuned to read chemicals specifically if there are not multiple contaminants on-site. Can tune to detect one chemical with response factor entered into equipment but PID picks up all Volatile Organic Compounds present. Ionization potential (IP) of chemical has to be less than lamp (11.7/ 10.6eV) and PID does not detect methane. The ppm readout on the instrument is relative to the IP of isobutylene (calibration gas) so conversion must be made in order to estimate ppm of chemical on site.
- An initial vapor measurement survey of the site should be conducted to detect "hot spots" if contaminated soil is exposed at the surface. Vapor measurement surveys of the workspace should be conducted at least hourly or more often if persistent petroleum-related odors are detected. Additionally, if vapor concentrations exceed 5 ppm above background continuously for a five-minute period as measured in the breathing zone, upgrade to Level C PPE or move to a non-contaminated area.
- If the workspace will be monitored using a TLV Sniffer, the TLV Sniffer is not consistently reliable in measuring vapor concentrations less than 400 ppm. Therefore the TLV Sniffer should be used only as a warning indicator of high vapor concentrations. A PID is the preferred instrument and will be used if work with gasoline-contaminated soil is conducted.
- If the TLV Sniffer indicates greater than 1,000 ppm at the borehole or 600 ppm in the breathing zone, flammability may be a problem as well as indicating a health hazard. Stop work, move to an uncontaminated area and stabilize the situation. Continue work with caution, monitoring every 15 minutes.
- Standard industrial hygiene/safety procedure is to require that action be taken to reduce worker exposure to organic vapors when vapor concentrations exceed ½ the TLV. Because of the variety of chemicals, the PID will not indicate exposure to a specific PEL and is therefore not a preferred tool for determining worker exposure to chemicals. If odors are detected then employees will upgrade to respirator with Organic Vapor cartridges and will contact the Health and Safety Program Manager for other sampling options.

10. DECONTAMINATION PROCEDURES

Decontamination consists of removing outer protective Tyvek clothing and washing soiled boots and gloves using bucket and brush provided on site in the contamination reduction zone. Inner gloves will then be removed and respirator, hands and face will be washed in either a portable wash station or a bathroom facility in the support zone. Employees will perform decontamination procedures and wash prior to eating, drinking or leaving the site.

Specify other site-specific decontamination procedures:

11. WASTE DISPOSAL OR STORAGE

PPE disposal (specify): Investigative-derived waste (soil cuttings and purge/decon water) to be stored on-site pending characterization and disposal, as necessary.

IDW disposal or storage:

X On-site, pending analysis and further action, as necessary (e.g. stockpiles)

X Secured in steel drums

X Other (describe destination, responsible parties): Trash bags for solid waste

12. DOCUMENTATION EXPECTED TO BE COMPLETED

NOTE: The Field Log is to contain the following information:

- Updates on hazard assessments, field decisions, conversations with subs, client or other parties.
- Air monitoring/calibration results; personnel, locations monitored, activity at the time of monitoring.
- Action level for upgrading PPE and rationale.
- Meteorological conditions (temperature, wind direction, speed, humidity, etc.).

Required forms:

- Field Log.
- Health and Safety Plan acknowledgment by GeoEngineers employees (Form C-2).
- Contractors Health and Safety Plan Disclaimer (Form C-3).

Conditional forms available at GeoEngineers office:

- Accident Report (Form C-4).

13. APPROVALS

1.	Plan Prepared Cindy Bartlett	_____ Signature	_____ Date
2.	Plan Approval Jay Lucas	_____ PM Signature	_____ Date
3.	Health & Safety Officer	Leah Alcyon, CIH Health & Safety Program Manager	_____ Date

FORM C-1
HEALTH AND SAFETY MEETING
PORT OF OLYMPIA EAST BAY REDEVELOPMENT
PORT OF OLYMPIA - 0615-034-07

All personnel participating in this project must receive initial health and safety orientation. Thereafter, brief tailgate safety meetings as deemed necessary by the site Safety Officer.

The orientation and the tailgate safety meetings shall include a discussion of emergency response, site communications and site hazards.

Date	Topics	Attendee	Company Name	Employee Initials

FORM C-2
SITE SAFETY PLAN – GEOENGINEERS' EMPLOYEE ACKNOWLEDGMENT
PORT OF OLYMPIA EAST BAY REDEVELOPMENT
PORT OF OLYMPIA - 0615-034-07

(All GeoEngineers' site workers complete this form which should remain attached to the safety plan checklist and filed with other project documentation).

I, _____, do hereby verify that a copy of the current Safety Plan has been provided by GeoEngineers, Inc., for my review and personal use. I have read the document completely and acknowledge a full understanding of the safety procedures and protocol for my responsibilities on site. I agree to comply with all required, specified safety regulations and procedures. I understand that I will be informed immediately of any changes that would affect site personnel safety.

Signed _____ Date _____

Range of Dates From: _____
To: _____

Signed _____ Date _____

Range of Dates From: _____
To: _____

Signed _____ Date _____

Range of Dates From: _____
To: _____

Signed _____ Date _____

FORM C-3
SUBCONTRACTOR AND SITE VISITOR SITE SAFETY FORM
PORT OF OLYMPIA EAST BAY REDEVELOPMENT
PORT OF OLYMPIA - 0615-034-07

I, _____, verify that a copy of the current site Safety Plan has been provided by GeoEngineers, Inc. to inform me of the hazardous substances on site and to provide safety procedures and protocols that will be used by GeoEngineers' staff at the site. By signing below, I agree that the safety of my employees is the responsibility of the undersigned company.

Signed _____ Date _____

Firm: _____

Signed _____ Date _____

Firm: _____

Signed _____ Date _____

Firm: _____

Signed _____ Date _____

Firm: _____

Signed _____ Date _____

Firm: _____

Signed _____ Date _____

Firm: _____

OCTOBER 2011
DATA GAP INVESTIGATION WORK PLAN REGARDING SITE BOUNDARY DETERMINATION AND P-1 ANOMALY

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

October 10, 2011

Ms. Alexandra K. Smith
Sr. Environmental Program Mgr./Environmental Legal Counsel
Port of Olympia
915 Washington St. NE
Olympia, WA 98501

Re: Ecology Approval of the *Data Gap Investigation Work Plan and Schedule, East Bay Redevelopment Site, Olympia, Washington,* Prepared for the Port of Olympia by Pioneer Technologies Corporation, October 7, 2011; East Bay Redevelopment, Olympia, Washington, Ecology Facility/Site No. 5785176, Agreed Order DE5471.

Dear Ms. Smith:

Thank you for submitting the above-referenced data gap work plan in response to our October 3 comment letter. We have no further comments on this plan. **Therefore, we consider the above-referenced work plan to be approved.**

If you have any questions, please contact me at (360) 407-6247 or via e-mail at stee461@ecy.wa.gov.

Sincerely,

SSTeel

Steve Teel, LHG
Site Manager/Hydrogeologist
Toxics Cleanup Program
Southwest Regional Office

ST/ksc:Approval Data Gap WP W 10102011

By certified mail: (7010 0780 0002 3403 0106)

cc: Mr. Troy Bussey, PIONEER Technologies Corporation
Mr. Tom Morrill – City Attorney
LOTT Clean Water Alliance, c/o Mr. Eric Hielema, Senior Wastewater Engineer
City of Olympia, c/o Mr. Jay Burney, Assistant City Manager – Special Projects
Mr. Chris Cleveland, Brown and Caldwell
Ms. Maggie Yowell, Attorney, FOSTER PEPPER PLLC
Ivy Anderson – Office of the Attorney General
Scott Rose – Department of Ecology
Diana Smith - Department of Ecology

PIONEER
TECHNOLOGIES CORPORATION

5205 Corporate Ctr Ct, Ste A
Olympia, WA 98503-5901

Phone: 360.570.1700
Fax: 360.570.1777

www.uspioneer.com

October 7, 2011

Mr. Steve Teel, L.HG.
Washington State Department of Ecology
Toxics Cleanup Program – Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504 - 7775

Subject: *Data Gap Investigation Work Plan and Schedule*
East Bay Redevelopment Site, Olympia, Washington

Dear Mr. Teel:

On behalf of the Port of Olympia, I am enclosing for your review two copies of a work plan for the additional data gap soil sampling and analysis at the Port of Olympia East Bay Redevelopment Site (Site). The primary purpose of these proposed data gap samples is to provide additional data to supplement the Site Boundary Technical Memorandum (PIONEER 2010, Ecology 2010) and assist in defining the Site boundary.

Introduction

The Site is located in Olympia, Washington, on the southeast corner of the Port peninsula adjacent to the East Bay of Budd Inlet. Most of the Site consists of fill dredged from Budd Inlet except for what was added after 1979, which was clean fill from an off-site location. The 1979 shoreline is shown on Figures 1 and 2.

The Port of Olympia originally entered the Site into Washington State Department of Ecology's (Ecology) Voluntary Cleanup Program in 2007, and since has entered into Agreed Order (AO) DE5471 and AO DE7830, which superseded AO DE5471. This Work Plan satisfies the Data Gap Investigation Work Plan and Schedule deliverable following the draft Site Boundary Technical Memorandum deliverable specified in AO DE7830.

Description of Soil Sampling and Analysis

Based on existing data, new sample locations are proposed to further characterize the Site and define the Site boundary (see Table 1). In summary, direct-push soil borings will be advanced in eleven locations, seven of those locations will be sampled for carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and eight of those locations will be sampled for chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans (dioxins/furans). Sample locations for cPAHs and dioxins/furans are shown on Figures 1 and 2, respectively. In addition, a limited excavation will be performed in the southwest corner of the Site in Parcel 3 in attempt to remove the P-1 anomaly and any associated impacted soil. The location of the anomaly is shown on Figure 1.

Field guidelines and descriptions of procedures applicable to this Work Plan are outlined in the Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) provided as Attachment 1. The

SAP/QAPP is Appendix D of the Remedial Investigation Work Plan for the East Bay Redevelopment Site (GeoEngineers and PIONEER 2008). Deviations from this SAP/QAPP are described in Table 2. Field activities will be documented using PIONEER field forms provided as Attachment 2.

All samples will be analyzed by an Ecology accredited laboratory. The analytical methods will be United States Environmental Protection Agency (USEPA) Method SW846-8290 for dioxins/furans, USEPA Method SW846-8270 for PAHs, Ecology Method NWTPH-Dx for diesel- and heavy oil-range petroleum hydrocarbons, and USEPA Method SW846-8082 for polychlorinated biphenyls (PCBs). It is anticipated that Pace Analytical Services will perform the dioxins/furans analyses and Anatek Labs, Inc will perform the rest of the analyses (both laboratories are Ecology accredited for the analyses being performed). Current target soil reporting limits for these analyses are presented in Table 3. As shown in Table 3, all target reporting limits are less than soil screening levels for the Site.

Schedule

Following review and approval of this Work Plan by Ecology, PIONEER will implement the investigation activities described herein. A proposed schedule of upcoming work and deliverables is presented in Figure 3.

If you have any questions or require further information, please do not hesitate to contact me at 570-1700 or Alex Smith at 528-8020.

Respectfully,



Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)
Senior Professional Engineer

cc:

Mr. Scott Rose, Washington State Department of Ecology (electronic copy)
Ms. Alex Smith, Port of Olympia (electronic copy)
Mr. Eric Hielema, LOTT Clean Water Alliance (electronic copy)
Mr. Jay Burney, City of Olympia (electronic copy)
Mr. Josh Johnson, Brown and Caldwell (electronic copy)

References

Washington State Department of Ecology (Ecology). 2010. Request for Data Gap Work Plan and Transmittal of Ecology Comments on the *Site Boundary Memorandum for the East Bay Redevelopment Site*, Prepared for the Port of Olympia by Pioneer Technologies Corporation, November 2010; East Bay Redevelopment Site, Olympia, Washington Ecology Facility/Site No. 5785176, Agreed Order DE7830. December 14.

GeoEngineers and PIONEER (Pioneer Technologies Corporation). 2008. Remedial Investigation Work Plan East Bay Redevelopment Port of Olympia, Olympia Washington. October 22.

PIONEER 2009. East Bay: Interim Action Work Plan. May.

PIONEER. 2010. Site Boundary Technical Memorandum for the East Bay Redevelopment Site. November.

Attachments

Figures

Figure 1 – Existing cPAHs Data and Proposed Sampling Locations
Figure 2 – Existing Dioxins/Furans Data and Proposed Sampling Locations
Figure 3 – Schedule as of October 7, 2011 for the East Bay Redevelopment Site

Tables

Table 1 – Proposed Data Gap Soil Sampling Locations
Table 2 – Soil Sampling Deviations from the Sampling and Analysis Plan/Quality Assurance Project Plan
Table 3 – Soil Analysis Target Reporting Limits

Attachments

Attachment 1 – GeoEngineers SAP/QAPP from the Remedial Investigation Work Plan
Attachment 2 – PIONEER Field Forms

TABLES

PIONEER TECHNOLOGIES CORPORATION

Table 1. Proposed Data Gap Soil Sampling Locations

Ecology Comment #[1]	Location Description[2]	Type of Data Gap[3]	Proposed Sampling Location	Analytes	Rationale for Sample Depth Selection[4]
1a	North of MW21S (0.5-1.5)	SB	DP46	cPAHs	Three or four soil samples will be collected from this boring. The intent is to collect one sample from each major soil lithology that is encountered (e.g., pre-1982 fill, soil containing fine-grained wood debris, former native sediments) and to bias depth interval selections towards intervals most likely to be impacted. Considerations in interval selection will include (1) lithology, (2) depth(s) of surrounding exceedances, (3) depth(s) of any debris encountered, and (4) desire to collect one sample near 2 feet bgs.
1a	East of MW21S (0.5-1.5)	SB	DP47	cPAHs	Same depths as 1a for DP46.
1b	West of DP37 (2-3.5)	SB	DP48	cPAHs[5]	Same depths as 1a for DP46.
1b	West of DP38 (5-6)	SB	DP49	cPAHs	Same depths as 1a for DP46.
1c	Northeast of MW05 (10-12)	SB	DP50	cPAHs[5]	If the bottom of the 1982 fill is encountered within 15 feet bgs, one soil sample will be collected from soil beneath the 1982 fill.
1d	East of DP33 (3-4, 7-8)	SB	DP51	cPAHs[5]	Same depth as 1c for DP50.
1e	East of MW04 (2-4)	SB	DP52	cPAHs[5]	Same depths as 1a for DP46.
1f	Northeast of MW20 (6-8)	SB	DP46	cPAHs	Same depths as 1a for DP46.
1f	Northwest of MW20 (6-8)	No sample proposed[6]			
2a	North of DP30 (7-7.5)	SB	DP53[(7)]	D/F	Pre-1982 fill was encountered from ground surface to 7 feet bgs in DP30 and neither of the two DP30 samples collected from pre-1982 fill had a D/F exceedance. Similarly there are no D/F exceedances in the pre-1982 fill samples located closest to DP30 (e.g., samples in the southern portion of the LOTT Expansion Site, DP29, MW23S, DP43, DP34, DP38), which is not surprising since DP30 is located a considerable distance from D/F-related AOCs and the historic shorelines where treated wood pilings were likely used. The only DP30 exceedance was a 7-7.5 feet bgs sample of what appeared to be former native sediment mixed with wood debris that was located beneath the pre-1982 fill. As a result, one to two samples will be collected beneath the pre-1982 fill in this boring. One sample will be collected from former native sediment (if encountered) and one sample will be collected adjacent to wood debris (if encountered). If neither former native sediment nor wood debris are encountered beneath the pre-1982 fill, one sample will be collected at roughly the same depth as the DP30 exceedance.
2a	South of DP30 (7-7.5)	SB	DP54[(7)]	D/F	Same depths as 2a for DP53.
2a	West of DP30 (7-7.5)	No sample proposed[6]			
2a	East of DP30 (7-7.5)	RI/FS	DP55 [(7)]	D/F	Same depths as 2a for DP53.
2b	East of DP26 (1-2)	SB	DP52	D/F[5]	Same depths as 1a for DP46.
2c	East of TP02 (2-2.5)	SB	DP51	D/F[5]	Same depth as 1c for DP50.
2d	East of DP42 (1-2, 7-8)	SB	DP56	D/F	Same depths as 1a for DP46.
2e	Northeast of TP03 (3.5-4)	SB	DP50	D/F[5]	Same depth as 1c for DP50.
2f	West of MW24S (6.5-8, 9-10)	SB	DP48	D/F[5]	Same depths as 1a for DP46.
2g	West of TP04 (1.5-2)	No sample proposed[8]			
7	Southwest corner of Parcel 3 (i.e., location of P-1 anomaly)	RI/FS	Not applicable	TPH-D, TPH-HO, PAHs, and PCBs	A limited attempt will be made to remove the P-1 anomaly and any associated impacted soil (e.g., no more than 50 cubic yards total during this limited attempt). Excavated soil and the anomaly will be disposed of at the Weyerhaeuser Regional Landfill in Castle Rock. Four sidewall samples and one bottom sample will be collected following the removal to characterize the surrounding soil conditions.

Notes:

bgs: below ground surface
cPAHs: carcinogenic polycyclic aromatic hydrocarbons
Dioxins/furans: chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans
DP: direct push
PAHs: polycyclic aromatic hydrocarbons
PCBs: polychlorinated biphenyls
RI/FS: Remedial Investigation / Feasibility Study
SB: site boundary
TPH-D: total petroleum hydrocarbons in the diesel range
TPH-HO: total petroleum hydrocarbons in the heavy oil range

[1]Comments dated December 14, 2010 on the Site Boundary Technical Memorandum for the East Bay Redevelopment Site (PIONEER 2010).
[2]The depth of soil screening level exceedance (in feet bgs) for the sample that was referenced in the Ecology comment (e.g., "MW21S") is shown in parenthesis.
[3]Data gaps for the site boundary are differentiated from general RI/FS data gaps. Sampling for these different types of data gaps may be conducted in separate phases.
[4]All borings will be advanced to 15 feet bgs unless otherwise noted.
[5]Samples collected from these locations are being analyzed for both cPAHs and D/F. The depth interval selections will be the same for cPAHs and D/F.
[6]Deeper characterization of potential releases at AOC 1 will be addressed as part of activities at the LOTT Expansion Site.
[7]No sample is proposed northwest of DP30 since the total D/F exceedance in DP30 has already been delineated to concentrations less than the soil screening level in the northwestern direction by BC_DP17. Samples are proposed to the northeast, southwest, and southeast (rather than north, west, south, east).
[8]This screening level exceedance has already been delineated with samples at DP38, which is located west of TP04 (see Figure 2).

Table 2. Soil Sampling Deviations from the Sampling and Analysis Plan/Quality Assurance Project Plan

SAP/QAPP Section	Deviation	Rationale/Explanation
4.0	Work will be executed by PIONEER rather than GeoEngineers.	The Port of Olympia selected PIONEER to perform this work.
2.0	Samples will not be collected every two feet.	One sample will be taken from each major soil lithology that is encountered. Table 1 describes considerations of intervals that will be sampled.
2.0	Water sheen and headspace vapor screening methods will not be used.	Due to the nature of constituents being investigated in this Work Plan, these tests will not be employed.
2.0	Investigation derived waste will be handled differently.	It is anticipated based on previous sampling events that an insignificant volume of decontamination water will be generated and therefore will be discharged on site. It is anticipated based on previous sampling events that an insignificant volume of unused soil cores will be generated. These soils will be placed on-site or will be added to the excavated soils from the southwest corner or Parcel 3 (which are being disposed of at Weyerhaeuser Regional Landfill in Castle Rock).
5.2	Samples will be collected for a 1-foot interval instead of a four to six inch interval.	Given the lithology and actual core recovery, even with two side-by-side borings, typically it is expected to require a one-foot sample interval or longer in order to obtain the minimum required container volume.
5.2	A different GPS unit will be used.	PIONEER has a different GPS unit (which is more accurate than the unit specified in the SAP/QAPP).
8.0	Sample nomenclature will be revised.	To improve data usability during subsequent data evaluations.
11.1	No field trip blanks will be used.	VOCs are not being investigated in this Work Plan.
Table 4	Different target reporting limits will be used.	Reporting limits for the analytical methods and anticipated laboratories are presented in Table 3.

Notes:
GPS: Global Positioning System
SAP: Sampling and Analysis Plan
QAPP: Quality Assurance Project Plan
VOCs: volatile organic constituents

PIONEER TECHNOLOGIES CORPORATION

Table 3. Soil Analysis Target Reporting Limits

Analytes	Analytical Method	Target Reporting Limits (mg/kg)	Soil Screening Level[1] (mg/kg)
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)			
Benzo(a)pyrene	USEPA SW846-8270	0.01	--
Benzo(a)anthracene	USEPA SW846-8270	0.01	--
Benzo(b)fluoranthene	USEPA SW846-8270	0.01	--
Benzo(k)fluoranthene	USEPA SW846-8270	0.01	
Chrysene	USEPA SW846-8270	0.01	--
Dibenz(a,h)anthracene	USEPA SW846-8270	0.01	--
Indeno(1,2,3-cd)pyrene	USEPA SW846-8270	0.01	--
Total cPAHs Nondetected Value[2,3]	0.015		0.095
Polycyclic Aromatic Hydrocarbons (PAHs)			
PAHs	USEPA SW846-8270	0.01	--
Total Petroleum Hydrocarbons (TPHs)			
Diesel-Range	NWTPH-Dx	25	2000
Heavy Oil-Range	NWTPH-Dx	100	2000
Polychlorinated Biphenyls (PCBs)			
Aroclor 1016	USEPA SW846-8082	0.1	--
Aroclor 1221	USEPA SW846-8082	0.1	--
Aroclor 1232	USEPA SW846-8082	0.1	--
Aroclor 1242	USEPA SW846-8082	0.1	--
Aroclor 1248	USEPA SW846-8082	0.1	--
Aroclor 1254	USEPA SW846-8082	0.1	--
Aroclor 1260	USEPA SW846-8082	0.1	--
Total PCBs Nondetected Value[3,4]	0.35		0.5
Dioxins and Furans			
2,3,7,8-TCDD	USEPA SW846-8290	1.0E-06	--
2,3,7,8-TCDF	USEPA SW846-8290	1.0E-06	--
-Penta, Hexa, Hepta	USEPA SW846-8290	5.0E-06	--
-Octa	USEPA SW846-8290	10.0E-06	--
Total Dioxins/Furans Nondetected Value[2,3]	5.7E-06		9.8E-06

Notes:
-- = not applicable
[1]From Table 1 of the Site Boundary Technical Memorandum for the East Bay Redevelopment Site (PIONEER 2010), except for diesel and heavy oil range which are from the East Bay Interim Action Work Plan (PIONEER 2009).
[2]The total cPAHs and total dioxins/furans nondetected values were calculated by multiplying the reporting limit by the toxic equivalency factors as presented in Tables 708-2 and 708-1, respectively, in the MTCA Statute and Regulation Handbook, then adding the values using compound totaling rules described below.
[3]Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for the Amendments to the Model Toxics Control Act (MTCA) Cleanup Regulation Chapter 173-340 WAC, Publication No. 01-09-043. For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit is assigned. For congeners that do not occur at the site (not detected in any media), a value of zero is assigned. In the case of cPAHs, all congeners have been detected at least once. In the case of PCBs, only one of the seven congeners has been detected. In the case of dioxins/furans, all congeners have been detected at least once.
[4]Even though only one PCB congener has ever been detected at the site, it is possible that they could all be detected, and therefore the total PCBs nondetected value is the total of ½ the reporting limits.

FIGURES



AOC ID	Description of Historic Features
AOC01	Refuse Fire Area
AOC 02	Panel Oiling
AOC 04	Propane Lift Truck Fueling Shed
AOC 09	Oil House
AOC 10	Engine Room
AOC 11	Unidentified Structure
AOC 12	Machine Shop
AOC 13	Blacksmith Shop
AOC 14	Tar Dipping Tank North
AOC 15	Tar Dipping Tank South
AOC 16	Oiled Cooled Transformer on Concrete Pad
AOC 17	Boiler House
AOC 18	Fuel Bin
AOC 19	Flammable Liquids
AOC 20	Hog Fuel Pile on Ground
AOC 21	Oil House
AOC 24	Power House
AOC 25	Unknown Shop
AOC 26	Pipe Shop
AOC 27	Fuel Bin
AOC 28	Transformer Vault
AOC 29	Oil House
AOC 30	Fenced Electrical Enclosure
AOC 31	Jitney Shop
AOC 32	Electronic Shop
AOC 33	Machine Shop
AOC 34	Welding Shop
AOC 35	Engine (Type Unknown)
AOC 36	Engine (Type Unknown)
AOC 37	Repair Shop
AOC 38	Blacksmith Shop
AOC 39	Logway
AOC 40	Glue House
AOC 41	Blacksmith Shop
AOC 42	Machine Shop
AOC 52	Diesel Fuel Release
AOC 53	Sawmill
AOC 54	Planing Mill

N
W E
S

Legend

- Sample No Longer in Place

Proposed Sample Location

- Site Boundary Data Gap

Soil Data (0-2' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- 1979 Shoreline
- Areas of Concern (AOC)
- Parcel Boundaries
- LOTT Expansion Site

Completed/Underway Remedial Actions

- Soil Cap
- Soil Cover
- Soil Removal

Notes:

bgs = below ground surface
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
cPAHs = 0.095 mg/kg
Possible cPAHs RL[1] = 3.4 mg/kg
SL = screening level
RL = remediation level
NLIP = no longer in place
RI/FS = Remedial Investigation/Feasibility Study

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a)

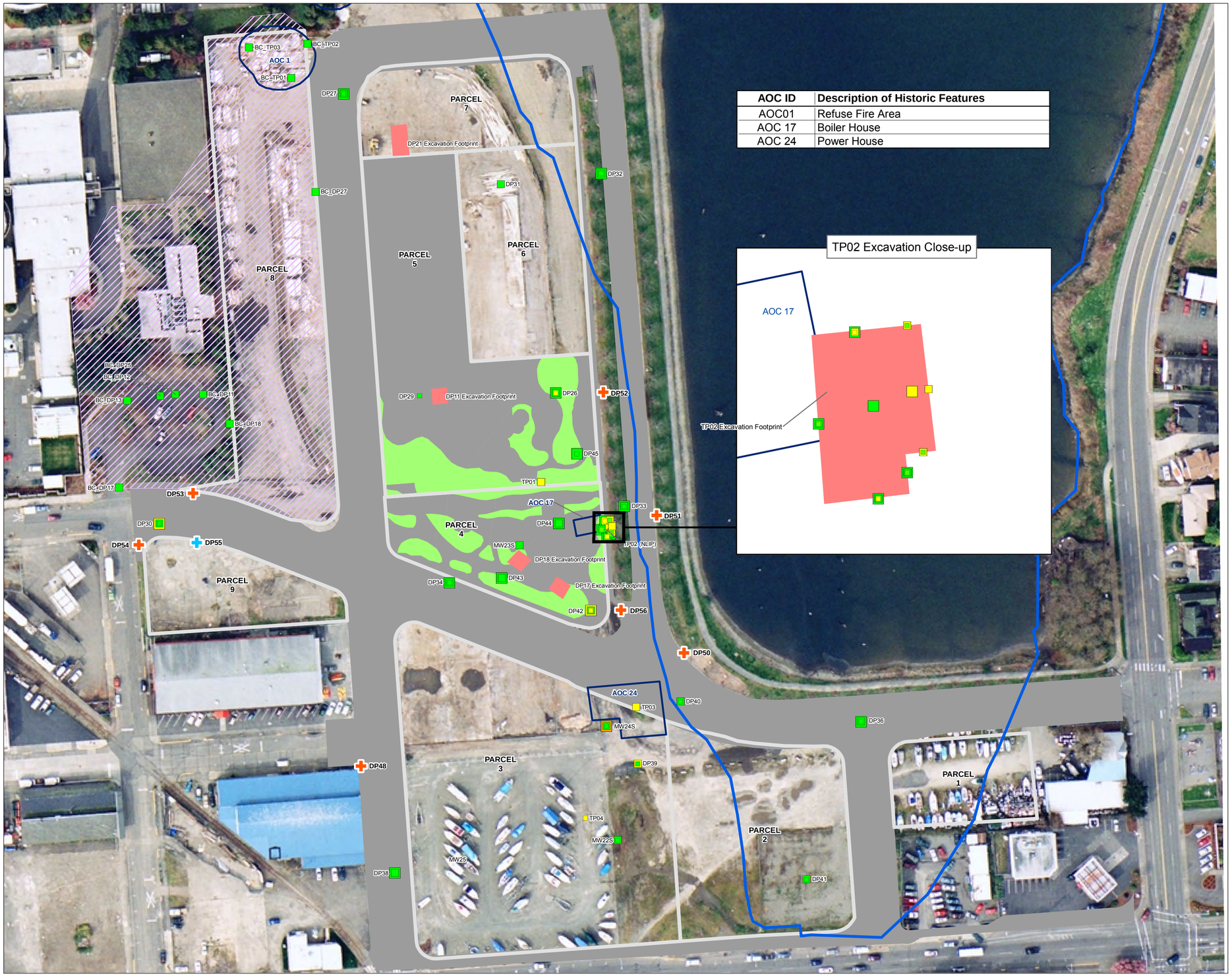
-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Non-detected values greater than the SL are not shown as exceedances.
-Sample breakout depths are based on sample top.

0 100 200 Feet

PIONEER TECHNOLOGIES CORPORATION

Existing cPAHs Data and Proposed Sampling Locations
Data Gap Work Plan
East Bay Redevelopment Site

DWN:	PROJECT:
MF	
DATE:	FIGURE NO.:
October 2011	1



AOC ID	Description of Historic Features
AOC01	Refuse Fire Area
AOC 17	Boiler House
AOC 24	Power House

TP02 Excavation Close-up

N
W E
S

Legend

- Sample No Longer in Place

Proposed Sample Location
- Site Boundary Data Gap Sample
- RI/FS Data Gap Sample

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- 1979 Shoreline
- Areas of Concern (AOC)
- Parcel Boundaries
- LOTT Expansion Site

Completed/Underway Remedial Actions
- Soil Cap
- Soil Cover
- Soil Removal

Notes:

Total Dioxins/Furans SL = 9.8 ng/kg
Possible Total Dioxins/Furans RL[1] = 510 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface
NLIP = no longer in place
RI/FS = Remedial Investigation/Feasibility Study

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a)

-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Sample breakout depths are based on sample top.

0 100 200 Feet

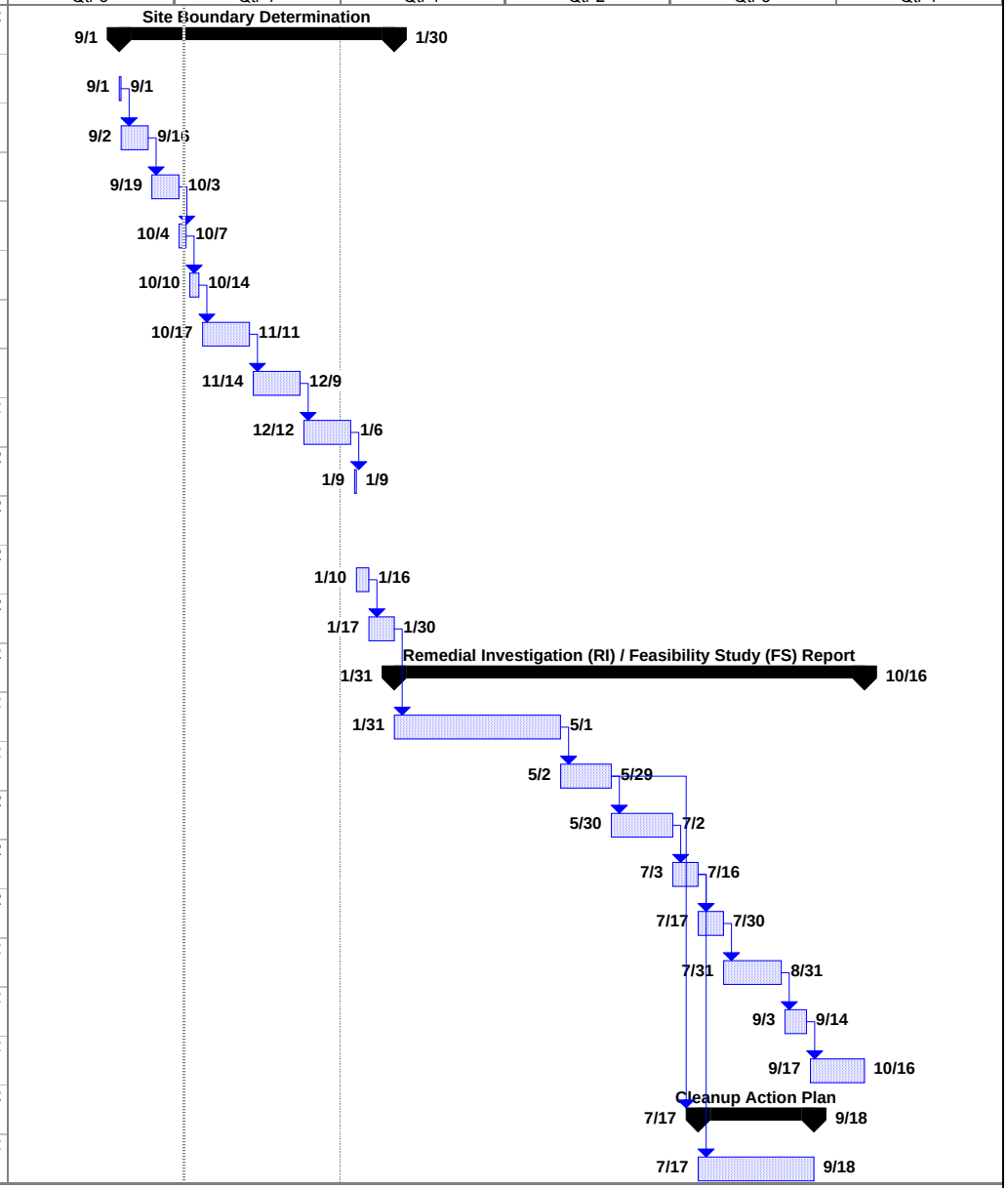
PIONEER TECHNOLOGIES CORPORATION

Existing Dioxins/Furans Data and Proposed Sampling Locations
Data Gap Work Plan
East Bay Redevelopment Site

DWN:	PROJECT:
MF	
DATE:	FIGURE NO.:
October 2011	2

Figure 3. Schedule as of October 7, 2011 for the East Bay Redevelopment Site

ID	Task Name	Duration	Start	Finish
1	**Site Boundary Determination**	**108 days**	**Thu 9/1/11**	**Mon 1/30/12**
2	Meeting on Port's proposed site boundary	1 day	Thu 9/1/11	Thu 9/1/11
3	Port submit a Data Gap Investigation Work Plan and Schedule	11 days	Fri 9/2/11	Fri 9/16/11
4	Ecology review Data Gap Investigation Work Plan and Schedule	11 days	Mon 9/19/11	Mon 10/3/11
5	Port submit final Data Gap Investigation Work Plan and Schedule (if necessary)	4 days	Tue 10/4/11	Fri 10/7/11
6	Ecology approve Data Gap Investigation Work Plan and Schedule	5 days	Mon 10/10/11	Fri 10/14/11
7	Port complete Data Gap Investigation Work Plan field activities	20 days	Mon 10/17/11	Fri 11/11/11
8	Port receive laboratory results	20 days	Mon 11/14/11	Fri 12/9/11
9	Evaluate new data	20 days	Mon 12/12/11	Fri 1/6/12
10	Meeting to discuss results of Data Gap Investigation	1 day	Mon 1/9/12	Mon 1/9/12
11	Additional work and meeting for site boundary (if necessary)	0 days	Mon 1/9/12	Mon 1/9/12
12	Port submit figure to Ecology showing proposed site boundary, once all agree on site boundary	5 days	Tue 1/10/12	Mon 1/16/12
13	Ecology approve proposed site boundary	10 days	Tue 1/17/12	Mon 1/30/12
14	**Remedial Investigation (RI) / Feasibility Study (FS) Report**	**186 days**	**Tue 1/31/12**	**Tue 10/16/12**
15	Port submit draft RI / FS Report	66 days	Tue 1/31/12	Tue 5/1/12
16	Ecology review and comment on draft RI / FS Report	20 days	Wed 5/2/12	Tue 5/29/12
17	Port submit draft final RI / FS Report	24 days	Wed 5/30/12	Mon 7/2/12
18	Ecology approves draft final RI / FS Report for public comment period	10 days	Tue 7/3/12	Mon 7/16/12
19	Ecology prepare for public comment period	10 days	Tue 7/17/12	Mon 7/30/12
20	Public comment period	24 days	Tue 7/31/12	Fri 8/31/12
21	Ecology response to public comments	10 days	Mon 9/3/12	Fri 9/14/12
22	Port prepare final RI/FS Report	22 days	Mon 9/17/12	Tue 10/16/12
23	**Cleanup Action Plan**	**46 days**	**Tue 7/17/12**	**Tue 9/18/12**
24	Port Submit Draft Cleanup Action Plan to Ecology	46 days	Tue 7/17/12	Tue 9/18/12



Note: The Department of Ecology is not bound by the scheduled duration time or the Start and Finish dates for review, response, comment, or approval of documents by Ecology. Ecology will endeavor to finish its review within the timeline indicated in the Schedule. If the review, response, comment or approval of documents by Ecology is longer than the duration time indicated in the Schedule, the Start and Finish dates of subsequent Tasks will be delayed a corresponding number of days.

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

ATTACHMENT 1

GeoEngineers SAP/QAPP from the Remedial Investigation Work Plan

APPENDIX D
SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN

SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN REMEDIAL INVESTIGATION WORK PLAN EAST BAY REDEVELOPMENT PORT OF OLYMPIA OLYMPIA, WASHINGTON

OCTOBER 22, 2008

FOR
PORT OF OLYMPIA

GeoEngineers

Sampling and Analysis Plan and Quality Assurance Project Plan

File No. 0615-034-07

October 22, 2008

Prepared for:

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SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN REMEDIAL INVESTIGATION WORK PLAN EAST BAY REDEVELOPMENT, PORT OF OLYMPIA OLYMPIA, WASHINGTON FOR PORT OF OLYMPIA

1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) describe sample collection, handling and analysis procedures associated with the Remedial Investigation Work Plan (RIWP) for the Port of Olympia's (Port) 13-acre East Bay Redevelopment Site (Site). The Site is located in Olympia, Washington, as shown in Figure 1. This SAP must be used in conjunction with the RIWP and the project-specific Health and Safety Plan (HASP).

Detailed descriptions of the field sampling procedures are provided in this document. Site conditions may make it necessary to modify these procedures. Any variations or modifications that become necessary during the investigation will be coordinated with Port personnel, the Washington State Department of Ecology (Ecology) and other involved parties, as appropriate. Variations or modifications implemented during the investigation and the reason for the modification will be documented in field records.

This SAP describes field activities, sampling equipment, sampling locations and procedures that will be used during investigations at the Site. This SAP also includes a QAPP (Section 11), which identifies quality assurance/quality control (QA/QC) procedures that will be implemented during field sampling activities and laboratory analyses.

2.0 PURPOSE AND SCOPE

The purpose of this SAP is to present the detailed procedures that will be used to obtain samples during the supplemental remedial investigation (RI). The objective of this sampling is to provide information to:

- Characterize the nature and extent of contamination at the Site;
- Assess the potential risk to human and ecological receptors; and
- Provide the information that will allow selection of cleanup action alternatives.

Rationale for sample locations and depths and monitoring wells are described in Tables 1 through 3.

Activities to be performed by GeoEngineers during the RI include the following:

1. Update the Project HASP and SAP for use by GeoEngineers' personnel during the RI.
2. Retain public and private utility locating services to identify and locate underground utilities in the exploration areas in coordination with the Port.
3. Retain a concrete coring contractor to core through paved surfaces, as necessary.
4. Monitor the advancement of soil explorations using direct-push and/or hollow-stem auger techniques to depths specific to proposed sample locations. If field screening indicates

contamination is present at the target total depth for a boring, the boring will be advanced until field screening indicates contamination is not present.

a. Soil borings will be located by measuring from known previously surveyed features (roads, existing monitoring wells, etc) and GPS readings.

b. Samples of soil will be collected continuously for the total depth of each boring. Samples for potential chemical analyses will be collected approximately every two feet. Soil will be visually classified in the field according to the Unified Soil Classification System. Contacts between soil lithologies and fill episodes, if feasible, will also be described.

c. Groundwater monitoring wells may be constructed in five borings as described in Table 2.

5. Obtain soil samples as specified in this SAP and the RIWP. Field screening will be performed on each sample using visual, water sheen and headspace vapor screening methods. The field screening results will be used as a general guideline to approximate the vertical extent of petroleum-related contamination in the soil samples. In addition, screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis.

6. Explore the locations and nature of water seeps along the shoreline embankment and collect data to determine if the seeps represent groundwater.

7. Obtain groundwater samples from existing and new monitoring wells for chemical analytical testing using low-flow sampling methodology. Measure depth to water using an electric water level indicator.

a. Collect water samples from seeps if the seeps represent groundwater.

8. Contain soil cuttings, purge water and decontamination water in steel drums and store the drums in a secure location designated by the Port to await off-site transport and disposal. The drums will be labeled according to standard GeoEngineers' practice.

9. Submit soil and groundwater samples to a subcontracted chemical analytical laboratory for chemical analysis. The chemical constituents for each sample have been determined based on existing data and assumptions of the chemicals of potential concern (COPCs) present. Sample locations, depth intervals, and COPCs are described in Tables 1 through 3. The chemical analysis may include one or more of the following:

a. Gasoline-, diesel- and motor oil-range petroleum hydrocarbons by Ecology Methods NWTPH-Gx and NWTPH-Dx,

b. Metals by U.S. Environmental Protection Agency (EPA) Method 6000/7000 series,

c. Volatile organic compounds (VOCs) by EPA Method 8260B,

d. Semivolatile organic compounds (SVOCs) including carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270 SIM,

e. Polychlorinated biphenyls (PCBs) by EPA Method 8082, and

f. Dioxins/furans by EPA Method 1613B or Method 8290.

Tables 4 and 5 summarizes the target analytical reporting limits and analytical methods that will be used for soil and groundwater.

10. Document sample methodology and sample locations using detailed field logs.

11. Use database and geographic information system (GIS) technologies to manage chemical analytical data and sample locations.

3.0 PROJECT SCHEDULE

Field work for the supplemental RI will be conducted in phases. The initial phase of the RI will be completed in Fall 2008 in order to provide data critical to the planning of the infrastructure improvement project. The initial phase includes completing eight explorations located in or near the infrastructure corridor. The initial eight exploration locations include borings DP27, DP30, DP32, DP33, DP34, DP36, DP38, and DP40, which are also highlighted on Table 1. The initial phase will also include locating suspected artesian wells, as described in Appendix B of the RI Workplan. Subsequent phase of field work will be completed after data from the first phase has been evaluated and after decommissioning of the artesian wells.

4.0 ROLES AND RESPONSIBILITIES

This section outlines the individuals directly involved with the RI. Work performed under this SAP will be in cooperation with the Port.

Key personnel for this project are as follows:

Position	Name	Affiliation	Telephone Number
Ecology Project Coordinator	Steve Teel	Washington State Department of Ecology	360-407-6247
Port Project Coordinator	Joanne Snarski	Port of Olympia	360-528-8061
Principal-in-Charge	David Cook	GeoEngineers, Inc.	206-728-2674
Project Manager	Jay Lucas	GeoEngineers, Inc.	206-239-3221

- The **Ecology Project Coordinator** is responsible for providing timely technical review and guidance regarding compliance with the Agreed Order (AO) and is responsible for overseeing implementation of the AO for Ecology.
- The **Port Project Coordinator** is responsible for administering the contract with the consultant and is responsible under the AO for overseeing implementation of the AO for the Port.
- The **Principal-in-Charge** works with the Project Manager and is responsible for project document QA/QC review.
- The **Project Manager** reports directly to the Port Project Coordinator and the Principal-in-Charge. The Project Manager is responsible for coordinating project activities and submitting deliverables to the Port. The Project Manager's duties consist of providing concise technical work statements for project tasks, selecting project team members, determining the degree of subcontractor participation, establishing and adhering to budget and schedule, providing technical oversight and providing review of all work.

5.0 FIELD PROCEDURES

The rationale, depths and chemical program for soil and groundwater samples are presented in Tables 1 through 6 of this SAP and are described in the RIWP. The soil and groundwater samples will be obtained and submitted to a Washington State accredited laboratory for chemical analysis.

Note that Sampling and Testing associated with the RI, as outlined in this SAP, includes a phased approach to facilitate early decisions regarding the infrastructure improvements and associated excavation. The phased explorations and testing approach are highlighted in Table 1 of this SAP.

5.1 UNDERGROUND UTILITY LOCATE

Prior to sampling activities, an underground utility locate will be conducted in the area of the proposed sample locations to identify any subsurface utilities and/or potential underground physical hazards.

5.2 SUBSURFACE SOIL SAMPLING

5.2.1 Sample Collection Method

Subsurface soil sampling will be conducted using a direct-push drilling rig equipped with a core barrel lined with disposable acetate sleeves. Soil samples will be obtained every two feet for potential chemical analytical testing and field screening, as described in Table 1. Samples obtained for chemical analytical testing will consist of approximately four- to six-inches of the soil core. The depth of each sample will be measured from the bottom of the sample interval. The depth to the groundwater table, if present, may also be measured at each sample location, using an electric water level indicator.

Samples to be analyzed for gasoline-range petroleum hydrocarbons and VOC analysis following EPA Method 5035A (Ecology 2004) will be obtained first. Samples obtained for non-volatile analyses will be obtained from the same general intervals as the volatile samples. Planned sample depths are based on results from earlier studies and are outlined in Table 1. Sample containers will be labeled in the field and stored in an iced cooler prior to and during shipment to the chemical analytical laboratory.

Sampling activities will be conducted by a GeoEngineers representative, and soil will be visually classified in the field according to the Unified Soil Classification System (USCS) and American Society for Testing and Materials (ASTM) Standard 2488.

Field personnel will record the sample locations using hand-held Trimble GeoXT global positioning system (GPS) units with sub-meter accuracy during sampling activities. Sub-meter accuracy standards will be used during data collection to record latitude and longitudinal data. A minimum of four satellites will be required for a position dilution of precision (PDOP) value of less than 6. Satellite elevation must be at least 15 degrees above the horizon, with a minimum signal-to-noise ratio (SNR) of 39 bBHz. GPS data collected in the field will be subsequently processed in the office using measurements from the nearest reference station to each collection point.

5.2.2 Sample Locations

Twenty-two new boring locations are planned and shown in Figures 2 and 3. The borings are placed in areas to further evaluate the lateral and/or vertical extent of contamination that has been identified in previous studies. The rationale for sample locations and depth intervals are described in Table 1.

5.2.3 Phase 1: Infrastructure Construction Corridor Sample Locations

Locations of eight borings are within utility corridors associated with the infrastructure improvements. These borings may be completed during an initial phase of exploration to accommodate the construction schedule. These borings are highlighted in Table 1 and Figure 2. Sampling in the infrastructure corridor will provide data to characterize soil that will be removed during excavation activities.

5.3 FIELD SCREENING

Field screening for evidence of possible contamination will be performed on soil samples obtained from the explorations. Field screening results will be recorded on the field logs, and the results will be used as a general guideline to delineate areas of possible contamination. Screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis. The following screening methods will be used: (1) visual screening, (2) water sheen screening and (3) headspace vapor screening. Visual screening and water sheen screening are qualitative methods; therefore, precision, accuracy and detection limits are not quantified for these methods. Headspace vapor screening is a semi-quantitative method; however, precision and accuracy will not be quantified for this method. Instrument accuracy and detection limits are described below. Field screening results are site- and location-specific. The results may vary with temperature, moisture content, soil type and chemical constituent.

5.3.1 Visual Screening

The soil will be observed for unusual color and stains and/or odor indicative of possible contamination.

5.3.2 Water Sheen Screening

A portion of the soil sample will be placed in a pan containing distilled water. The water surface will be observed for signs of sheen. The following sheen classifications will be used:

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

5.3.3 Headspace Vapor Screening

Headspace vapor screening will be performed on a portion of the soil sample placed into a resealable plastic bag. Ambient air will be captured in the bag; the bag will be sealed and then shaken gently to expose the soil to the air trapped in the bag. The bag will remain closed for approximately 5 minutes at ambient temperature before the headspace vapors are measured. Vapors present within the sample bag's headspace will be measured by inserting the probe of a photoionization detector (PID) through a small opening in the bag. A PID measures the concentration of organic vapors ionizable by a 10.6 electron volt (eV) lamp in parts per million (ppm) and quantifies organic vapor concentrations in the range between 0.1 ppm and 2,000 ppm (isobutylene equivalent) with an accuracy of 1 ppm between 0 ppm and 100 ppm. The maximum value on the instrument and the ambient air temperature will be recorded on the field log for each sample. The PID will be calibrated to 100 ppm isobutylene.

5.4 GROUNDWATER SAMPLING

5.4.1 Monitoring wells

Groundwater will be sampled from 17 existing and new monitoring wells for chemical analytical testing as shown in Table 3. Monitoring wells will be sampled using low-flow sampling methodologies, as described below.

- Prior to sampling, measure depth to water with an electric water level indicator.
- Purge groundwater from the monitoring wells using dedicated tubing, a peristaltic pump (or equivalent), a flow-through cell and water parameter analyzer (Horiba U-20). Purge monitoring wells using a flow rate between 100 and 500 milliliters per minute (mL/min) that does not create significant drawdown in the well. When field parameters have stabilized or at least three well volumes of water have been purged from the well, disconnect the flow-through cell and sample groundwater directly from down-well tubing, maintaining a low-flow pumping rate. Water quality parameters to be monitored during purging include: conductivity, dissolved oxygen, pH, salinity, total dissolved solids, turbidity, oxidation-reduction potential and temperature.
- Place each groundwater sample directly into a laboratory-prepared sample container, label the container, log the sample on the chain-of-custody and sample collection form, and place the container into a cooler with ice.

5.4.2 Groundwater Seeps

Greylock Consulting identified four seep locations along the shoreline during a low tide on July 16, 2008. These locations, as well as other seep locations that may be identified during site visits, will be evaluated to determine if they represent groundwater rather than surface water, irrigation water or discharge from buried pipes.

The evaluation will be based on several lines of evidence that will include:

- Physical observations of the proximity of the seeps to known utilities that could represent areas where water leaks from stormwater drains or from the fill around buried utilities.
- Explore the soil above the seeps to determine if the soil is saturated above the seepage point, and follow the saturation to its point of origin. This exploration will be conducted with hand digging equipment.
- Measure the temperature, salinity and conductivity of the water discharging from the seeps and compare these values to that representative of groundwater and of marine water. This will help determine if the seeps represent delayed drainage of sea water, rather than groundwater.
- Determine if the seeps originate at a higher elevation that the groundwater table. If a seep originates above the elevation of the groundwater table or high tide elevation that day, it is evidence that the seep does not represent groundwater. The elevation of the groundwater table will be based on water levels measured in the nearest monitoring well during the high tide and the low tide of that day's tidal cycle.

If water from an area of seepage is identified as groundwater, a representative sample will be collected for chemical testing as identified in Table 3. The sample will be collected by pushing a short PVC pipe into the seep so the water drains from the end of the pipe. Following insertion of the PVC pipe, a sample of the water will be collected after turbidity caused by the initial disturbance has descreased. Conductivity, temperature, and salinity water quality parameters will be measured as described above for the monitoring well samples. Up to four samples representative of groundwater seeps will be collected. The PVC pipe will be decontaminated prior to collection of each sample.

5.5 FIELD EQUIPMENT CALIBRATION PROCEDURES

Field equipment requiring calibration will be calibrated to known standards in accordance with manufacturers' recommended schedules and procedures for each instrument. If field equipment becomes inoperable, it will be replaced with a properly calibrated instrument.

6.0 CHEMICAL ANALYTICAL PROGRAM

All samples will be submitted to a Washington State accredited laboratory. Tables 1 and 3 summarize the chemical analyses for soil and groundwater samples from monitoring wells, respectively. Tables 4 and 5 summarize the target analytical reporting limits.

7.0 SAMPLE HANDLING AND CUSTODY REQUIREMENTS

The following procedures will be used when obtaining soil and/or groundwater samples during the investigation activities.

- Dedicated nitrile gloves will be worn when obtaining each sample, including quality control (QC) samples.
- Soil samples obtained for chemical analysis of gasoline-range petroleum hydrocarbons and VOCs will be obtained using EPA Method 5035A.
- Samples obtained for chemical analysis will be transferred into clean sample containers supplied by the analytical laboratory. Table 6 lists the sample containers to be used.
- Sufficient sample volume will be obtained for the laboratory to complete the method-specific QC analyses on a laboratory-batch basis.
- Sample labels will be completed for each sample following the procedures provided in this section. Immediately after the samples are obtained, they will be stored in a cooler with ice until they are delivered to the analytical laboratory.
- Standard chain-of-custody procedures will be followed for all samples obtained.

7.1 CUSTODY SEALS

Custody seals are signed and dated seals that are affixed to the lid of a shipping container (for example, cooler) and are used to indicate if the container has been opened before it reaches the intended recipient. Custody seals will be attached to containers by GeoEngineers personnel before they are transferred to the chemical analytical laboratory.

7.2 CUSTODY PROCEDURES

Chain-of-custody procedures will be used to track the possession of the samples from the time they are obtained in the field through analysis and final disposition. Each time the samples change hands, both the sender and receiver will sign and date the chain-of-custody record form. A chain-of-custody record form will be used to track possession of the samples and to document the analyses requested. The form will be completed at the end of each sampling day prior to transfer of samples off-site and will accompany the samples during transfer to the laboratory.

When the samples are shipped to the laboratory via common carrier, one copy of the chain-of-custody record form will be retained for project files, and the remaining copies will be enclosed in a plastic bag and secured to the inside of the cooler prior to shipment.

Upon receipt of the samples at the laboratory, the custody seals will be broken, the chain-of-custody form will be signed as received by the laboratory, and the conditions of the samples will be recorded on the form. The original chain-of-custody form will remain with the laboratory, and copies will be returned to the relinquishing party.

8.0 DOCUMENTATION OF FIELD ACTIVITIES

Daily field activities, including observations and field procedures, will be recorded on appropriate forms. The original field forms will be maintained in GeoEngineers' office files. Copies of the completed forms will be maintained in a sequentially numbered field file for reference during field activities. Photographic documentation of field activities will be performed as appropriate.

8.1 SAMPLE DESIGNATION

Each sample obtained during field activities will be identified by a unique sample designation. The sample designation will be included on the sample label. For soil samples, the designation also will be included with the corresponding sample information on the appropriate field log. For groundwater sampling from monitoring wells, the corresponding sample information will be recorded on the monitoring well sampling field sheet. The following sample designation system will be used for this project.

All samples will be assigned a unique identification code based on a consistent sample designation scheme. The sample designation scheme is designed to suit the needs of the field staff, data management and data users. All samples will consist of three components separated by a dash. These components are station code, date and sample interval. The sample designation scheme is as follows:

Station Code	Date	Sample Interval
SSnn	YYMMDD	XXX
MWnn	YYMMDD	W

The three components are described below.

8.1.1 Station Code

The station code component is a four-character code that uniquely identifies each sampling station. The station code component has two parts: a two-letter station designation ("SS" or "MW") followed by a sequential two-digit number component "nn." The two-letter "SS" designation will be determined by how the soil sample was obtained (for example, drilling method, grab) as described below. The sequential "nn" component will begin at 26 (that is, 26, 27, 28) to accommodate samples previously obtained at the Site during previous studies. For groundwater samples, the "MWnn" designation will correspond to the monitoring well number (for example, MW25S).

The station designations are:

- DP – Direct-Push
- SB – Soil Boring using Hollow-Stem Auger (HSA) Drilling Techniques
- TP – Test Pit
- GB – Grab Sample

8.1.2 Date

The date component is a six-character code that presents the date that the sample was obtained in the following format: year, month, day (YYMMDD).

8.1.3 Sample Interval

The sample interval component corresponds to sample depth for soil samples, and is a three-character code that identifies each sampling interval. Soil sample depth determinations will be made to the nearest 0.5 foot, with the depth determination representing *either* the sample collection point (for VOC) *or* the beginning of the sampling interval (that is, 050 will represent the 5- to 5.5-foot interval). For groundwater, a "W" will be used for the sample interval component.

8.1.3.1 Field Quality Control (QC) Samples

Field QC samples will be identified by adding characters to the end of the sample interval field. The following characters are associated with the following field QC sample types:

- TB – VOC trip blank
- DUP – duplicate sample

8.1.4 Examples

Examples of complete sample numbers with descriptions are as follows:

- DP30-080825-020 A field sample collected at station DP30 on August 25, 2008, from 2 to 2.5 feet bgs.
- MW04-080825-W A groundwater sample collected at monitoring well MW04 on August 25, 2008.

Under the sample designation method described above, the identifier will be unique (that is, no two samples will have the same identifier) and informative (that is, location, date and sample interval). This designation scheme will facilitate overall data management and submittal into Ecology's Environmental Information Management (EIM) database.

8.2 SAMPLE LABELING

Sample information will be printed legibly onto the sample labels in indelible ink. Field identification will be sufficient to enable cross-reference with the project logbook.

To minimize handling of sample containers, labels will be completed before sample collection to the extent possible. The label will be filled out completely in the field and attached firmly to the sample container. The sample label will provide the following information:

- GeoEngineers' job number
- Sample designation
- Date of sample collection (month/day/year)
- Time of sample collection (hours: minutes)
- Chemical analyses to be conducted

- Sample preservation, if applicable
- Initials of sampler

8.3 FIELD LOGBOOKS AND DATA FORMS

Field logbooks (or daily logs) and data forms are necessary to document daily activities and observations. Documentation will be sufficient to enable participants to reconstruct events that occurred during the project accurately and objectively at a later time. All entries will be written in ink, dated and signed daily. No pages will be removed from logbooks for any reason. If corrections are necessary, these corrections will be made by drawing a single line through the original entry (so that the original entry is legible) and writing the corrected entry alongside. The correction will be initialed and dated. Corrected errors may require a footnote explaining the correction.

8.4 PHOTOGRAPHS

Documentation of a photograph is crucial to its validity as a representation of an existing situation. The following information will be noted in the field logbook or data forms concerning photographs:

- Date, time and location where photograph was taken
- Photographer
- Description of photograph taken
- Sequential number of the photograph and the film roll number, or sequence in the digital log
- Compass direction

9.0 DECONTAMINATION PROCEDURES

The objectives of decontamination procedures are to minimize the potential for cross-contamination between individual samples, to prevent contamination from leaving the sampling site by way of equipment or personnel and to prevent exposure of field personnel to contaminated materials. This section discusses general decontamination procedures.

9.1 PERSONNEL

Personnel decontamination procedures depend on the level of protection specified for a given activity. The HASP identifies the appropriate level of protection for each type of fieldwork involved in this project, as well as appropriate decontamination procedures.

9.2 SAMPLING EQUIPMENT

Decontamination procedures are designed to remove trace-level contaminants from sampling equipment to prevent cross-contamination of samples. Non-dedicated sampling or measurement equipment, including stainless steel sampling tools, soil sampling equipment and water level measurement instruments, will be decontaminated prior to and after each sampling attempt or measurement by washing with a nonphosphate detergent solution (for example, LiquiNox® and distilled water) and rinsing with distilled water.

10.0 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) generated from the subsurface investigations will be contained in 55-gallon steel drums and temporarily stored in a secured location as designated by the Port. The IDW is

anticipated to consist of soil cuttings, decontamination water, monitoring well development and purge water. The IDW will be separated by media (that is, soil and water) and labeled appropriately. Chemical analytical results from soil and groundwater sample analyses may be used to profile IDW for disposal at an appropriate off-site disposal facility. Solid waste from sampling activities (used gloves, tubing, etc.) will be contained in plastic trash bags and disposed as solid waste.

11.0 QUALITY ASSURANCE PROJECT PLAN

11.1 QUALITY ASSURANCE OBJECTIVES

The general quality assurance (QA) objectives for this project are to develop and implement procedures for obtaining and evaluating data of a specified quality that can be used to assess site conditions and risks. Field QA procedures to be followed include completing all appropriate sample documentation. Measurement data should have an appropriate degree of accuracy and reproducibility; samples obtained should be representative of actual field conditions, and samples should be obtained and analyzed using proper chain-of-custody procedures.

11.2 FIELD QA/QC PROCEDURES

Field QA/QC procedures to be followed include completing all appropriate sample documentation and preservation. One trip blank will be placed in each sample shipping container (for example, cooler) and analyzed for VOCs.

11.2.1 Trip Blanks

The analytical results of field trip blanks will be reviewed to evaluate the possibility for contamination resulting from the laboratory-prepared sample containers or the sample transport containers. Trip blanks will be analyzed at a frequency of one for each shipment of samples containing field samples for chemical analysis of VOCs. The trip blanks will be labeled with a "TB" sample identifier as described earlier in the "Sample Designation" section (Section 8.1) and delivered to the laboratory with the normal shipment of samples.

11.2.2 Sample Preservation and Containers

Samples will be kept in a cooler with ice before and during transport to the laboratory. The sampling extraction and analysis dates will be reviewed to confirm that extraction and analyses were completed within the recommended holding times, as specified by EPA protocol. Appropriate laboratory-assigned data qualifiers will be noted if holding times are exceeded or containers do not contain the appropriate sample preservation. Table 6 summarizes sample preservation and containers.

11.3 LABORATORY QA/QC PROCEDURES

The data quality objectives will be met in the laboratory by using established instrument calibration and sample handling procedures, analysis according to standard analytical methods and analysis of quality control samples. Laboratory quality control will consist of analysis of surrogate spikes, method blanks, duplicates, matrix spikes and matrix spike duplicates and reporting of all data including holding times.

11.3.1 Equipment Calibration Procedures and Frequency

All instruments and equipment used by the laboratory will be operated, calibrated and maintained according to manufacturer's guidelines and recommendations. Operation, calibration and maintenance

will be performed by personnel who have been properly trained in these procedures. A routine schedule and record of instrument calibration and maintenance will be kept on file at the laboratory.

11.3.2 Analytical Procedures

Samples will be analyzed according to analytical methods listed in Tables 1, 3, 4 and 5. EPA standard analytical methods are specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846* (through update III), dated December 1996. Washington analytical methods for petroleum hydrocarbons are specified in the Model Toxics Control Act (MTCA) regulations, as outlined in Washington Administrative Code (WAC) 173-340.

11.3.3 Laboratory QA/QC Samples

Laboratory QC samples will be analyzed at a frequency of 5 percent (1 in 20) on a laboratory batch basis. Laboratory QC samples will consist of duplicates, method blanks, matrix spikes and matrix spike duplicates. In addition, each organic analysis will include addition of surrogate compounds to the sample for surrogate spike analysis.

11.3.4 Laboratory Deliverables

The following information will be provided in the laboratory reports submitted for this project:

- Transmittal letter, including information about the receipt of samples, the testing methodology performed, any deviations from the required procedures, any problems encountered in the analysis of the samples, any problems meeting the method holding times or laboratory control limits, and any corrective actions taken by the laboratory relative to the quality of the data contained in the report.
- Sample analytical results, including sampling date, date of sample extraction or preparation, date of sample analysis, dilution factors and test method identification; soil sample results in milligrams per kilogram (mg/kg), micrograms per kilogram (µg/kg) or nanograms per kilogram (ng/kg); and detection limits for undetected analytes. Results will be reported for all field samples, including field duplicates and blanks submitted for analysis.
- Method blank results, including reporting limits for undetected analytes.
- Surrogate recovery results and corresponding control limits for samples and method blanks (organic analyses only).
- Matrix spike/matrix spike duplicate and/or blank spike/blank spike duplicate spike concentrations, percent recoveries, relative percent differences and corresponding control limits.
- Laboratory duplicate results for inorganic analyses, including relative percent differences and corresponding control limits.
- Sample chain-of-custody documentation.

The raw analytical data, including calibration curves, instrument calibration data, data calculation work sheets and other laboratory support data for samples from this project, will be compiled and kept on file at the laboratory's office for reference.

11.4 REVIEW OF FIELD AND LABORATORY QA/QC DATA

The sample data, field and laboratory QA/QC results will be evaluated for acceptability with respect to the RI data quality objectives (DQOs). Each group of samples will be compared with the DQOs and

evaluated using data validation guidelines contained in the following documents: *Guidance Document for the Assessment of RCRA Environmental Data Quality*, draft dated 1988 and *National Functional Guidelines for Organic Data Review*, draft 1999. To accomplish data evaluation, the criteria listed in the following subsections will be assessed.

11.5 PRECISION, ACCURACY AND COMPLETENESS

11.5.1 Precision

Precision is a measure of data variability. Variability can be attributed to sampling activities and/or chemical analysis. Relative percent difference (RPD) is used to assess the precision of the sampling and analytical method and is calculated as follows.

RPD = 100[(Xs - Xd)/(Xs + Xd)]/2

where

RPD	=	relative percent difference
Xs	=	sample analytical result
Xd	=	duplicate sample analytical result

11.5.2 Accuracy

Accuracy is a measure of the error between chemical analytical results and the true sample concentrations. Accuracy is a measure of the bias in a system and will be expressed as the percent recovery of spiked samples. The accuracy will be presented as percent recovery and will be calculated as follows.

PR = 100(Xss - Xs)/T

where

PR	=	percent recovery
Xss	=	spike sample analytical result
Xs	=	sample analytical result
T	=	known spike concentration

11.5.3 Completeness

Completeness is evaluated to assess whether a sufficient amount of valid data is obtained. Completeness is described as the ratio of acceptable measurements to the total planned measurements. Completeness is calculated as follows.

C = (Number of samples having acceptable data)/
(total number of samples analyzed) x 100%

where

C	=	completeness

11.6 REPORTING, DOCUMENTATION, DATA REDUCTION AND CORRECTIVE ACTION

Upon receipt of each laboratory data package, data will be evaluated against the criteria outlined in the previous sections. Any deviation from the established criteria will be noted and the data will be qualified, as appropriate. A review and discussion of analytical data QA/QC will be submitted in a report to be attached to the RI report. Data validation procedures for all samples will include checking the following, when appropriate.

1. Holding times
2. Detection limits
3. Field equipment rinseate blanks
4. Laboratory blanks
5. Laboratory matrix spikes
6. Laboratory matrix spike duplicates
7. Laboratory blank spikes
8. Laboratory blank spike duplicates
9. Surrogate recoveries

If significant quality assurance problems are encountered, appropriate corrective action as determined by GeoEngineers' project manager and/or the chemical analytical laboratory will be implemented as appropriate. All corrective action will be defensible, and the corrected data will be qualified.

Spatial information collected during the field event will be analyzed and displayed using ArcGIS 9.1 and EQUIS 3 to manage the chemical analytical data.

12.0 REFERENCES

Ecology (Washington State Department of Ecology). June 2004. *Collecting and Preparing Soil Samples for VOC Analysis – Implementation Memorandum #5.* Publication 04-09-087.

Ecology. April 2003. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. Publication 90-53.

Ecology. February 2001. *Model Toxics Control Act, Chapter 173-340*, Washington State Department of Ecology Toxics Cleanup Program, Olympia, Washington.

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses								Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
				NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]		
1. Additional characterization is needed to define the extent of soil contamination at the site. The aerial and vertical extent of soil contamination needs to be further defined in the vicinity of DP02 and DP04 (including westward beneath Jefferson Street and on adjacent offsite parcels if necessary) and north of DP18.	TPH-D, TPH-MO, arsenic, and cadmium in the 2-6 feet interval were the only COPC exceedances at DP04. These COPCs have been delineated laterally in this interval to the northeast and south with MW08 and DP03, respectively. A new soil boring will be advanced northwest of DP04 to complete the lateral delineation of COPC screening level exceedances in the 2-6 feet interval. Soil samples will also be obtained from beneath existing railroad tracks to be removed during infrastructure construction activities. The railroad tracks are currently embedded in the asphaltic pavement along Jefferson Street and we expect that the section beneath the pavement will consist of railroad ties supporting the rail and ballast material (typically 3 feet of crushed rock) supporting the ties. Soil samples will be collected at the soil/ballast interface. We will analyze soil collected beneath the ballast material for cPAHs (using EPA Method 8270C), TPH, and metals to assess potential residual soil contamination associated with the ties.	DP37	0-2										
			2-6	x [a]	X	X	x		x	X			light sand fill
			6-10	X	X	X	x			X			dark sand fill
	TPH-MO in the 2-6 feet interval was the only significant COPC exceedance at DP02. This COPC has been delineated laterally in this interval to the north and southeast with DP03 and DP16, respectively. A new soil boring will be advanced southwest of DP02 to complete the lateral delineation of the TPH-MO screening level exceedance in the 2-6 feet interval. A sample from 10 to 14 feet from the monitoring well boring for MW25S will be tested for TPH-MO to evaluate the vertical extent of this COPC identified in previous samples from DP02. Proposed shallow screen interval for MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04. Soil samples from below the railroad tracks will also be collected and analyzed from DP38 and analyzed for PAHs. PAHs will be tested in sample from 10 to 14 foot depth interval in the boring for MW25S to evaluate the vertical extent of this COPC identified previously at DP02 and DP16. One sample from DP38 will be tested for dioxins/furans to evaluate soil within the infrastructure corridor.	DP38	1-3				x		x				
			4-6	x	X	X	x	x	x		x		light sand fill
			6-10	X	X	X	x	x	x		x	9	Silt or dark sand fill
		MW25S	0-2										
			2-6										
			6-10	x	X	X	X		X				Silt or dark sand fill
			10-14	x	X	X	X		x				Silt or dark sand fill
	TPH-MO in the 10-14 feet interval was the only significant potential COPC exceedance at DP18. This COPC has been delineated latreally in the vadose zone and saturated zone with MW03, MW16, and DP17 but has not been delineated laterally north of DP18. Soil samples from the boring for MW23S will provide this information. Proposed screen interval for MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18. TPH-MO will be tested in MW-23S at the 6 to 10 and 10 to 14 foot intervals to evaluate the vertical extent of TPH-MO identified previously at DP18.	MW23S	0-2										
			2-6										
			6-10	x [a]	X	X	X		X				light sand fill
			10-14	x	X	X	X		X				light sand fill
2. Additional characterization is needed to define the extent of soil contamination at the site. The vertical extent of contamination needs to be defined in the vicinity of DP06 and DP08.	TPH-G in the 2-6 feet interval was the only significant potential COPC exceedance at DP06 and needs to be defined at depth and to the south. TPH-D and TPH-MO in the 2-6 feet interval were the only significant potential COPC exceedances at DP08. TPH-D and TPH-MO exceedance was identified in the 2-6 feet interval in DP-13. The vertical extent of gasoline, diesel and oil contaminated soil has been delineated with DP24, DP15, DP14, MW-5, MW-8 and MW-10. MW24S, along with the other proposed and existing wells, will be used to evaluate the leaching to groundwater pathway via empirical demonstration per WAC 173-340-747(9) an (10)(c). Proposed shallow screen interval for MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	MW24S	4-6	X	X	X	X		X				
			6-10	X	X	X	X		X				
	Evaluate lateral extent of TPH-D and MO identified previously at DP08 and DP13. Evaluate lateral extent of gasoline exceedance at DP08 and DP13.	DP39	0-2	X	X	X	X		X				
			2-6	x [a]	X	X	X		X				dark sand fill
	Lateral and vertical extent of dioxins/furans by TP03. Evaluate thickness of pre-1891 fill. Collect data to support management of soil that will be excavated as part of the infrastructure improvements. DP40 will also help evaluate the extent of diesel and oil contamination previously observed in DP13 and DP08 at 2-6 feet.	DP40	0-2	x	X	X	x	x	x				light sand fill
			2-4	x	X	X	x	x	x		x		light sand fill
			4-6	x	X	X	x	x	x		x	3.5	dark sand fill
3. Additional characterization is needed to define the extent of soil contamination at the site. The aerial extent of contamination has not been defined in the vicinity of MW19.	TPH-G in the 2-6 feet interval was the only potential COPC exceedance at MW19. Two soil borings (DP28 and the boring for MW21s) will be located near MW19 to evaluate the aerial extent of the screening level exceedance of TPH-G at MW19 in the 2-6 feet interval. The proposed screen interval (2 to 7 feet bgs) for MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19. Moreover, a soil boring advanced to the west of MW19 in response to Ecology Comment #7 (i.e. DP27) will also be sampled for TPH-G in the 2-6 feet interval to provide lateral delineation to the west. To address Ecology comment 7, if evidence of burned wood or ash is observed in boring DP28, which is located on the northern edge of parcel 1 near the former Refuse Fire Area, a sample of this material will be analyzed for dioxins and furans.	DP28	0-2	X	X	X	X						
			2-6	X	x	X	X						light sand fill
		MW21S	0-2										
			2-6		x [a]								light sand fill

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
4. Additional characterization is needed to define the extent of soil contamination at the site. Area of Concern (AOC) #16 (pad mounted transformer) needs to be evaluated. Soil samples should be collected from this area for petroleum hydrocarbons and PCBs. The location of well MW04 does not appear to be close enough to this AOC to be adequate.	One new boring will be advanced and sampled within AOC 16 as recommended by Ecology. The targeted depth for the soil sample collected from this boring is the elevation of the former transformer pad located in AOC 16. The sample from this boring will be analyzed for PCBs and mineral oil range petroleum hydrocarbons (NWTPH-Dx).	DP35	0-2										
			2-6	x						x			gravel fill
5. Parcel 1 needs to be assessed. AOCs #43 through 48 and #50 have not been adequately assessed. Also, the northern portion of Parcel 1 needs to be assessed.	The first sentence of this comment does not apply because the East Bay Redevelopment Project Area only includes the northwest portion of Parcel 1. A new boring (DP36) located in the right-of-way of Olympia avenue adjacent to the northwest portion of Parcel 1will address Ecology's concern regarding the northern portion of Parcel 1. However, the primary purpose of this boring is to evaluate soil conditions to assist in planning of future infrastructure improvements in this area and evaluate residual concentrations of COPCs in an area where historical sources were not located.	DP36	1-3					x					gravel fill
			2-6	x	x	X	x	X					silt
			6-10					X				9	silt
6. Additional characterization of dioxins/furans is needed. As shown in the report, concentration of dioxins/furans that exceed the MTCA Method B Soil Cleanup Level of 11 nanograms per kilogram (ng/kg) or parts per trillion (ppt), expressed as a Total Toxicity Equivalency Factor (TEF), were observed at all four locations tested for this constituent. The reported TEF values from these locations range from 57.9 to 645 ng/kg. Because the highest concentration (TP02) is near the east property line and near an adjacent public walking path and grassy area, additional samples for dioxins/furans should be collected in this adjacent area. Also, an analysis of wind direction should be performed to help predict locations that may show higher dioxin concentrations.	New boring DP33 will provide vertical profile of dioxins/furans concentrations near TP2. Selection of sample locations based on prediction of wind direction is not necessary because the proposed dioxins/furans sample locations (as outlined in this table) provide spatial coverage across the site.	DP33	0-2					x	x	x			gravel fill
			2-4				x	x	x		x		gravel fill
			4-6				x	x	x				light sand fill
			6-8					x				9	light sand fill
7. Additional characterization of dioxins/furans is needed. Parcel 7 is located adjacent to the Refuse Fire Area (Area of Concern #1), which is a potential source of dioxins/furans contamination. Additional soil samples for dioxins/furans analyses should be performed in Parcel 7. These samples will provide additional dioxins/furans data for the site and may help to determine whether AOC #1 was a source.	Additional samples which address Ecology's comment 7 will be collected and tested for dioxins/furans from a boring advanced near AOC 1 (DP27) and a boring advanced at the northern edge of Parcel 7 (DP28). In addition, DP27 will be sampled for TPH-G to address gasoline contamination identified in soil at MW-19 (see response to Ecology Comment #3). Samples from boring DP27 will also be analyzed for PAHs to evaluate the lateral and vertical extent of cPAHs identified in soil samples from MW-20, near the Refuse Fire Area. Note that Parcel 8, which is adjacent to the northwest portion of the Site, is being addressed by LOTT Alliance through Ecology's Voluntary Cleanup Program.	DP27	0-2					x	x	x			light sand fill
			2-4		x	X	x	x	x		x		light sand fill
			4-6				x	x	x		x		silt
			6-8				x	x				3	silt

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
8. Additional characterization of dioxins/furans is needed. Section 4.3.1 states that "dioxin testing appears to indicate that the historical working surface (depth of about 2 feet below existing grade) is impacted." Please provide more detail on what is meant by "historical working surface" and how it is distinguished. According to the Supplemental Site Use History report, the boiler house (AOC #17) operated circa 1932 and the power house (AOC #22-24) operated from at least 1941 through 1958. Was 2.0 feet below current grade the historical grade for these facilities? If so, what evidence is there for this? Dioxin samples were collected at the 2.0 foot depth at AOC #17, at the 3.5 depth at AOC #22-24, and at the 1.5 and 2.0 foot depths at the two randomly selected locations. It is recommended that additional samples be collected at AOC #17 so that a concentration verses depth profile can be determined.	The "historical working surface" is the sometimes woody and compacted historical grade where industrial buildings were located and operations were conducted on the property prior to later filling and grading. Based on our review of historical information the working surface is located about 1 to 4 feet below existing grade, however it can be difficult to identify in borings due to similarity in lithology of fill in this depth interval. Because of Ecology's questioning of the historical working surface and difficulty in determining its exact location in borings, a more appropriate rationale for the location of explorations where vertical profiles for dioxins/furans testing is as follows:1) complete a profile (DP33) adjacent to previous sample with high dioxins concentrations (TP02) and 2) complete a profile that represents temporal fill sequences.	See DP 33 (Comment 6) and borings and "Additional Explorations" rationale below.										
9. Additional characterization of groundwater contamination, flow direction, and gradient is needed. Groundwater monitoring wells MW-1 through MW·11 and MW-14 were installed with their screened interval submerged below the water table. Wells that monitor for light non-aqueous phase liquids (LNAPL, such as petroleum hydrocarbons) should be completed so that their screen straddles the water table. Therefore, to accurately evaluate whether groundwater is contaminated from LNAPL constituents, it will be necessary to install additional groundwater monitoring wells with screens that extend above the water table at selected locations where the existing monitoring wells are not adequate. Please present your proposed new well locations to us for review and approval.	Given the general lack of dissolved-phase petroleum constituent detections in the groundwater samples collected from existing MWs (as well as the relatively low TPH soil concentrations detected in soil samples collected from areas with suspected hydrocarbon contamination), it is unlikely that the typical placement of the screened intervals straddling the water table would result in measurable LNAPL thicknesses or even a screening level TPH exceedance at any MW at this site. Nonetheless, five shallow MWs (MW21S through MW25S) with screens straddling the water table are proposed to address this comment. MW21S and MW24S are discussed in the responses to Ecology Comments #2 and #3, respectively. Proposed MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06. MW23S and MW25S are discussed in the response to Ecology Comment #1. This Ecology comment is further addressed by in the Groundwater Monitoring Plan. Based on recent comments from Ecology (9/22/08 Ecology comment letter and subsequent discussion), because artesian wells at the Site may be influencing shallow groundwater, an attempt will be made to locate and decommission or otherwise mitigate leakage from the artesian wells. If the artesian wells are found and decommissioned, water levels and the need for shallow monitoring wells will be reevaluated.	MW22S	No analysis of soil samples unless field observations indicate the presence of contamination. Anticipated screened interval is 1-6 feet bgs.									
Additional Explorations													
Additional explorations to evaluate the nature and extent of contamination, including dioxins/furans. These explorations will provide data related to: a) regional area background concentrations of dioxins/furans and metals not related to a site release, b) management of soil that will be excavated as part of the infrastructure improvements, and c) evaluation of COPC distribution in different fill types and spatial coverage related to general extent of COPCs.	Evaluate extent of lead and PAHs at DP11.	DP29	0-2						x				light sand fill
			2-6				x						silt or gravel
			6-10				x						silt or gravel
			10-14						x				silt or gravel
	Evaluate dioxins/furans in fill (1891 to 1908 time interval), evaluate dioxins/furans in soil within the infrastructure corridor, and provide additional sampling data for parcel 9.	DP30	0-2				x	x					light sand fill
			2-4				x	x	x				light sand fill or silt
			6-8				x	x (if silt)				9	light sand fill or silt

TABLE 1
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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration	Sampling Depth Interval (ft bgs)[1]	Soil Analyses								Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
		Boring (DP) Well (MW)		NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]		
	Locations DP31 and DP41 are selected to obtain dioxins/furans data from soil not associated with any AOC source. This data will be used to evaluate dioxins/furans concentrations related to regional dioxin sources and regional background levels as it is possible that detected concentrations of dioxins/furans and metals in soil samples collected to date are attributable to an area or regional background rather than a site release. DP31 is located on parcel 6 in an area where no historical sources (AOCs) were located and the underlying fill is from the 1948 to 1975 time period. DP41 is located on parcel 2 in an area where no historical sources (AOCs) were located and the underlying fill is from the post 1975 time period.	DP31	0-2					x					light sand fill
			2-6	x			x	x					light sand fill
		DP41	0-2					x					gravel fill
			2-6				x	x					silt
	Evaluate dioxins/furans in post-1975 fill within the infrastructure corridor. These data will assist with evaluating background conditions as well as inform waste characterization and disposal associated with the excavated infrastructure corridor soils.	DP32	0-2					x			x		gravel fill
			2-6				x	x	x		x		gravel fill
			6-9					x				9	gravel fill
	Evaluate dioxins/furans in fill (1891 to 1908 time interval) near infrastructure corridor and on Parcel 4.	DP34	0-2					x					light sand fill
			2-6	X	X	X	x	x	x		x		light sand fill
			8-10	X	X	X	x	x	x			10	light sand fill or gravel
	These borings are located on Parcel 4 and the locations were selected to gather information to support soil characterization during construction activities associated with the Children's Hands on Museum.	DP26	0-2				X	x	X				light sand fill
			2-6					x	X				silt or light sand fill
			6-10				X	X					
		DP42	0-2				X	x					gravel fill
			2-6				X	x					light sand fill
			6-10				X	X					

Notes:

Blank boxes (no X) indicate that soil samples will be collected from the specified depth intervals and held for potential analyses by the analytical laboratory

Shaded cells indicate explorations and samples that will be collected in first phase of investigation

[1] Samples will be collected approximately every 2 feet in soil borings for field screening and potential chemical analyses. Discrete soil samples will be obtained from within the depth intervals shown in this column (rather than composite samples.) The depth ranges represent the intervals that a sample will be analyzed for the COPCs identified in the Soil Analyses columns. Additional samples may be analyzed if field observations indicate the presence of contamination.

[2] The metals listed; arsenic, cadmium and lead, represent metals that had concentrations exceeding screening levels in one or more locations. Some soil samples collected from the infrastructure corridor may also be analyzed for "RCRA 8" metals to provide data needed by soil disposal facilities. The RCRA metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium & silver.

[3]TOC= total organic carbon. TOC and other physical soil properties such as grain size may also be analyzed at various locations for the possibility of establishing site specific Method B cleanup levels.

[a] Also analyze for EPH.
[b] Also analyze for total organic carbon
x = sample collected for analytical testing. Red X = additional analytical testing requested by Ecology in it's September 22, 2008 comment letter.
As = Arsenic, Cd = Cadmium, Pb = Lead
PCBs = Polychlorinated biphenyls
HCID = Hydrocarbon Identification test (NWTPH-HCID)
NWTPH-Dx = Diesel-range and motor oil-range total petroleum hydrocarbons
TPH-MO = motor oil-range petroleum hydrocarbons
D/F = Dioxins and furans
NWTPH-G = Gasoline-range total petroleum hydrocarbons

TABLE 2
PROPOSED NEW MONITORING WELL RATIONALE
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				Existing Well Data[2]		
Well I.D.	**Purpose**	**Installation Method/Well Diameter**	**Proposed Well Screen Interval (BGS-feet)[1]**	**Nearest Existing well**	**Highest DTW**	**Lowest DTW**
MW21s	MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19.	Direct push/1-inch	2 to 7	MW19	3.47	3.78
MW22s	MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06.	Direct push/1-inch	1 to 6	MW6	0.84	1.14
MW23s	MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18.	Direct push/1-inch	4 to 9	MW16	5.41	6.35
MW24s	MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	Direct push/1-inch	2.5 to 7.5	MW10	3.48	3.8
MW25s	MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04	Direct push/1-inch	2 to 7	MW7 and MW8	5.0 & 2.55	5 & 2.62

Notes:

Based on recent comments from Ecology, because artesian wells at the Site may be influencing groundwater levels, an attempt will be made to locate and decommission the artesian wells. If the artesian wells are found and decommissioned, the need for shallow monitoring wells will be reevaluated.

[1]Across water table with one foot of screen above predicted high water table elevation and four feet of screen below this elevation, subject to approval by Ecology and issuance of well construction variance.

[2] Based on depth to water measurements collected August 2007 and July 2008 during low and high tides.

bgs=below ground surface

DTW = depth to water in feet as measured from top of well casing. Top of well casings for referenced wells is approximately at ground surface.

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TABLE 3
PROPOSED GROUNDWATER MONITORING AND CHEMICAL ANALYTICAL TESTING PLAN
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Well No.[3,4,5]	Associated Historic Source Area/Concern and Contaminant of Potential Concern (COPC)	Past Groundwater Monitoring and Sampling Events												Proposed Future Groundwater Monitoring									
		Last Sampling Events			Chemical Analytical Testing Completed									Physical Parameter Monitoring		Chemical Analytical Testing Proposed							
		Jan-07	Jun-07	Aug-07	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs	Total PP Metals	SVOCs (and PAHs)[6]	PCBs[7]	Dioxins/Furans[8]	Previous Exceedance of Screening Level (MTCA A or B)	Depth to Water	Conductivity, pH, ORP, Turbidity, DO, Salinity, Fe^{2+} (using a Horiba U-10 flow through cell)	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs (BETX and HVOCs)	Total RCRA Metals	PAHs[6]	PCBs[7]	Dioxins/Furans[8]
MW01	Oil House (TPH)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW02	Machine Shops (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x [1]	x	--	--
MW03	Tar Dipping Tank (TPH, PAHs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW04	Near former Transformers (PCBs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	x	--
MW05 [2]	Power House Area (TPH, metals, VOCs, D/F)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	x	x
MW06	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW22s (if MW22s is not installed, MW06 wil be sampled for parameters planned for MW22s)							
MW07	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW08	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW09	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW10	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW24s (if MW24s is not installed, MW10 wil be sampled for parameters planned for MW24s)							
MW11	None: downgradient from offsite gasoline station	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW12 [2]	Power House Area (TPH, metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW13	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic, diesel**	x	x	x	x	x	x	x [1]	x	--	--
MW14	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	N	N	N	N	N	N	N	N	N	N/A	x	x	x	x	x	x	x	x	--	--
MW15 [2]	None	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW16 [2]	Boiler House Area (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	x (tested Aug-08)
MW17	Shops (TPH, PAHs, Metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	--	--
MW18 [2]	None: downgradient well near Marine View Drive	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW19	Panel Oiling (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW21s (if MW21s is not installed, MW19 wil be sampled for parameters planned for MW21s)							
MW20	Refuse Fire Area (TPH, metals, PAHs, D/F)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
Proposed Wells and/or Sampling Locations																							
MW21s (paired with MW19)[9]	Panel Oiling (TPH, PAHs)													x	x	x	x	x	x	x	x	--	--
MW22s (paired with MW06)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW23s (paired with MW16)[9]	Boiler House Area (TPH, PAHs)													x	x	x	x	x	--	--	--	--	--
MW24s (paired with MW10)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW25s (no pairing)	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
Seep 1[10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 2 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 3 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 4 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--

Notes:

[1]Dissolved metals to be tested in addition to total metals at locations where metals exceedances have been measured. Also test these samples for aluminum and iron (Al and Fe^{3+}) to represent suspended clay particles. Results to potentially be used for evaluating sorption of COPCs.

[2]MW05, MW12, MW16 and MW18 are downgradient wells between the subject property and East Bay. These wells will be considered for potential future compliance wells.

[3]MW04, 05, 06, 07, 08, 10 were sampled and tested July 13, 2007 for diesel-range hydrocarbons only.

[4]MW01 through MW10 were installed in January 2007. MW11 through MW20 were installed in July and August 2007.

[5]MW14 was not sampled in 2007 because other monitoring wells surrounding MW14 were sampled and tested.

[6]Note on SVOCs. The only SVOC exceedances were cPAHs, therefore only cPAHs will be analyzed, rather than the full SVOC list.

[7]Note on PCBs. PCBs have not been detected in any of the groundwater samples obtained from MW01 through MW20 at the site; nor have they been detected above soil screening levels. Therefore PCBs will only be tested at locations where low level detections of PCBs were detected in soil on Parcel 3 and near the former transformer location (MW04).

[8]Note on Dioxins/Furans. Dioxin/Furans were not detected in a groundwater sample obtained and tested from MW16 in August 2008. Dioxin sampling and testing approach is based on obtaining samples from potential source area wells that are also downgradient compliance wells (MW05 and MW16). If dioxins/furans are detected in groundwater at MW05 or MW16, then additional testing will be conducted at the other compliance wells (MW04, MW11, MW12

[9]This well will not be installed if water levels drop sufficiently after the artesian wells are decommissioned if the existing paired monitoring well screen is not totally submerged.

[10]Water from this seep area will only be sampled if it is determined to represent groundwater (see Section 5.4.2 of Sample and Analysis Plan)

x = sample collected for analytical testing
Y = Yes; N = No; NA = not applicable; "--" = Not tested
TPH-Gasoline by Ecology Method NWTPH-Gx
TPH-Diesel and Oil by Ecology Method NWTPH-Dx
VOCs (volatile organic compounds) by EPA Method 8260B
RCRA Metals (As, Ba, Cd, Cr, Pb, Ag, Se, Hg) by EPA Methods 6000/7000
PAHs (polycyclic aromatic hydrocarbons) by EPA Method 8270sim
PCBs (polychlorinated biphenyls) by EPA Method 8082
Dioxins/Furans by EPA Method 1613B
ORP = Oxidation Reduction Potential
DO = Dissolved Oxygen
Fe = Iron
Al = Aluminum
COPCs = contaminants of potential concern

TABLE 4
SOIL ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1]	
		Target Reporting Limits	Analytical Method
Total Petroleum Hydrocarbons			
Gasoline-Range	mg/kg	5.0E+00	NW-TPH-Gx
Diesel-Range	mg/kg	5.0E+00	NW-TPH-Dx
Oil-Range (including Mineral O	mg/kg	1.0E+01	NW-TPH-Dx
Metals			
Arsenic	mg/kg	5.0E+00	6010B ICP
Cadmium	mg/kg	2.0E-01	6010B ICP
Lead	mg/kg	2.0E+00	6010B ICP
Volatile Organic Compounds[2]			
BTEX	mg/kg	1.0E-03	EPA 8260B
Semivolatile Organic Compounds[2]			
SVOCs	mg/kg	6.7E-02	EPA 8270
4-Chloro-3-methylphenol	mg/kg	3.3E-01	EPA 8270
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	mg/kg	5.0E-03	EPA 8270D SIM
Polychlorinated Biphenyls[2]			
Total PCBs	mg/kg	4.0E-03	8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	mg/kg	5.0E-07	1613/8290
2,3,7,8-TCDF	mg/kg	5.0E-07	1613/8290
-Penta, Hexa, Hepta	mg/kg	2.0E-06	1613/8290
-Octa	mg/kg	5.0E-06	1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

mg/kg = milligrams per kilogram
SVOCs = Semivolatile Organic Compounds
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TCDF = Tetrachlorinated Dibenzofurans
PCBs =Polychlorinated Biphenyls
BTEX = benzene, toluene, ethylbenzene, and xylenes
PAHs = Polycyclic Aromatic Hydrocarbons

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TABLE 5
GROUNDWATER ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1] Target Reporting Limits	Analytical Method
Petroleum Hydrocarbons			
Gasoline-Range	mg/L	0.03	NWTPH-G
Diesel-Range	mg/L	0.25	NW-TPH-Dx
Oil-Range	mg/L	0.50	NW-TPH-Dx
Si/Acid Cleaned TPH-D	mg/L	0.25	NW-TPH-Dx
Si/Acid Cleaned TPH-O	mg/L	0.50	NW-TPH-Dx
Metals *(Total or Dissolved)*			
Arsenic	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Barium	mg/L	0.01	EPA 6020/200.8 ICP-MS
Cadmium	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Chromium	mg/L	0.0005	EPA 6020/200.8 ICP-MS
Lead	mg/L	0.001	EPA 6020/200.8 ICP-MS
Mercury	mg/L	0.00002	EPA 7470 GFAA & CVAA
Selenium	mg/L	0.1	EPA 6020/200.8 ICP-MS
Silver	mg/L	0.02	EPA 6020/200.8 ICP-MS
Volatile Organic Compounds[2]			
VOCs	µg/L	1.0	EPA 8260B (5 mL purge)
Methylene Chloride	µg/L	2.0	EPA 8260B (5 mL purge)
Acetone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Butanone	µg/L	5.0	EPA 8260B (5 mL purge)
Vinyl Acetate	µg/L	5.0	EPA 8260B (5 mL purge)
4-Methyl-2-Pentanone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Hexanone	µg/L	5.0	EPA 8260B (5 mL purge)
Tetrachloroethene	µg/L	0.2	EPA 8260B (20 mL purge)
1,1,2-Trichlorotrifluoroethane	µg/L	2.0	EPA 8260B (5 mL purge)
Acrolein	µg/L	50	EPA 8260B (5 mL purge)
1,2-Dibromo-3-Chloropropane	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichloropropane	µg/L	2.0	EPA 8260B (5 mL purge)
trans-1,4-Dichloro-2-Butene	µg/L	5.0	EPA 8260B (5 mL purge)
Hexachlorobutadiene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,4-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Naphthalene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Semivolatile Organic Compounds[2]			
SVOCs	µg/L	1.0	EPA 8270D
Benzyl Alcohol	µg/L	5.0	EPA 8270D
N-Nitroso-Di-N-Propylamine	µg/L	5.0	EPA 8270D
Hexachloroethane	µg/L	2.0	EPA 8270D
2-Nitrophenol	µg/L	5.0	EPA 8270D
Benzoic Acid	µg/L	10	EPA 8270D
bis(2-Chloroethoxy) Methane	µg/L	1.0	EPA 8270D
2,4-Dichlorophenol	µg/L	5.0	EPA 8270D
1,2,4-Trichlorobenzene	µg/L	1.0	EPA 8270D
Naphthalene	µg/L	1.0	EPA 8270D
4-Chloroaniline	µg/L	5.0	EPA 8270D
4-Chloro-3-methylphenol	µg/L	5.0	EPA 8270D
Hexachlorocyclopentadiene	µg/L	5.0	EPA 8270D
2,4,6-Trichlorophenol	µg/L	5.0	EPA 8270D
2,4,5-Trichlorophenol	µg/L	5.0	EPA 8270D
2-Nitroaniline	µg/L	5.0	EPA 8270D
3-Nitroaniline	µg/L	5.0	EPA 8270D
2,4-Dinitrophenol	µg/L	10	EPA 8270D
4-Nitrophenol	µg/L	5.0	EPA 8270D
2,6-Dinitrotoluene	µg/L	5.0	EPA 8270D
2,4-Dinitrotoluene	µg/L	5.0	EPA 8270D
4-Nitroaniline	µg/L	5.0	EPA 8270D
Pentachlorophenol	µg/L	5.0	EPA 8270D
3,3'-Dichlorobenzidine	µg/L	5.0	EPA 8270D
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	µg/L	0.01	8270M GC/MS Low Level
Polychlorinated Biphenyls			
Total PCBs	µg/L	0.01	EPA 8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	µg/L	0.000005	EPA 1613/8290
-Penta, Hexa, Hepta	µg/L	0.000025	EPA 1613/8290
-Octa	µg/L	0.00005	EPA 1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

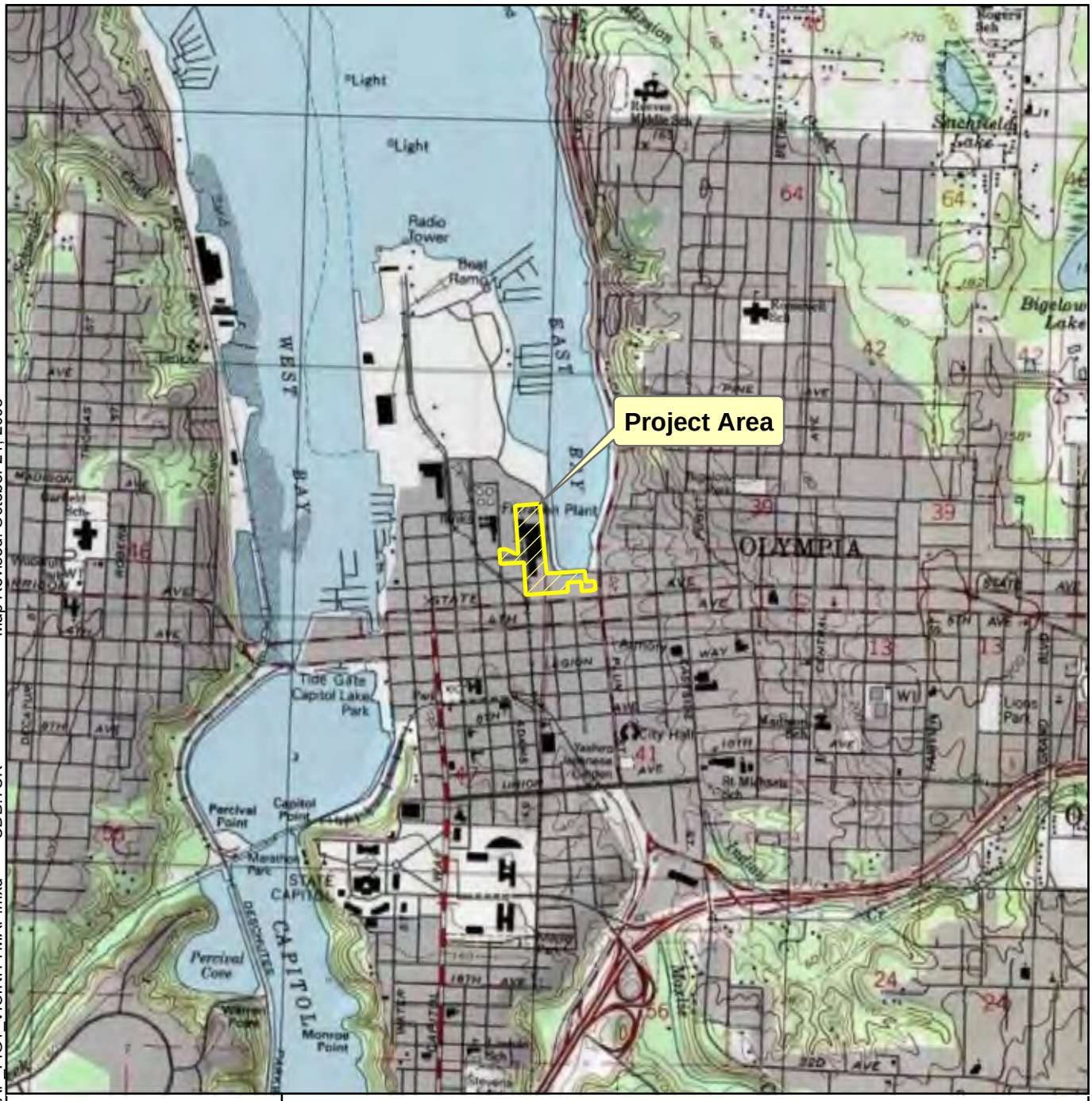
mg/L = milligrams per liter
µg/L = micrograms per liter
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TPH-O = Oil-range Petroleum Hydrocarbons
TPH-D = Diesel-range Petroleum Hydrocarbons
SVOC = Semivolatile Organic Compound
VOCs = volatile organic compounds
PCB = Polychlorinated Biphenyls
PAHs = polycyclic aromatic hydrocarbons

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TABLE 6
SAMPLE CONTAINERS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

		Soils				Waters			
Analysis	Method	Minimum Sample Size	Sample Containers	Sample Preservation	Holding Times	Minimum Sample Size	Sample Containers	Sample Preservation	Holding Times
Diesel Range Hydrocarbons	NWTPH-Dx	100 g	8 or 16 oz amber glass wide-mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4 C, HCl to pH < 2	14 days to extraction 40 days from extraction to analysis
Gas Range Hydrocarbons	NWTPH-G	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
VOC	SW-846 8260B	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
Metals (including Mercury)	SW-846 6010/6020 SW-846 7470/7471	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	180 days/ 28 days for Mercury	500 mL	1 L poly bottle	HNO_3 - pH<2 (Dissolved metals preserved after filtration)	180 days (28 days for Mercury)
SVOCs (PAHs)	SW-846 8270C	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCB	SW-846 8082	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCDD/PCDF	SW-846 8290	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	30 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	30 days to extraction 40 days from extraction to analysis

Note:
Holding Times are based on elapsed time from date of collection
VOC = Volatile Organic Compounds
SVOC = Semivolatile Organic Compound
PCDD = Polychlorinated Dibenzo-p-dioxins
PCDF = Polychlorinated Dibenzofurans
PCB =Polychlorinated Biphenyls
HCl = Hydrochloric Acid
HNO_3 = Nitric Acid
oz = ounce
mL = milliliter
L = liter
g = gram



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.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: Interstates, state routes, and roads from TIGER 2000. County boundaries, cities, and waterbodies from Department of Ecology. U.S. topographic map from National Geographic Society.

Lambert Conformal Conic, Washington State Plane North, North American Datum 1983

Vicinity Map

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 1

Office: TAC Path: P:\0\061503402\GIS\061503407_SAP_FIG1_VICINITYMAP.mxd CDB:TCK Map Revised: October 21, 2008

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG2_EXPLOR_LOC.mxd CDB:TCK Map Revised: October 21, 2008



Proposed Direct-Push Boring Location

Phase 1 Explorations

Test Pit (GeoEngineers, Inc. - Oct. 2007)

Direct-Push Boring (GeoEngineers, Inc. - Sept. 2006, Jan. & July 2007)

Direct-Push Boring (Brown and Caldwell - Nov. 2006, Jan. & Feb. 2007)

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

Direct-Push Boring (Northwest Testing Company, Oct. 2006)

Cone Penotrometer Test (Landau - May 2007)

Boring (Landau - May 2007)

N W E S

150 0 150

Feet

Reference: Aerial photograph (dated April 2008) and Approximate Infastructure Improvement Corridor from Skillings Connolly.
Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes: 1. The locations of all features shown are approximate.

2. This drawing is for infomation 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.

Site Plan and Exploration Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 2

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG3_MW_LOCS.mxd CDB:TCK Map Revised: October 21, 2008



Proposed Monitoring Well Location

Monitoring Well (GeoEngineers, Inc. - Jan. & July 2007)

Monitoring Well (Delta Environmental - June 2003)

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N
W E
S

150 0 150
Feet

Site Plan and Monitoring Well Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 3

Reference: Aerial photograph (dated April 2008) from Skillings Connolly. Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for infomation 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.

ATTACHMENT 2

PIONEER Field Forms

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: _____ Site Location: _____

Requested By / Date: _____ Work Deadline: _____

SERVICES REQUESTED	COMPLETED
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☐ Review Docs: _____	☐ YES ☐ NO	☐ Health & Safety Meeting	☐ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☐ Coordinate Access: _____	☐ YES ☐ NO	☐ Draw Site Map _____	☐ YES ☐ NO
☐ Coordinate Sub / Equip: _____	☐ YES ☐ NO	☐ Cuttings / Purge Water Characterization & Disposal	
☐ Purchase / Rent Equip: _____	☐ YES ☐ NO	☐ Potential HW _____	☐ YES ☐ NO
☐ Client/Agency Coordination: _____	☐ YES ☐ NO	☐ Non-Haz _____	☐ YES ☐ NO
☐ Calibrate Equipment: _____	☐ YES ☐ NO	☐ Background _____	☐ YES ☐ NO

_____

_____

SAMPLING REQUIREMENTS

☐ Field Testing: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

☐ Site Map ☐ Camera ☐ Survey Equip / GPS ☐ Vehicle

☐ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☐ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☐ Sample Kit / Cooler / COC / Ice _____

☐ IDW: ☐ Drums _____ ☐ 5-gal buckets _____

☐ Other: _____

☐ Other: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date:_____ Site Location: _____ Site Arrival Time: _____ Site Departure Time :_____

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

NOTES ON WORK COMPLETED

SIGNATURE:_____ DATE:_____

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID		Drilling Co.	
Project/Site Name		Lisc. Driller	
Field Professional		Drilling Method	
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

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APRIL 2013
DATA GAP INVESTIGATION WORK PLAN REGARDING THE SOIL-TO-INDOOR AIR PATHWAY

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

April 30, 2013

Ms. Alexandra K. Smith
Sr. Environmental Program Mgr./Environmental Legal Counsel
Port of Olympia
915 Washington St. NE
Olympia, WA 98501

Re: Ecology Approval of the *Data Gap Work Plan for Soil-to-Indoor Air Pathway. East Bay Redevelopment Site,* Prepared for the Port of Olympia by Pioneer Technologies Corporation, April 12, 2013; East Bay Redevelopment Site, Olympia, Washington, Ecology Facility/Site No. 5785176, Agreed Order DE7830, Cleanup Site ID No. 407.

Dear Ms. Smith:

Thank you for submitting the above-referenced revised work plan for our review. Ecology has no further comments on this plan. **Therefore, we consider the above-referenced work plan to be approved.**

If you have any questions, please contact me at (360) 407-6247 or via e-mail at steve.teel@ecy.wa.gov.

Sincerely,

SSTeel

Steve Teel, LHG
Site Manager/Hydrogeologist
Toxics Cleanup Program
Southwest Regional Office

ST/ksc:Approval SG WP 04302013

By certified mail: (7012 1010 0003 0195 2730)

cc: Mr. Troy Bussey, Pioneer Technologies Corporation
Mr. Tom Morrill – City Attorney
LOTT Clean Water Alliance, c/o Mr. Eric Hielema, Senior Wastewater Engineer
City of Olympia, c/o Mr. Jay Burney, Assistant City Manager – Special Projects
Mr. Chris Cleveland, Brown and Caldwell
Ivy Anderson – Office of the Attorney General
Scott Rose – Department of Ecology
Diana Smith - Department of Ecology

PIONEER TECHNOLOGIES CORPORATION
5205 Corporate Ctr. Ct. SE, Ste. A
Olympia, WA 98503-5901
Phone: 360.570.1700
Fax: 360.570.1777
www.uspioneer.com

April 12, 2013

Mr. Steve Teel, LHG
Washington State Department of Ecology
Toxics Cleanup Program – Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7705

Subject: Data Gap Work Plan for the Soil-to-Indoor Air Pathway and Response to Comments for Ecology's March 14, 2013 Comments East Bay Redevelopment Site, Olympia, Washington Ecology Facility/Site No. 5785176, Agreed Order DE5471

Dear Mr. Teel:

On behalf of the Port of Olympia (Port), PIONEER Technologies Corporation (PIONEER) is enclosing two copies of the revised Data Gap Work Plan for the Soil-to-Indoor Pathway at the East Bay Redevelopment Site (Site) for your review and approval. The work plan incorporates the Washington State Department of Ecology (Ecology) comments provided in an October 31, 2012 letter and a February 28, 2013 letter, in accordance with the February 19, 2013 and March 12, 2013 response to comments (RTC) documents. All RTC documents are included in Attachment C of the work plan for reference.

The enclosed work plan was not revised to address the comments in your March 14, 2013 letter for the reasons presented in the associated RTC (see Attachment C of the work plan). If the event that you do not agree with the RTC for the March 14th comments, the Port would like to request an April meeting to quickly reach final resolution on the issue.

Respectfully,



Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)
Senior Professional Engineer

cc: Mr. Scott Rose, Washington State Department of Ecology (electronic copy)
Ms. Alex Smith, Port of Olympia (electronic copy)
Mr. Eric Hielema, LOTT Clean Water Alliance (electronic copy)
Mr. Jay Burney, City of Olympia (electronic copy)

Enclosures:
1. Data Gap Work Plan for the Soil-to-Indoor Pathway at the East Bay Redevelopment Site

Memo

PIONEER TECHNOLOGIES CORPORATION
5205 Corporate Ctr. Ct. SE, Ste. A
Olympia, WA 98503-5901
Phone: 360.570.1700
Fax: 360.570.1777
www.uspioneer.com

to: Steve Teel

from: Gretchen Mallari and Troy Bussey

cc: Scott Rose (Ecology), Alex Smith (Port of Olympia), Eric Hielema (LOTT Clean Water Alliance), and Jay Burney (City of Olympia)

date: April 12, 2013

subject: Data Gap Work Plan for the Soil-to-Indoor Air Pathway at the East Bay Redevelopment Site, Agreed Order DE5471, Ecology Facility/Site No. 6785176

Dear Mr. Teel:

On behalf of the Port of Olympia (Port), PIONEER Technologies Corporation (PIONEER) has prepared for your review this work plan for soil gas, ambient air, and soil sampling and analyses at the East Bay Redevelopment Site (Site). The purpose of this proposed sampling is to supplement the evaluation of the potential soil-to-indoor air pathway for total petroleum hydrocarbons (TPH) in the gasoline range (TPH-G) (PIONEER 2012, Washington State Department of Ecology [Ecology] 2012).

1 Introduction

The approximately 15-acre Site is located in Olympia, Washington, on the southeast corner of the Port peninsula adjacent to East Bay of Budd Inlet. This Model Toxics Control Act (MTCA) Site is currently being addressed under Agreed Order DE5471. The soil-to-indoor air pathway, which addresses the potential migration of volatile constituents from subsurface soil to indoor air, is a pathway currently being considered at this Site. TPH-G is the only constituent that exceeds screening levels for this pathway, and there are only three samples where TPH-G exceeds its soil-to-indoor air screening level of 100 mg/kg (PIONEER 2012).[1] A detailed evaluation of the existing TPH-G data concluded that these TPH-G exceedances are not significantly higher than the MTCA default screening level, and as a result, further consideration of the soil-to-indoor air pathway is not necessary per Washington Administrative Code (WAC) 173-340-740(3)(b)(iii)(C) (PIONEER 2012). However, Ecology requested collection of additional data to further support this conclusion (Ecology 2012).

2 Description of Sampling and Analyses

Two sample locations (referred to as Soil Vapor Probe [SVP] SVP-1 and SVP-2) are proposed to further evaluate whether or not TPH-G concentrations in soil pose a potential concern for the soil-to-indoor air pathway at this Site. Soil gas samples will be collected at each sample location. A soil sample will also be collected from a co-located direct-push boring located adjacent to each SVP (e.g., offset approximately two feet) after the soil gas samples have been collected. Figure 1 presents the proposed sample locations relative to TPH-G soil screening level exceedances for the soil-to-indoor air pathway. Table 1 presents a summary of the details and rationale for each sampling location.

Although soil data are being collected to determine current TPH-G soil concentrations, soil gas is the primary media that will be used for a more detailed evaluation of the potential soil-to-indoor air pathway per Ecology guidance (Ecology 2009). In accordance with WAC 173-340-750(3)(b)(ii)(C), soil gas concentrations of benzene, toluene,

[1] In accordance with Washington Administrative Code (WAC) 173-340-740(3)(b)(iii)(C)(I), TPH-G screening levels are default concentrations derived for protection of groundwater for drinking water beneficial use under WAC 173-340-747(6).

ethylbenzene, and xylenes (BTEX) and other gasoline-related constituents will be used to evaluate the potential impacts associated with TPH-G in soil gas since there are no MTCA Method B air cleanup levels for TPH-G.

2.1 SOIL GAS SAMPLING

Each temporary SVP will be constructed using a Post Run Tubing (PRT) system (see Figure 2) installed by a Washington licensed driller. The driller will clean the PRT tip threads and seat daily (or more frequently if needed), and will change the PRT O-ring daily. Rods equipped with a PRT point holder and expendable drive point will be driven to a depth of greater than five feet below ground surface (bgs) so that the top of the drive point is at least five feet bgs. Before the rods are pulled back, rigid-walled, ¼-inch-diameter dedicated Teflon (or similar) tubing and a PRT adapter will be inserted down the rod bore and rotated to form a vacuum tight connection at the point holder. This results in a continuous run of tubing from the sample level to the surface. The top end of the system will be sealed with bentonite to minimize gas exchange with the ambient air. A leak test of the PRT tubing system will be conducted at this time by applying a vacuum to the tubing. An in-line gauge will be used to verify that leaks do not occur after the vacuum has been applied. The rods will then be retracted no more than six inches to provide an open cylinder in the soil through which the soil gas may be purged and sampled. The upper end of the tubing in the system will be connected to the sampling canister and the purging canister via a sampling/purging manifold provided by the laboratory. After installation of a given SVP, an equilibration period of at least 60 minutes shall be observed prior to any shut-in testing, leak testing, purging, and sampling.

Before a given soil gas sample is collected, two separate leak testing procedures will be performed to identify and address any leaks in the sampling/purging manifold: 1) a static shut-in test and 2) a tracer compound test. A static shut-in test will be performed to ensure the manifold fittings are securely sealed. Criterion for a satisfactory shut-in test is no decrease of vacuum in the purging canister over a one minute period. Fittings will be reassembled and/or tightened as necessary until the shut-in test criterion is met. The tracer compound test will be performed during purging to quantitatively assess potential leaks of ambient air in the SVP sampling train. For the tracer compound test, the immediate area surrounding the PRT System will be covered in a 6-mil plastic sheet (at least 10x10-foot area) flush to the ground. Then, a large shroud/glove box will be installed over the SVP, sampling/purging manifold, purging canister, and sampling canister. The shroud/glove box will be sealed to the ground surface using duct tape, hydrated bentonite, and/or a non-volatile organic compound (VOC) sealant (e.g., Sikaflex®), and will remain in place for the duration of purging and sampling (see Figure 3). Helium trace gas will be injected into the shroud/glove box. The helium concentration in both the shroud/glove box and in the sampling train will be quantitatively measured in the field. The criterion for a satisfactory tracer compound test is a helium concentration in the sampling train that does not exceed five percent of the helium concentration in the shroud/glove box. System leaks will be remedied as appropriate until the tracer compound test criterion is met. In addition to the leak tests, at least three sampling train volumes of air will be purged through the sampling/purging manifold with a purging canister (provided by the laboratory) prior to sample collection.

Once the shut-in test and tracer compound test are satisfactorily completed and the sampling train has been adequately purged, soil gas samples will be collected from SVP-1 and SVP-2. The samples will be collected using a 1-liter Summa canister and a laboratory-supplied regulator set for a flow rate between 100-200 milliliters per minute. Probe vacuum during sampling will be less than 100 inches of water (8 inches of mercury). Sampling will stop when the remaining canister vacuum gauge is approximately three to five inches of mercury. The final canister vacuum will be recorded on the chain-of-custody.

2.1.1 Soil Gas Field Quality Control

One field duplicate soil gas sample per sampling event will be collected using a T-splitter at the point of sample collection. One equipment blank per sampling event will be collected after the soil gas samples are collected. The

equipment blank sample will be collected by connecting a Summa canister and clean tubing to the cleaned, non-dedicated PRT equipment after the PRT equipment is placed on the ground surface in a non-impacted location.

2.2 AMBIENT AIR SAMPLING

In order to estimate ambient air background concentrations during the sampling period, an upwind ambient air sample will be collected as synoptically as possible with the soil gas samples. The intake for the ambient air sample will be positioned at breathing height (i.e., approximately five feet above ground surface). The wind direction will be determined either by observations immediately prior to sample collection and/or a wind rose generated using wind direction and magnitude readings over the past year from a nearby meteorological station. The ambient air sample will be collected using a 1-liter Summa canister and a laboratory-supplied regulator set for a flow rate between 100-200 milliliters per minute. Sampling will stop when the remaining canister vacuum gauge is approximately three to five inches of mercury. The final canister vacuum will be recorded on the chain-of-custody.

2.3 SOIL SAMPLING

After soil gas and ambient air sampling, a co-located direct-push boring will be advanced to a depth of approximately six feet bgs adjacent to each SVP location (e.g., offset approximately two feet). As shown in Table 1, a soil sample will be collected from the direct-push boring at the same depth interval as the previous TPH-G screening level exceedance in that location. Soil samples will be collected using United States Environmental Protection Agency (USEPA) Method SW846-5035.

Field guidelines and descriptions of procedures applicable to soil sampling at the Site are included in the Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) provided as Attachment A. The SAP/QAPP is Appendix D of the Remedial Investigation Work Plan for the East Bay Redevelopment Site (GeoEngineers and Pioneer 2008). Deviations from this SAP/QAPP are described in Table 2. Field activities will be documented using PIONEER field forms provided as Attachment B.

2.4 SAMPLE BORING DECOMISSIONING

Once soil gas and soil samples have been collected, the driller will decommission all SVP and soil sample borings by backfilling the boreholes with bentonite chips and hydrating the bentonite chips.

2.5 ANALYSES

All soil gas and ambient air samples will be analyzed for BTEX, 1,2,4-trimethylbenzene, 1,3,5 trimethylbenzene, n-hexane, 1,2-dibromoethane, 1,2-dichloroethane, methyl tertiary-butyl ether and naphthalene using USEPA Method TO-15. All soil gas and ambient air samples will also be analyzed for oxygen, carbon dioxide, methane, nitrogen, and helium using American Society of Testing and Materials (ASTM) Method D1946. Target reporting limits for these soil gas and ambient air analyses are presented in Table 3. Table 4 presents the appropriate sample containers and holding times for the soil gas and ambient air analyses. Sample containers will be provided by the analytical laboratory and each canister will be individually certified clean by the laboratory to the target reporting limits. Prior to field mobilization, the initial canister vacuums measured by the laboratory will be verified to ensure that they have a vacuum of approximately 30-inches of mercury. Canisters with an initial vacuum of less than 25 inches of mercury will be returned to the laboratory for a replacement canister.

It is anticipated that soil gas and ambient air analysis will be performed by Eurofins Air Toxics, Inc. (Air Toxics), which is an Ecology accredited laboratory for these analyses. It is expected at a minimum that Air Toxics will perform and report the following laboratory quality control analyses once per batch of soil gas/ambient air samples for select



constituents (the standard USEPA Contract Laboratory Program constituents): method blank, blank spike, matrix spike, and matrix spike duplicate. It is also expected that the laboratory will perform and report results of surrogate recovery for every sample. Expectations for laboratory control limits are shown in Table 5.

All soil samples will be analyzed for TPH-G using Ecology Method NWTPH-G and for BTEX, 1,2,4-trimethylbenzene, 1,3,5 trimethylbenzene, n-hexane, 1,2-dibromoethane, 1,2-dichloroethane, methyl tertiary-butyl ether and naphthalene using USEPA Method SW846-8260B. It is anticipated that soil analyses will be performed by Anatek Labs, which is an Ecology accredited laboratory for these analyses. Quality control procedures for soil analyses will be in accordance with the SAP/QAPP provided in Attachment A. Target reporting limits for these soil analyses are presented in Table 3.

3 Schedule

Following review and approval of this Work Plan by Ecology, PIONEER will collect the samples once the weather conditions are sufficiently dry to prevent collecting soil gas samples when the vadose zone pores are saturated. Specifically, soil gas samples will not be collected if (1) ponded water on the ground surface is present within 20 feet of a SVP, or (2) it has been less than 48 hours since it rained more than a ½-inch in a 24 hour period. PIONEER will notify Ecology 48-hours prior to starting the field work.

References

Ecology. 2009. Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Actions. Review Draft. October.

Ecology. 2012. Ecology Comments on the Screening Evaluation of the Potential Soil-to-Indoor Air Pathway for the East Bay Redevelopment Site. June 13.

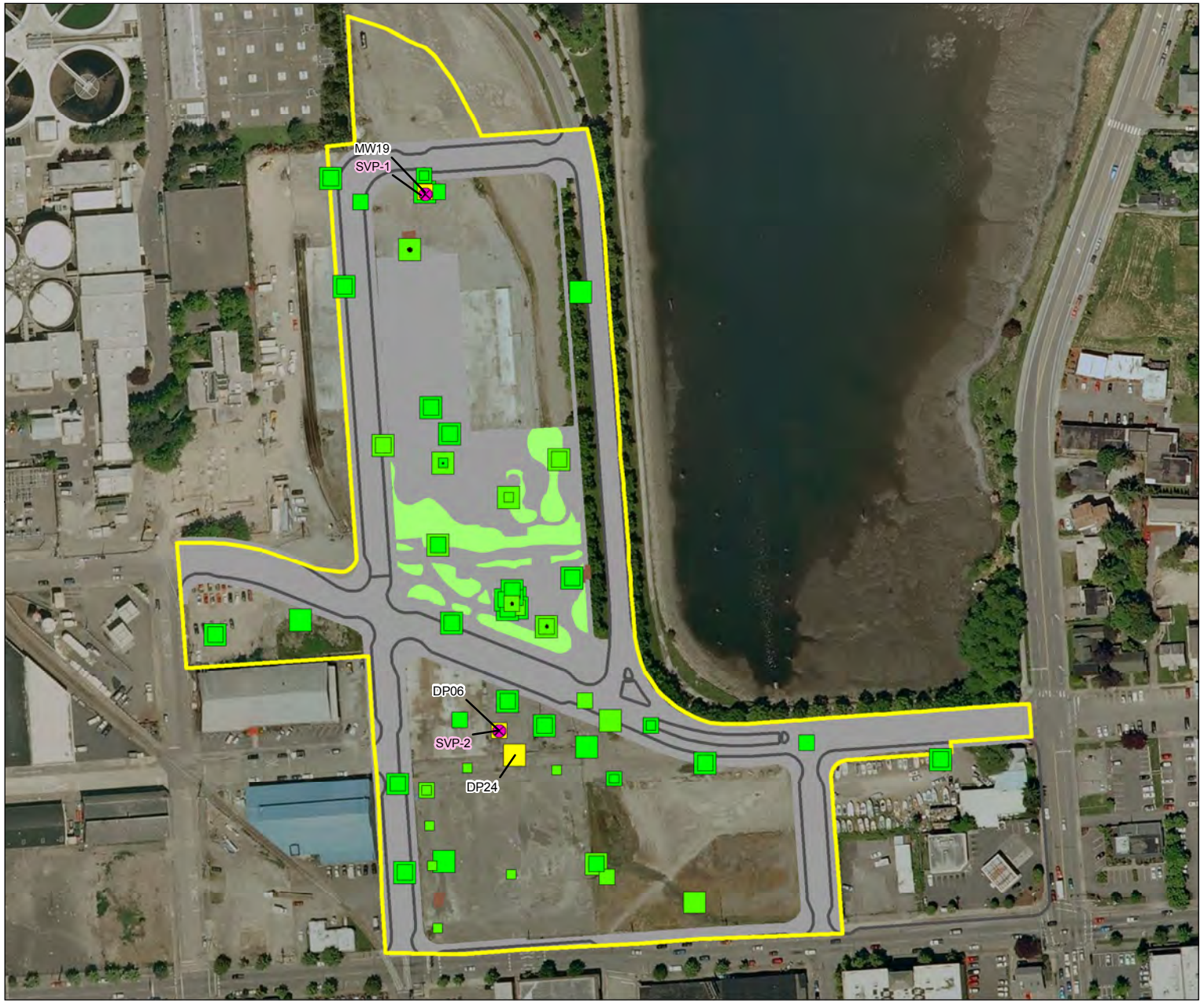
GeoEngineers and PIONEER. 2008. Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia. October 22.

PIONEER. 2012. Screening Evaluation of the Potential Soil-to-Indoor Air Pathway for the East Bay Redevelopment Site. April 11.

Attachments:

Figure 1: Existing TPH-G Soil Data and Proposed Sampling Locations
Figure 2: Soil Gas Sampling – PRT System Operation
Figure 3: Soil Gas Sampling – Leak Detection System
Table 1: Proposed Sampling Locations and Rationale
Table 2: Sampling Deviations from the Sampling and Analysis Plan/Quality Assurance Project Plan
Table 3: Comparison of Target Reporting Limits and Screening Levels
Table 4: Soil Gas Sample Containers, Preservation, and Holding Times
Table 5: Soil Gas Laboratory Control Limits
Attachment A: GeoEngineers SAP/QAPP from the Remedial Investigation Work Plan
Attachment B: PIONEER Field Forms
Attachment C: Responses to Ecology Comments on the Work Plan

Figures



N
W
E
S

Legend

- Proposed Soil and Soil Gas Sampling Location
- Roads Paved During Infrastructure Interim Action
- Site Boundary

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- Soil Concentration > SL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- Soil Concentration > SL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- Soil Concentration > SL

Completed/Underway Remedial Actions
- Soil Cap
- Soil Cover
- Soil Removal

Notes:

- Exceedances are displayed on-top of samples that do not exceed the screening level.
- Only on-site soil sample locations are displayed.
- Samples that are no longer in place are shown with a dot in the center.
- Sample depth breakouts are based on sample top depth.
- Only TPH-G exceedances and proposed samples are labeled.
- Proposed samples are highlighted in pink.

TPH-G Soil-to-Indoor Air SL = 100 mg/kg

bgs: below ground surface
SL: screening level
TPH-G: total petroleum hydrocarbons, gasoline

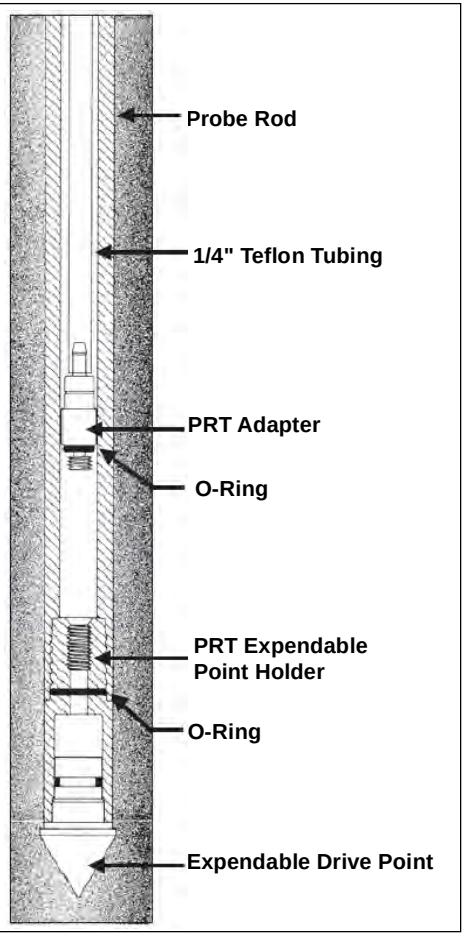
0 100 200 300 Feet

Existing TPH-G Soil Data and Proposed Sampling Locations
Data Gap Work Plan for the Soil-to-Indoor Air Pathway at the East Bay Redevelopment Site
East Bay Redevelopment Site

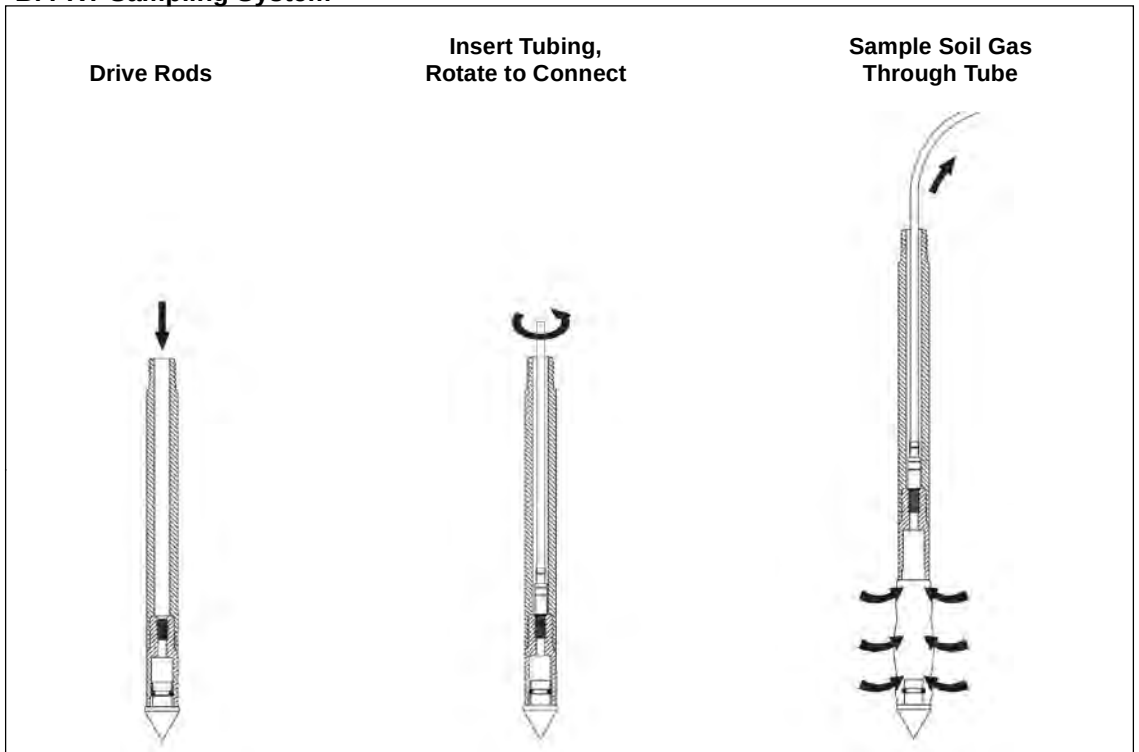
PIONEER TECHNOLOGIES CORPORATION

Figure 1

A. Cross-Section of Probe Rods



B. PRT Sampling System



Notes:

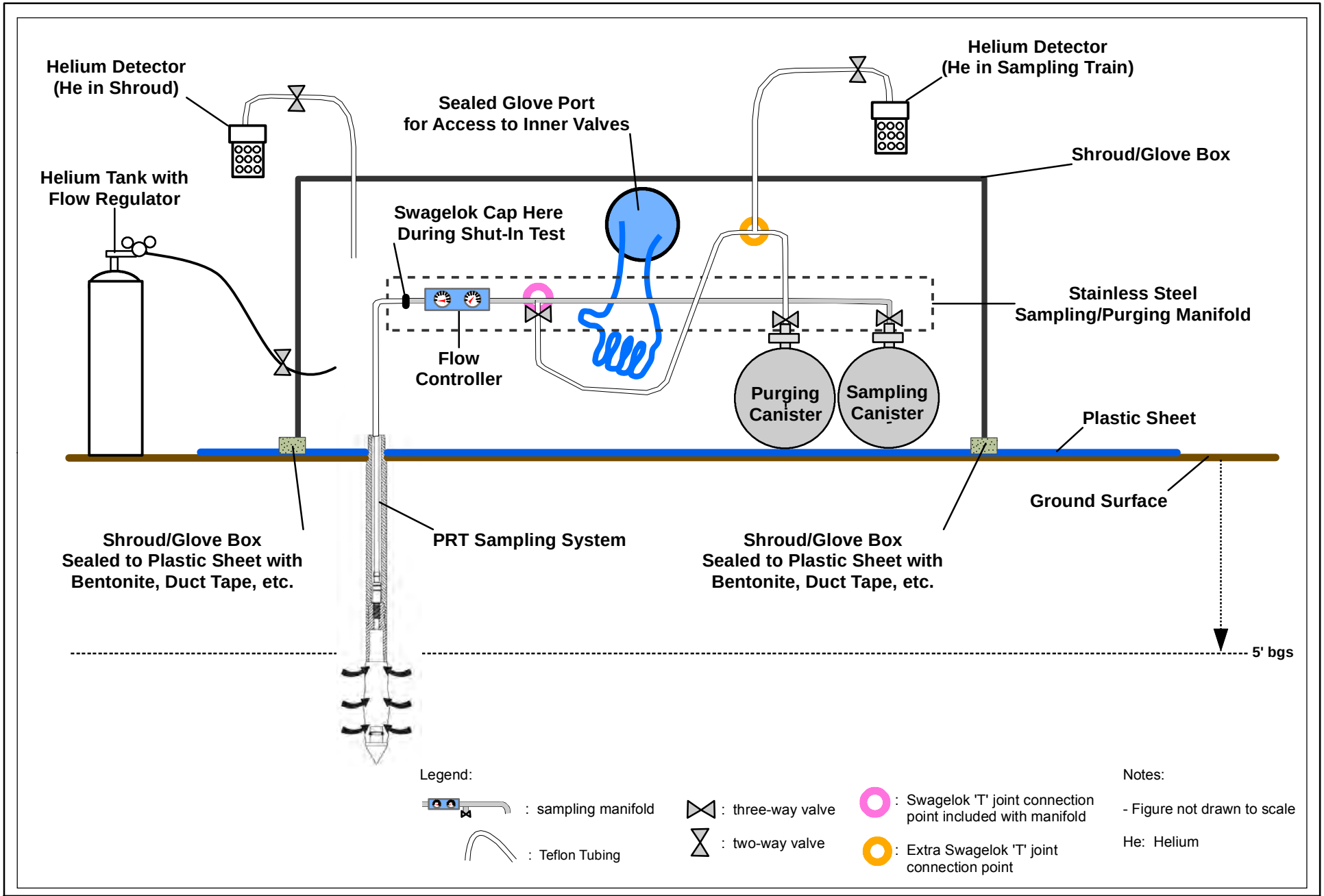
- Figure not drawn to scale
- Figure source: Geoprobe Systems

PRT: Post Run Tubing

Soil Gas Sampling - PRT System Operation
Data Gap Work Plan for the Soil-to-Indoor Air Pathway at the East Bay Redevelopment Site
East Bay Redevelopment Site

PIONEER TECHNOLOGIES CORPORATION

Figure 2



Soil Gas Sampling - Leak Detection System
Data Gap Work Plan for the Soil-to-Indoor Air Pathway at the East Bay Redevelopment Site
East Bay Redevelopment Site

PIONEER TECHNOLOGIES CORPORATION

Figure 3

Tables

Table 1: Proposed Sampling Locations and Rationale

Previous TPH-G Exceedance	Proposed Sample Location	Media Being Sampled	Sample Depth Interval (feet bgs)	Rationale for Sample Depth Selection	Analytes
MW-19 (4-6' bgs)	SVP-1	Soil Gas	≥ 5	Sample depth is intended to be shallower than groundwater, but deep enough to be minimally affected by ambient air.	BTEX[(1)] 1,2,4-trimethylbenzene[(1)] 1,3,5-trimethylbenzene[(1)] n-hexane[(1)] 1,2-dibromoethane[(1)] 1,2-dichloroethane[(1)] Methyl tertiary-butyl ether[(1)] Naphthalene[(1)] Oxygen Carbon Dioxide Methane Nitrogen Helium
		Soil	4-6	Sample will be taken at same depth interval as previous soil exceedance.	TPH-G BTEX 1,2,4-trimethylbenzene 1,3,5-trimethylbenzene n-hexane 1,2-dibromoethane 1,2-dichloroethane Methyl tertiary-butyl ether Naphthalene
DP06 (3-5' bgs)	SVP-2	Soil Gas	≥ 5	Sample depth is intended to be shallower than groundwater, but deep enough to be minimally affected by ambient air.	BTEX[(1)] 1,2,4-trimethylbenzene[(1)] 1,3,5-trimethylbenzene[(1)] n-hexane[(1)] 1,2-dibromoethane[(1)] 1,2-dichloroethane[(1)] Methyl tertiary-butyl ether[(1)] Naphthalene[(1)] Oxygen Carbon Dioxide Methane Nitrogen Helium
DP24 (8-10' bgs)		Soil	3-5	Sample will be taken at same depth interval as previous soil exceedance.	TPH-G BTEX 1,2,4-trimethylbenzene 1,3,5-trimethylbenzene n-hexane 1,2-dibromoethane 1,2-dichloroethane Methyl tertiary-butyl ether Naphthalene

Notes:

[(1)] These gasoline-related constituents will be used to evaluate the potential impacts associated with TPH-G soil gas since there are no MTCA Method B air cleanup levels for TPH-G.

Table 2: Sampling Deviations from the Sampling and Analysis Plan/Quality Assurance Project Plan

SAP/QAPP Section	Deviation	Rationale/Explanation
4.0	Work will be executed by PIONEER rather than GeoEngineers.	The Port of Olympia selected PIONEER to perform this work.
2.0	Soil sample will not be collected every two feet.	Table 1 describes the depth intervals that will be sampled.
2.0	Water sheen and headspace vapor screening methods will not be used.	Due to the nature of sampling being conducted per this Work Plan, these tests will not be employed.
2.0	Investigation derived waste will be handled differently.	It is anticipated based on previous sampling events that an insignificant volume of decontamination water will be generated and therefore will be discharged on site. It is anticipated based on previous sampling events that an insignificant volumed of unused soil cores will be generated. These soils will be placed on-site.
5.2	Soil samples will not be collected in four-to-six inch intervals	Soil samples will be collected at the same depth interval as nearby TPH-G exceedances.
5.2	A different GPS unit will be used.	PIONEER has a different GPS unit (which is more accurate than the unit specified in the SAP/QAPP).
8.0	Sample nomenclature will be revised.	To improve data usability during subsequent data evaluations.
Table 4	Different target reporting limits will be used.	Reporting limits for the analytical methods and anticipated laboratories are presented in Table 3.

Notes:

GPS: Global Positioning System

Table 3: Comparison of Target Reporting Limits and Screening Levels

Analyte	Soil			Soil Gas			
	Analytical Method	Soil Target Reporting Limits (mg/kg)	Soil-to-Indoor Air Screening Level [1] (mg/kg)	Analytical Method	Soil Gas and Ambient Air Target Reporting Limits (ug/m^3)	Soil Gas Screening Level For Unrestricted Land Use Scenario [2] (ug/m^3)	Soil Gas Screening Level For Commercial/Industrial Land Use Scenario [2] (ug/m^3)
Total Petroleum Hydrocarbons							
TPH-G	Ecology Method NWTPH-G	2.5	100	N/A [3]	N/A [3]	N/A [3]	N/A [3]
Volatile Organic Compounds							
Benzene	USEPA 8260B	0.005	0.22	USEPA TO-15	1.6	3.2	32
Toluene	USEPA 8260B	0.005	240	USEPA TO-15	1.9	22,000	49,000
Ethylbenzene	USEPA 8260B	0.005	43	USEPA TO-15	2.2	4,600	10,000
Total xylenes	USEPA 8260B	0.010	23	USEPA TO-15	2.2	460	1,000
1,2,4-trimethylbenzene	USEPA 8260B	0.005	NC	USEPA TO-15	2.5	27	60
1,3,5-trimethylbenzene	USEPA 8260B	0.005	NC	USEPA TO-15	2.5	27	60
n-Hexane	USEPA 8260B	0.005	NC	USEPA TO-15	1.8	3,200	7,000
1,2-dibromoethane	USEPA 8260B	0.005	NC	USEPA TO-15	3.8 [5]	0.11	1.1
1,2-dichloroethane	USEPA 8260B	0.005	NC	USEPA TO-15	2.0 [5]	0.96	9.6
Methyl tertiary-butyl ether	USEPA 8260B	0.005	NC	USEPA TO-15	1.8	96	960
Naphthalene [4]	USEPA 8260B	0.005	NC	USEPA TO-15	10	14	30
Other Analyses							
Oxygen	N/A	N/A	N/A	ASTM D1946	0.1 %	N/A	N/A
Carbon dioxide	N/A	N/A	N/A	ASTM D1946	0.01 %	N/A	N/A
Methane	N/A	N/A	N/A	ASTM D1946	0.0001%	N/A	N/A
Nitrogen	N/A	N/A	N/A	ASTM D1946	0.1 %	N/A	N/A
Helium	N/A	N/A	N/A	ASTM D1946	0.05 %	N/A	N/A

Notes:

N/A : not applicable

NC: not calculated in the previous screening evaluation. Screening levels will be calculated as necessary for detected constituents.

Screening levels are presented as two significant figures, except values greater than 100 are rounded to the nearest whole number.

[1] From the Screening Evaluation of the Potential Soil-to-Indoor Air Pathway for the East Bay Redevelopment Site Memorandum (PIONEER 2012).

[2] From Table B-1 of the Guidance for Evaluating Soil Vapor Intrustion in Washington State (Ecology 2009).

[3] Soil gas data for gasoline-related constituents will be used to evaluate the potential impacts associated with TPH-G soil gas since there are no MTCA Method B air cleanup levels for TPH-G.

[4] Due to its low vapor pressure, naphthalene may exceed TO-15 performance requirements.

[5] Although these target reporting limits (RLs) exceed the screening levels (SLs) for unrestricted land use, these are the lowest possible target RLs with TO-15. Although TO-15 select ion monitoring (SIM) could achieve lower target RLs (note that target RLs for 1,2-dibromomethane using TO-15 SIM would still exceed its unrestricted SL), TO-15 SIM requires a 6-liter Summa canister. An Ecology comment on this work plan required the use of 1-liter Summa canisters. If SLs based on a default attenuation factor of 0.1 are used to evaluate the soil gas data rather than SLs calculated with the Johnson and Ettinger model, the SLs for these constituents will be adjusted up to the actual RL in accordance with WAC 173-340-750(5)(c).

Table 4: Soil Gas Sample Containers, Preservation, and Holding Times

Constitutents	Media	Analytical Method	Sample Container	Preservative	Extraction Holding Time (days)	Analysis Holding Time (days)
BTEX 1,2,4-trimethylbenzene 1,3,5-trimethylbenzene n-hexane 1,2-dibromoethane 1,2-dichloroethane Methyl tertiary-butyl ether Naphthalene	Soil Gas and Ambient Air	USEPA Method TO-15	1-liter evacuated SUMMA® Canister, individually certified clean by the laboratory, equipped with a Swagelok 1/4-inch stainless steel bellows valve, brass cap, particulate filter, and vaccum gauge. Regulator shall be adjusted for a flow rate between 100-200 millilters per minute	None	N/A	30
Oxygen Carbon Dioxide Methane Nitrogen Helium	Soil Gas and Ambient Air	ASTM D1946		None	N/A	30

Table 5: Soil Gas Laboratory Control Limits

Constitutents	Media	Analytical Method	LCS (%R)	Acceptance Criteria		Surrogates (%R)
				ICV/LCS (%R)	Precision Limits (Max RPD)	
BTEX 1,2,4-trimethylbenzene 1,3,5-trimethylbenzene n-hexane 1,2-dibromoethane 1,2-dichloroethane Methyl tertiary-butyl ether	Soil Gas and Ambient Air	USEPA Method TO-15	70 - 130	70 - 130	≤ 25	70 - 130
Naphthalene [(1)]	Soil Gas and Ambient Air	USEPA Method TO-15	60 - 140	60 - 140	≤ 25	60 - 140
Oxygen Carbon Dioxide Methane Nitrogen Helium	Soil Gas and Ambient Air	ASTM D1946	85-115	85-115	≤ 25	85-115

Notes:

Information provided by Eurofin Air Toxics, Inc.

ICV: initial calibration verification

LCS: laboratory control sample (also known as blank spike)

%R: percent recovery

RPD: relative percent difference

[(1)] Due to its low vapor pressure, naphthalene may exceed TO-15 performance requirements. The wider QC limits reflect typical performance.

Attachment A

GeoEngineers SAP/QAPP from the Remedial Investigation Work Plan

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APPENDIX D
SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN

SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN REMEDIAL INVESTIGATION WORK PLAN EAST BAY REDEVELOPMENT PORT OF OLYMPIA OLYMPIA, WASHINGTON

OCTOBER 22, 2008

FOR
PORT OF OLYMPIA

GeoEngineers

Sampling and Analysis Plan and Quality Assurance Project Plan

File No. 0615-034-07

October 22, 2008

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SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN REMEDIAL INVESTIGATION WORK PLAN EAST BAY REDEVELOPMENT, PORT OF OLYMPIA OLYMPIA, WASHINGTON FOR PORT OF OLYMPIA

1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) describe sample collection, handling and analysis procedures associated with the Remedial Investigation Work Plan (RIWP) for the Port of Olympia's (Port) 13-acre East Bay Redevelopment Site (Site). The Site is located in Olympia, Washington, as shown in Figure 1. This SAP must be used in conjunction with the RIWP and the project-specific Health and Safety Plan (HASP).

Detailed descriptions of the field sampling procedures are provided in this document. Site conditions may make it necessary to modify these procedures. Any variations or modifications that become necessary during the investigation will be coordinated with Port personnel, the Washington State Department of Ecology (Ecology) and other involved parties, as appropriate. Variations or modifications implemented during the investigation and the reason for the modification will be documented in field records.

This SAP describes field activities, sampling equipment, sampling locations and procedures that will be used during investigations at the Site. This SAP also includes a QAPP (Section 11), which identifies quality assurance/quality control (QA/QC) procedures that will be implemented during field sampling activities and laboratory analyses.

2.0 PURPOSE AND SCOPE

The purpose of this SAP is to present the detailed procedures that will be used to obtain samples during the supplemental remedial investigation (RI). The objective of this sampling is to provide information to:

- Characterize the nature and extent of contamination at the Site;
- Assess the potential risk to human and ecological receptors; and
- Provide the information that will allow selection of cleanup action alternatives.

Rationale for sample locations and depths and monitoring wells are described in Tables 1 through 3.

Activities to be performed by GeoEngineers during the RI include the following:

1. Update the Project HASP and SAP for use by GeoEngineers' personnel during the RI.
2. Retain public and private utility locating services to identify and locate underground utilities in the exploration areas in coordination with the Port.
3. Retain a concrete coring contractor to core through paved surfaces, as necessary.
4. Monitor the advancement of soil explorations using direct-push and/or hollow-stem auger techniques to depths specific to proposed sample locations. If field screening indicates

contamination is present at the target total depth for a boring, the boring will be advanced until field screening indicates contamination is not present.

a. Soil borings will be located by measuring from known previously surveyed features (roads, existing monitoring wells, etc) and GPS readings.

b. Samples of soil will be collected continuously for the total depth of each boring. Samples for potential chemical analyses will be collected approximately every two feet. Soil will be visually classified in the field according to the Unified Soil Classification System. Contacts between soil lithologies and fill episodes, if feasible, will also be described.

c. Groundwater monitoring wells may be constructed in five borings as described in Table 2.

5. Obtain soil samples as specified in this SAP and the RIWP. Field screening will be performed on each sample using visual, water sheen and headspace vapor screening methods. The field screening results will be used as a general guideline to approximate the vertical extent of petroleum-related contamination in the soil samples. In addition, screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis.

6. Explore the locations and nature of water seeps along the shoreline embankment and collect data to determine if the seeps represent groundwater.

7. Obtain groundwater samples from existing and new monitoring wells for chemical analytical testing using low-flow sampling methodology. Measure depth to water using an electric water level indicator.

a. Collect water samples from seeps if the seeps represent groundwater.

8. Contain soil cuttings, purge water and decontamination water in steel drums and store the drums in a secure location designated by the Port to await off-site transport and disposal. The drums will be labeled according to standard GeoEngineers' practice.

9. Submit soil and groundwater samples to a subcontracted chemical analytical laboratory for chemical analysis. The chemical constituents for each sample have been determined based on existing data and assumptions of the chemicals of potential concern (COPCs) present. Sample locations, depth intervals, and COPCs are described in Tables 1 through 3. The chemical analysis may include one or more of the following:

a. Gasoline-, diesel- and motor oil-range petroleum hydrocarbons by Ecology Methods NWTPH-Gx and NWTPH-Dx,

b. Metals by U.S. Environmental Protection Agency (EPA) Method 6000/7000 series,

c. Volatile organic compounds (VOCs) by EPA Method 8260B,

d. Semivolatile organic compounds (SVOCs) including carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270 SIM,

e. Polychlorinated biphenyls (PCBs) by EPA Method 8082, and

f. Dioxins/furans by EPA Method 1613B or Method 8290.

Tables 4 and 5 summarizes the target analytical reporting limits and analytical methods that will be used for soil and groundwater.

10. Document sample methodology and sample locations using detailed field logs.

11. Use database and geographic information system (GIS) technologies to manage chemical analytical data and sample locations.

3.0 PROJECT SCHEDULE

Field work for the supplemental RI will be conducted in phases. The initial phase of the RI will be completed in Fall 2008 in order to provide data critical to the planning of the infrastructure improvement project. The initial phase includes completing eight explorations located in or near the infrastructure corridor. The initial eight exploration locations include borings DP27, DP30, DP32, DP33, DP34, DP36, DP38, and DP40, which are also highlighted on Table 1. The initial phase will also include locating suspected artesian wells, as described in Appendix B of the RI Workplan. Subsequent phase of field work will be completed after data from the first phase has been evaluated and after decommissioning of the artesian wells.

4.0 ROLES AND RESPONSIBILITIES

This section outlines the individuals directly involved with the RI. Work performed under this SAP will be in cooperation with the Port.

Key personnel for this project are as follows:

Position	Name	Affiliation	Telephone Number
Ecology Project Coordinator	Steve Teel	Washington State Department of Ecology	360-407-6247
Port Project Coordinator	Joanne Snarski	Port of Olympia	360-528-8061
Principal-in-Charge	David Cook	GeoEngineers, Inc.	206-728-2674
Project Manager	Jay Lucas	GeoEngineers, Inc.	206-239-3221

- The **Ecology Project Coordinator** is responsible for providing timely technical review and guidance regarding compliance with the Agreed Order (AO) and is responsible for overseeing implementation of the AO for Ecology.
- The **Port Project Coordinator** is responsible for administering the contract with the consultant and is responsible under the AO for overseeing implementation of the AO for the Port.
- The **Principal-in-Charge** works with the Project Manager and is responsible for project document QA/QC review.
- The **Project Manager** reports directly to the Port Project Coordinator and the Principal-in-Charge. The Project Manager is responsible for coordinating project activities and submitting deliverables to the Port. The Project Manager's duties consist of providing concise technical work statements for project tasks, selecting project team members, determining the degree of subcontractor participation, establishing and adhering to budget and schedule, providing technical oversight and providing review of all work.

5.0 FIELD PROCEDURES

The rationale, depths and chemical program for soil and groundwater samples are presented in Tables 1 through 6 of this SAP and are described in the RIWP. The soil and groundwater samples will be obtained and submitted to a Washington State accredited laboratory for chemical analysis.

Note that Sampling and Testing associated with the RI, as outlined in this SAP, includes a phased approach to facilitate early decisions regarding the infrastructure improvements and associated excavation. The phased explorations and testing approach are highlighted in Table 1 of this SAP.

5.1 UNDERGROUND UTILITY LOCATE

Prior to sampling activities, an underground utility locate will be conducted in the area of the proposed sample locations to identify any subsurface utilities and/or potential underground physical hazards.

5.2 SUBSURFACE SOIL SAMPLING

5.2.1 Sample Collection Method

Subsurface soil sampling will be conducted using a direct-push drilling rig equipped with a core barrel lined with disposable acetate sleeves. Soil samples will be obtained every two feet for potential chemical analytical testing and field screening, as described in Table 1. Samples obtained for chemical analytical testing will consist of approximately four- to six-inches of the soil core. The depth of each sample will be measured from the bottom of the sample interval. The depth to the groundwater table, if present, may also be measured at each sample location, using an electric water level indicator.

Samples to be analyzed for gasoline-range petroleum hydrocarbons and VOC analysis following EPA Method 5035A (Ecology 2004) will be obtained first. Samples obtained for non-volatile analyses will be obtained from the same general intervals as the volatile samples. Planned sample depths are based on results from earlier studies and are outlined in Table 1. Sample containers will be labeled in the field and stored in an iced cooler prior to and during shipment to the chemical analytical laboratory.

Sampling activities will be conducted by a GeoEngineers representative, and soil will be visually classified in the field according to the Unified Soil Classification System (USCS) and American Society for Testing and Materials (ASTM) Standard 2488.

Field personnel will record the sample locations using hand-held Trimble GeoXT global positioning system (GPS) units with sub-meter accuracy during sampling activities. Sub-meter accuracy standards will be used during data collection to record latitude and longitudinal data. A minimum of four satellites will be required for a position dilution of precision (PDOP) value of less than 6. Satellite elevation must be at least 15 degrees above the horizon, with a minimum signal-to-noise ratio (SNR) of 39 bBHz. GPS data collected in the field will be subsequently processed in the office using measurements from the nearest reference station to each collection point.

5.2.2 Sample Locations

Twenty-two new boring locations are planned and shown in Figures 2 and 3. The borings are placed in areas to further evaluate the lateral and/or vertical extent of contamination that has been identified in previous studies. The rationale for sample locations and depth intervals are described in Table 1.

5.2.3 Phase 1: Infrastructure Construction Corridor Sample Locations

Locations of eight borings are within utility corridors associated with the infrastructure improvements. These borings may be completed during an initial phase of exploration to accommodate the construction schedule. These borings are highlighted in Table 1 and Figure 2. Sampling in the infrastructure corridor will provide data to characterize soil that will be removed during excavation activities.

5.3 FIELD SCREENING

Field screening for evidence of possible contamination will be performed on soil samples obtained from the explorations. Field screening results will be recorded on the field logs, and the results will be used as a general guideline to delineate areas of possible contamination. Screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis. The following screening methods will be used: (1) visual screening, (2) water sheen screening and (3) headspace vapor screening. Visual screening and water sheen screening are qualitative methods; therefore, precision, accuracy and detection limits are not quantified for these methods. Headspace vapor screening is a semi-quantitative method; however, precision and accuracy will not be quantified for this method. Instrument accuracy and detection limits are described below. Field screening results are site- and location-specific. The results may vary with temperature, moisture content, soil type and chemical constituent.

5.3.1 Visual Screening

The soil will be observed for unusual color and stains and/or odor indicative of possible contamination.

5.3.2 Water Sheen Screening

A portion of the soil sample will be placed in a pan containing distilled water. The water surface will be observed for signs of sheen. The following sheen classifications will be used:

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

5.3.3 Headspace Vapor Screening

Headspace vapor screening will be performed on a portion of the soil sample placed into a resealable plastic bag. Ambient air will be captured in the bag; the bag will be sealed and then shaken gently to expose the soil to the air trapped in the bag. The bag will remain closed for approximately 5 minutes at ambient temperature before the headspace vapors are measured. Vapors present within the sample bag's headspace will be measured by inserting the probe of a photoionization detector (PID) through a small opening in the bag. A PID measures the concentration of organic vapors ionizable by a 10.6 electron volt (eV) lamp in parts per million (ppm) and quantifies organic vapor concentrations in the range between 0.1 ppm and 2,000 ppm (isobutylene equivalent) with an accuracy of 1 ppm between 0 ppm and 100 ppm. The maximum value on the instrument and the ambient air temperature will be recorded on the field log for each sample. The PID will be calibrated to 100 ppm isobutylene.

5.4 GROUNDWATER SAMPLING

5.4.1 Monitoring wells

Groundwater will be sampled from 17 existing and new monitoring wells for chemical analytical testing as shown in Table 3. Monitoring wells will be sampled using low-flow sampling methodologies, as described below.

- Prior to sampling, measure depth to water with an electric water level indicator.
- Purge groundwater from the monitoring wells using dedicated tubing, a peristaltic pump (or equivalent), a flow-through cell and water parameter analyzer (Horiba U-20). Purge monitoring wells using a flow rate between 100 and 500 milliliters per minute (mL/min) that does not create significant drawdown in the well. When field parameters have stabilized or at least three well volumes of water have been purged from the well, disconnect the flow-through cell and sample groundwater directly from down-well tubing, maintaining a low-flow pumping rate. Water quality parameters to be monitored during purging include: conductivity, dissolved oxygen, pH, salinity, total dissolved solids, turbidity, oxidation-reduction potential and temperature.
- Place each groundwater sample directly into a laboratory-prepared sample container, label the container, log the sample on the chain-of-custody and sample collection form, and place the container into a cooler with ice.

5.4.2 Groundwater Seeps

Greylock Consulting identified four seep locations along the shoreline during a low tide on July 16, 2008. These locations, as well as other seep locations that may be identified during site visits, will be evaluated to determine if they represent groundwater rather than surface water, irrigation water or discharge from buried pipes.

The evaluation will be based on several lines of evidence that will include:

- Physical observations of the proximity of the seeps to known utilities that could represent areas where water leaks from stormwater drains or from the fill around buried utilities.
- Explore the soil above the seeps to determine if the soil is saturated above the seepage point, and follow the saturation to its point of origin. This exploration will be conducted with hand digging equipment.
- Measure the temperature, salinity and conductivity of the water discharging from the seeps and compare these values to that representative of groundwater and of marine water. This will help determine if the seeps represent delayed drainage of sea water, rather than groundwater.
- Determine if the seeps originate at a higher elevation that the groundwater table. If a seep originates above the elevation of the groundwater table or high tide elevation that day, it is evidence that the seep does not represent groundwater. The elevation of the groundwater table will be based on water levels measured in the nearest monitoring well during the high tide and the low tide of that day's tidal cycle.

If water from an area of seepage is identified as groundwater, a representative sample will be collected for chemical testing as identified in Table 3. The sample will be collected by pushing a short PVC pipe into the seep so the water drains from the end of the pipe. Following insertion of the PVC pipe, a sample of the water will be collected after turbidity caused by the initial disturbance has descreased. Conductivity, temperature, and salinity water quality parameters will be measured as described above for the monitoring well samples. Up to four samples representative of groundwater seeps will be collected. The PVC pipe will be decontaminated prior to collection of each sample.

5.5 FIELD EQUIPMENT CALIBRATION PROCEDURES

Field equipment requiring calibration will be calibrated to known standards in accordance with manufacturers' recommended schedules and procedures for each instrument. If field equipment becomes inoperable, it will be replaced with a properly calibrated instrument.

6.0 CHEMICAL ANALYTICAL PROGRAM

All samples will be submitted to a Washington State accredited laboratory. Tables 1 and 3 summarize the chemical analyses for soil and groundwater samples from monitoring wells, respectively. Tables 4 and 5 summarize the target analytical reporting limits.

7.0 SAMPLE HANDLING AND CUSTODY REQUIREMENTS

The following procedures will be used when obtaining soil and/or groundwater samples during the investigation activities.

- Dedicated nitrile gloves will be worn when obtaining each sample, including quality control (QC) samples.
- Soil samples obtained for chemical analysis of gasoline-range petroleum hydrocarbons and VOCs will be obtained using EPA Method 5035A.
- Samples obtained for chemical analysis will be transferred into clean sample containers supplied by the analytical laboratory. Table 6 lists the sample containers to be used.
- Sufficient sample volume will be obtained for the laboratory to complete the method-specific QC analyses on a laboratory-batch basis.
- Sample labels will be completed for each sample following the procedures provided in this section. Immediately after the samples are obtained, they will be stored in a cooler with ice until they are delivered to the analytical laboratory.
- Standard chain-of-custody procedures will be followed for all samples obtained.

7.1 CUSTODY SEALS

Custody seals are signed and dated seals that are affixed to the lid of a shipping container (for example, cooler) and are used to indicate if the container has been opened before it reaches the intended recipient. Custody seals will be attached to containers by GeoEngineers personnel before they are transferred to the chemical analytical laboratory.

7.2 CUSTODY PROCEDURES

Chain-of-custody procedures will be used to track the possession of the samples from the time they are obtained in the field through analysis and final disposition. Each time the samples change hands, both the sender and receiver will sign and date the chain-of-custody record form. A chain-of-custody record form will be used to track possession of the samples and to document the analyses requested. The form will be completed at the end of each sampling day prior to transfer of samples off-site and will accompany the samples during transfer to the laboratory.

When the samples are shipped to the laboratory via common carrier, one copy of the chain-of-custody record form will be retained for project files, and the remaining copies will be enclosed in a plastic bag and secured to the inside of the cooler prior to shipment.

Upon receipt of the samples at the laboratory, the custody seals will be broken, the chain-of-custody form will be signed as received by the laboratory, and the conditions of the samples will be recorded on the form. The original chain-of-custody form will remain with the laboratory, and copies will be returned to the relinquishing party.

8.0 DOCUMENTATION OF FIELD ACTIVITIES

Daily field activities, including observations and field procedures, will be recorded on appropriate forms. The original field forms will be maintained in GeoEngineers' office files. Copies of the completed forms will be maintained in a sequentially numbered field file for reference during field activities. Photographic documentation of field activities will be performed as appropriate.

8.1 SAMPLE DESIGNATION

Each sample obtained during field activities will be identified by a unique sample designation. The sample designation will be included on the sample label. For soil samples, the designation also will be included with the corresponding sample information on the appropriate field log. For groundwater sampling from monitoring wells, the corresponding sample information will be recorded on the monitoring well sampling field sheet. The following sample designation system will be used for this project.

All samples will be assigned a unique identification code based on a consistent sample designation scheme. The sample designation scheme is designed to suit the needs of the field staff, data management and data users. All samples will consist of three components separated by a dash. These components are station code, date and sample interval. The sample designation scheme is as follows:

Station Code	Date	Sample Interval
SSnn	YYMMDD	XXX
MWnn	YYMMDD	W

The three components are described below.

8.1.1 Station Code

The station code component is a four-character code that uniquely identifies each sampling station. The station code component has two parts: a two-letter station designation ("SS" or "MW") followed by a sequential two-digit number component "nn." The two-letter "SS" designation will be determined by how the soil sample was obtained (for example, drilling method, grab) as described below. The sequential "nn" component will begin at 26 (that is, 26, 27, 28) to accommodate samples previously obtained at the Site during previous studies. For groundwater samples, the "MWnn" designation will correspond to the monitoring well number (for example, MW25S).

The station designations are:

- DP – Direct-Push
- SB – Soil Boring using Hollow-Stem Auger (HSA) Drilling Techniques
- TP – Test Pit
- GB – Grab Sample

8.1.2 Date

The date component is a six-character code that presents the date that the sample was obtained in the following format: year, month, day (YYMMDD).

8.1.3 Sample Interval

The sample interval component corresponds to sample depth for soil samples, and is a three-character code that identifies each sampling interval. Soil sample depth determinations will be made to the nearest 0.5 foot, with the depth determination representing *either* the sample collection point (for VOC) *or* the beginning of the sampling interval (that is, 050 will represent the 5- to 5.5-foot interval). For groundwater, a "W" will be used for the sample interval component.

8.1.3.1 Field Quality Control (QC) Samples

Field QC samples will be identified by adding characters to the end of the sample interval field. The following characters are associated with the following field QC sample types:

- TB – VOC trip blank
- DUP – duplicate sample

8.1.4 Examples

Examples of complete sample numbers with descriptions are as follows:

- DP30-080825-020 A field sample collected at station DP30 on August 25, 2008, from 2 to 2.5 feet bgs.
- MW04-080825-W A groundwater sample collected at monitoring well MW04 on August 25, 2008.

Under the sample designation method described above, the identifier will be unique (that is, no two samples will have the same identifier) and informative (that is, location, date and sample interval). This designation scheme will facilitate overall data management and submittal into Ecology's Environmental Information Management (EIM) database.

8.2 SAMPLE LABELING

Sample information will be printed legibly onto the sample labels in indelible ink. Field identification will be sufficient to enable cross-reference with the project logbook.

To minimize handling of sample containers, labels will be completed before sample collection to the extent possible. The label will be filled out completely in the field and attached firmly to the sample container. The sample label will provide the following information:

- GeoEngineers' job number
- Sample designation
- Date of sample collection (month/day/year)
- Time of sample collection (hours: minutes)
- Chemical analyses to be conducted

- Sample preservation, if applicable
- Initials of sampler

8.3 FIELD LOGBOOKS AND DATA FORMS

Field logbooks (or daily logs) and data forms are necessary to document daily activities and observations. Documentation will be sufficient to enable participants to reconstruct events that occurred during the project accurately and objectively at a later time. All entries will be written in ink, dated and signed daily. No pages will be removed from logbooks for any reason. If corrections are necessary, these corrections will be made by drawing a single line through the original entry (so that the original entry is legible) and writing the corrected entry alongside. The correction will be initialed and dated. Corrected errors may require a footnote explaining the correction.

8.4 PHOTOGRAPHS

Documentation of a photograph is crucial to its validity as a representation of an existing situation. The following information will be noted in the field logbook or data forms concerning photographs:

- Date, time and location where photograph was taken
- Photographer
- Description of photograph taken
- Sequential number of the photograph and the film roll number, or sequence in the digital log
- Compass direction

9.0 DECONTAMINATION PROCEDURES

The objectives of decontamination procedures are to minimize the potential for cross-contamination between individual samples, to prevent contamination from leaving the sampling site by way of equipment or personnel and to prevent exposure of field personnel to contaminated materials. This section discusses general decontamination procedures.

9.1 PERSONNEL

Personnel decontamination procedures depend on the level of protection specified for a given activity. The HASP identifies the appropriate level of protection for each type of fieldwork involved in this project, as well as appropriate decontamination procedures.

9.2 SAMPLING EQUIPMENT

Decontamination procedures are designed to remove trace-level contaminants from sampling equipment to prevent cross-contamination of samples. Non-dedicated sampling or measurement equipment, including stainless steel sampling tools, soil sampling equipment and water level measurement instruments, will be decontaminated prior to and after each sampling attempt or measurement by washing with a nonphosphate detergent solution (for example, LiquiNox® and distilled water) and rinsing with distilled water.

10.0 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) generated from the subsurface investigations will be contained in 55-gallon steel drums and temporarily stored in a secured location as designated by the Port. The IDW is

anticipated to consist of soil cuttings, decontamination water, monitoring well development and purge water. The IDW will be separated by media (that is, soil and water) and labeled appropriately. Chemical analytical results from soil and groundwater sample analyses may be used to profile IDW for disposal at an appropriate off-site disposal facility. Solid waste from sampling activities (used gloves, tubing, etc.) will be contained in plastic trash bags and disposed as solid waste.

11.0 QUALITY ASSURANCE PROJECT PLAN

11.1 QUALITY ASSURANCE OBJECTIVES

The general quality assurance (QA) objectives for this project are to develop and implement procedures for obtaining and evaluating data of a specified quality that can be used to assess site conditions and risks. Field QA procedures to be followed include completing all appropriate sample documentation. Measurement data should have an appropriate degree of accuracy and reproducibility; samples obtained should be representative of actual field conditions, and samples should be obtained and analyzed using proper chain-of-custody procedures.

11.2 FIELD QA/QC PROCEDURES

Field QA/QC procedures to be followed include completing all appropriate sample documentation and preservation. One trip blank will be placed in each sample shipping container (for example, cooler) and analyzed for VOCs.

11.2.1 Trip Blanks

The analytical results of field trip blanks will be reviewed to evaluate the possibility for contamination resulting from the laboratory-prepared sample containers or the sample transport containers. Trip blanks will be analyzed at a frequency of one for each shipment of samples containing field samples for chemical analysis of VOCs. The trip blanks will be labeled with a "TB" sample identifier as described earlier in the "Sample Designation" section (Section 8.1) and delivered to the laboratory with the normal shipment of samples.

11.2.2 Sample Preservation and Containers

Samples will be kept in a cooler with ice before and during transport to the laboratory. The sampling extraction and analysis dates will be reviewed to confirm that extraction and analyses were completed within the recommended holding times, as specified by EPA protocol. Appropriate laboratory-assigned data qualifiers will be noted if holding times are exceeded or containers do not contain the appropriate sample preservation. Table 6 summarizes sample preservation and containers.

11.3 LABORATORY QA/QC PROCEDURES

The data quality objectives will be met in the laboratory by using established instrument calibration and sample handling procedures, analysis according to standard analytical methods and analysis of quality control samples. Laboratory quality control will consist of analysis of surrogate spikes, method blanks, duplicates, matrix spikes and matrix spike duplicates and reporting of all data including holding times.

11.3.1 Equipment Calibration Procedures and Frequency

All instruments and equipment used by the laboratory will be operated, calibrated and maintained according to manufacturer's guidelines and recommendations. Operation, calibration and maintenance

will be performed by personnel who have been properly trained in these procedures. A routine schedule and record of instrument calibration and maintenance will be kept on file at the laboratory.

11.3.2 Analytical Procedures

Samples will be analyzed according to analytical methods listed in Tables 1, 3, 4 and 5. EPA standard analytical methods are specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846* (through update III), dated December 1996. Washington analytical methods for petroleum hydrocarbons are specified in the Model Toxics Control Act (MTCA) regulations, as outlined in Washington Administrative Code (WAC) 173-340.

11.3.3 Laboratory QA/QC Samples

Laboratory QC samples will be analyzed at a frequency of 5 percent (1 in 20) on a laboratory batch basis. Laboratory QC samples will consist of duplicates, method blanks, matrix spikes and matrix spike duplicates. In addition, each organic analysis will include addition of surrogate compounds to the sample for surrogate spike analysis.

11.3.4 Laboratory Deliverables

The following information will be provided in the laboratory reports submitted for this project:

- Transmittal letter, including information about the receipt of samples, the testing methodology performed, any deviations from the required procedures, any problems encountered in the analysis of the samples, any problems meeting the method holding times or laboratory control limits, and any corrective actions taken by the laboratory relative to the quality of the data contained in the report.
- Sample analytical results, including sampling date, date of sample extraction or preparation, date of sample analysis, dilution factors and test method identification; soil sample results in milligrams per kilogram (mg/kg), micrograms per kilogram (µg/kg) or nanograms per kilogram (ng/kg); and detection limits for undetected analytes. Results will be reported for all field samples, including field duplicates and blanks submitted for analysis.
- Method blank results, including reporting limits for undetected analytes.
- Surrogate recovery results and corresponding control limits for samples and method blanks (organic analyses only).
- Matrix spike/matrix spike duplicate and/or blank spike/blank spike duplicate spike concentrations, percent recoveries, relative percent differences and corresponding control limits.
- Laboratory duplicate results for inorganic analyses, including relative percent differences and corresponding control limits.
- Sample chain-of-custody documentation.

The raw analytical data, including calibration curves, instrument calibration data, data calculation work sheets and other laboratory support data for samples from this project, will be compiled and kept on file at the laboratory's office for reference.

11.4 REVIEW OF FIELD AND LABORATORY QA/QC DATA

The sample data, field and laboratory QA/QC results will be evaluated for acceptability with respect to the RI data quality objectives (DQOs). Each group of samples will be compared with the DQOs and

evaluated using data validation guidelines contained in the following documents: *Guidance Document for the Assessment of RCRA Environmental Data Quality*, draft dated 1988 and *National Functional Guidelines for Organic Data Review*, draft 1999. To accomplish data evaluation, the criteria listed in the following subsections will be assessed.

11.5 PRECISION, ACCURACY AND COMPLETENESS

11.5.1 Precision

Precision is a measure of data variability. Variability can be attributed to sampling activities and/or chemical analysis. Relative percent difference (RPD) is used to assess the precision of the sampling and analytical method and is calculated as follows.

RPD = 100[(Xs - Xd)/(Xs + Xd)]/2

where

RPD	=	relative percent difference
Xs	=	sample analytical result
Xd	=	duplicate sample analytical result

11.5.2 Accuracy

Accuracy is a measure of the error between chemical analytical results and the true sample concentrations. Accuracy is a measure of the bias in a system and will be expressed as the percent recovery of spiked samples. The accuracy will be presented as percent recovery and will be calculated as follows.

PR = 100(Xss - Xs)/T

where

PR	=	percent recovery
Xss	=	spike sample analytical result
Xs	=	sample analytical result
T	=	known spike concentration

11.5.3 Completeness

Completeness is evaluated to assess whether a sufficient amount of valid data is obtained. Completeness is described as the ratio of acceptable measurements to the total planned measurements. Completeness is calculated as follows.

C = (Number of samples having acceptable data)/
(total number of samples analyzed) x 100%

where

C	=	completeness

11.6 REPORTING, DOCUMENTATION, DATA REDUCTION AND CORRECTIVE ACTION

Upon receipt of each laboratory data package, data will be evaluated against the criteria outlined in the previous sections. Any deviation from the established criteria will be noted and the data will be qualified, as appropriate. A review and discussion of analytical data QA/QC will be submitted in a report to be attached to the RI report. Data validation procedures for all samples will include checking the following, when appropriate.

1. Holding times
2. Detection limits
3. Field equipment rinseate blanks
4. Laboratory blanks
5. Laboratory matrix spikes
6. Laboratory matrix spike duplicates
7. Laboratory blank spikes
8. Laboratory blank spike duplicates
9. Surrogate recoveries

If significant quality assurance problems are encountered, appropriate corrective action as determined by GeoEngineers' project manager and/or the chemical analytical laboratory will be implemented as appropriate. All corrective action will be defensible, and the corrected data will be qualified.

Spatial information collected during the field event will be analyzed and displayed using ArcGIS 9.1 and EQUIS 3 to manage the chemical analytical data.

12.0 REFERENCES

Ecology (Washington State Department of Ecology). June 2004. *Collecting and Preparing Soil Samples for VOC Analysis – Implementation Memorandum #5.* Publication 04-09-087.

Ecology. April 2003. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. Publication 90-53.

Ecology. February 2001. *Model Toxics Control Act, Chapter 173-340*, Washington State Department of Ecology Toxics Cleanup Program, Olympia, Washington.

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
1. Additional characterization is needed to define the extent of soil contamination at the site. The aerial and vertical extent of soil contamination needs to be further defined in the vicinity of DP02 and DP04 (including westward beneath Jefferson Street and on adjacent offsite parcels if necessary) and north of DP18.	TPH-D, TPH-MO, arsenic, and cadmium in the 2-6 feet interval were the only COPC exceedances at DP04. These COPCs have been delineated laterally in this interval to the northeast and south with MW08 and DP03, respectively. A new soil boring will be advanced northwest of DP04 to complete the lateral delineation of COPC screening level exceedances in the 2-6 feet interval. Soil samples will also be obtained from beneath existing railroad tracks to be removed during infrastructure construction activities. The railroad tracks are currently embedded in the asphaltic pavement along Jefferson Street and we expect that the section beneath the pavement will consist of railroad ties supporting the rail and ballast material (typically 3 feet of crushed rock) supporting the ties. Soil samples will be collected at the soil/ballast interface. We will analyze soil collected beneath the ballast material for cPAHs (using EPA Method 8270C), TPH, and metals to assess potential residual soil contamination associated with the ties.	DP37	0-2										
			2-6	x [a]	X	X	x		x	X			light sand fill
			6-10	X	X	X	x			X			dark sand fill
	TPH-MO in the 2-6 feet interval was the only significant COPC exceedance at DP02. This COPC has been delineated laterally in this interval to the north and southeast with DP03 and DP16, respectively. A new soil boring will be advanced southwest of DP02 to complete the lateral delineation of the TPH-MO screening level exceedance in the 2-6 feet interval. A sample from 10 to 14 feet from the monitoring well boring for MW25S will be tested for TPH-MO to evaluate the vertical extent of this COPC identified in previous samples from DP02. Proposed shallow screen interval for MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04. Soil samples from below the railroad tracks will also be collected and analyzed from DP38 and analyzed for PAHs. PAHs will be tested in sample from 10 to 14 foot depth interval in the boring for MW25S to evaluate the vertical extent of this COPC identified previously at DP02 and DP16. One sample from DP38 will be tested for dioxins/furans to evaluate soil within the infrastructure corridor.	DP38	1-3				x		x				
			4-6	x	X	X	x	x	x		x		light sand fill
			6-10	X	X	X	x	x	x		x	9	Silt or dark sand fill
		MW25S	0-2										
			2-6										
			6-10	x	X	X	X		X				Silt or dark sand fill
			10-14	x	X	X	X		x				Silt or dark sand fill
	TPH-MO in the 10-14 feet interval was the only significant potential COPC exceedance at DP18. This COPC has been delineated latreally in the vadose zone and saturated zone with MW03, MW16, and DP17 but has not been delineated laterally north of DP18. Soil samples from the boring for MW23S will provide this information. Proposed screen interval for MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18. TPH-MO will be tested in MW-23S at the 6 to 10 and 10 to 14 foot intervals to evaluate the vertical extent of TPH-MO identified previously at DP18.	MW23S	0-2										
			2-6										
			6-10	x [a]	X	X	X		X				light sand fill
			10-14	x	X	X	X		X				light sand fill
2. Additional characterization is needed to define the extent of soil contamination at the site. The vertical extent of contamination needs to be defined in the vicinity of DP06 and DP08.	TPH-G in the 2-6 feet interval was the only significant potential COPC exceedance at DP06 and needs to be defined at depth and to the south. TPH-D and TPH-MO in the 2-6 feet interval were the only significant potential COPC exceedances at DP08. TPH-D and TPH-MO exceedance was identified in the 2-6 feet interval in DP-13. The vertical extent of gasoline, diesel and oil contaminated soil has been delineated with DP24, DP15, DP14, MW-5, MW-8 and MW-10. MW24S, along with the other proposed and existing wells, will be used to evaluate the leaching to groundwater pathway via empirical demonstration per WAC 173-340-747(9) an (10)(c). Proposed shallow screen interval for MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	MW24S	4-6	X	X	X	X		X				
			6-10	X	X	X	X		X				
	Evaluate lateral extent of TPH-D and MO identified previously at DP08 and DP13. Evaluate lateral extent of gasoline exceedance at DP08 and DP13.	DP39	0-2	X	X	X	X		X				
			2-6	x [a]	X	X	X		X				dark sand fill
	Lateral and vertical extent of dioxins/furans by TP03. Evaluate thickness of pre-1891 fill. Collect data to support management of soil that will be excavated as part of the infrastructure improvements. DP40 will also help evaluate the extent of diesel and oil contamination previously observed in DP13 and DP08 at 2-6 feet.	DP40	0-2	x	X	X	x	x	x				light sand fill
			2-4	x	X	X	x	x	x		x		light sand fill
			4-6	x	X	X	x	x	x		x	3.5	dark sand fill
3. Additional characterization is needed to define the extent of soil contamination at the site. The aerial extent of contamination has not been defined in the vicinity of MW19.	TPH-G in the 2-6 feet interval was the only potential COPC exceedance at MW19. Two soil borings (DP28 and the boring for MW21s) will be located near MW19 to evaluate the aerial extent of the screening level exceedance of TPH-G at MW19 in the 2-6 feet interval. The proposed screen interval (2 to 7 feet bgs) for MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19. Moreover, a soil boring advanced to the west of MW19 in response to Ecology Comment #7 (i.e. DP27) will also be sampled for TPH-G in the 2-6 feet interval to provide lateral delineation to the west. To address Ecology comment 7, if evidence of burned wood or ash is observed in boring DP28, which is located on the northern edge of parcel 1 near the former Refuse Fire Area, a sample of this material will be analyzed for dioxins and furans.	DP28	0-2	X	X	X	X						
			2-6	X	x	X	X						light sand fill
		MW21S	0-2										
			2-6		x [a]								light sand fill

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
4. Additional characterization is needed to define the extent of soil contamination at the site. Area of Concern (AOC) #16 (pad mounted transformer) needs to be evaluated. Soil samples should be collected from this area for petroleum hydrocarbons and PCBs. The location of well MW04 does not appear to be close enough to this AOC to be adequate.	One new boring will be advanced and sampled within AOC 16 as recommended by Ecology. The targeted depth for the soil sample collected from this boring is the elevation of the former transformer pad located in AOC 16. The sample from this boring will be analyzed for PCBs and mineral oil range petroleum hydrocarbons (NWTPH-Dx).	DP35	0-2										
			2-6	x						x			gravel fill
5. Parcel 1 needs to be assessed. AOCs #43 through 48 and #50 have not been adequately assessed. Also, the northern portion of Parcel 1 needs to be assessed.	The first sentence of this comment does not apply because the East Bay Redevelopment Project Area only includes the northwest portion of Parcel 1. A new boring (DP36) located in the right-of-way of Olympia avenue adjacent to the northwest portion of Parcel 1will address Ecology's concern regarding the northern portion of Parcel 1. However, the primary purpose of this boring is to evaluate soil conditions to assist in planning of future infrastructure improvements in this area and evaluate residual concentrations of COPCs in an area where historical sources were not located.	DP36	1-3					x					gravel fill
			2-6	x	x	X	x	X					silt
			6-10					X				9	silt
6. Additional characterization of dioxins/furans is needed. As shown in the report, concentration of dioxins/furans that exceed the MTCA Method B Soil Cleanup Level of 11 nanograms per kilogram (ng/kg) or parts per trillion (ppt), expressed as a Total Toxicity Equivalency Factor (TEF), were observed at all four locations tested for this constituent. The reported TEF values from these locations range from 57.9 to 645 ng/kg. Because the highest concentration (TP02) is near the east property line and near an adjacent public walking path and grassy area, additional samples for dioxins/furans should be collected in this adjacent area. Also, an analysis of wind direction should be performed to help predict locations that may show higher dioxin concentrations.	New boring DP33 will provide vertical profile of dioxins/furans concentrations near TP2. Selection of sample locations based on prediction of wind direction is not necessary because the proposed dioxins/furans sample locations (as outlined in this table) provide spatial coverage across the site.	DP33	0-2					x	x	x			gravel fill
			2-4				x	x	x		x		gravel fill
			4-6				x	x	x				light sand fill
			6-8					x				9	light sand fill
7. Additional characterization of dioxins/furans is needed. Parcel 7 is located adjacent to the Refuse Fire Area (Area of Concern #1), which is a potential source of dioxins/furans contamination. Additional soil samples for dioxins/furans analyses should be performed in Parcel 7. These samples will provide additional dioxins/furans data for the site and may help to determine whether AOC #1 was a source.	Additional samples which address Ecology's comment 7 will be collected and tested for dioxins/furans from a boring advanced near AOC 1 (DP27) and a boring advanced at the northern edge of Parcel 7 (DP28). In addition, DP27 will be sampled for TPH-G to address gasoline contamination identified in soil at MW-19 (see response to Ecology Comment #3). Samples from boring DP27 will also be analyzed for PAHs to evaluate the lateral and vertical extent of cPAHs identified in soil samples from MW-20, near the Refuse Fire Area. Note that Parcel 8, which is adjacent to the northwest portion of the Site, is being addressed by LOTT Alliance through Ecology's Voluntary Cleanup Program.	DP27	0-2					x	x	x			light sand fill
			2-4		x	X	x	x	x		x		light sand fill
			4-6				x	x	x		x		silt
			6-8				x	x				3	silt

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
8. Additional characterization of dioxins/furans is needed. Section 4.3.1 states that "dioxin testing appears to indicate that the historical working surface (depth of about 2 feet below existing grade) is impacted." Please provide more detail on what is meant by "historical working surface" and how it is distinguished. According to the Supplemental Site Use History report, the boiler house (AOC #17) operated circa 1932 and the power house (AOC #22-24) operated from at least 1941 through 1958. Was 2.0 feet below current grade the historical grade for these facilities? If so, what evidence is there for this? Dioxin samples were collected at the 2.0 foot depth at AOC #17, at the 3.5 depth at AOC #22-24, and at the 1.5 and 2.0 foot depths at the two randomly selected locations. It is recommended that additional samples be collected at AOC #17 so that a concentration verses depth profile can be determined.	The "historical working surface" is the sometimes woody and compacted historical grade where industrial buildings were located and operations were conducted on the property prior to later filling and grading. Based on our review of historical information the working surface is located about 1 to 4 feet below existing grade, however it can be difficult to identify in borings due to similarity in lithology of fill in this depth interval. Because of Ecology's questioning of the historical working surface and difficulty in determining its exact location in borings, a more appropriate rationale for the location of explorations where vertical profiles for dioxins/furans testing is as follows:1) complete a profile (DP33) adjacent to previous sample with high dioxins concentrations (TP02) and 2) complete a profile that represents temporal fill sequences.	See DP 33 (Comment 6) and borings and "Additional Explorations" rationale below.										
9. Additional characterization of groundwater contamination, flow direction, and gradient is needed. Groundwater monitoring wells MW-1 through MW·11 and MW-14 were installed with their screened interval submerged below the water table. Wells that monitor for light non-aqueous phase liquids (LNAPL, such as petroleum hydrocarbons) should be completed so that their screen straddles the water table. Therefore, to accurately evaluate whether groundwater is contaminated from LNAPL constituents, it will be necessary to install additional groundwater monitoring wells with screens that extend above the water table at selected locations where the existing monitoring wells are not adequate. Please present your proposed new well locations to us for review and approval.	Given the general lack of dissolved-phase petroleum constituent detections in the groundwater samples collected from existing MWs (as well as the relatively low TPH soil concentrations detected in soil samples collected from areas with suspected hydrocarbon contamination), it is unlikely that the typical placement of the screened intervals straddling the water table would result in measurable LNAPL thicknesses or even a screening level TPH exceedance at any MW at this site. Nonetheless, five shallow MWs (MW21S through MW25S) with screens straddling the water table are proposed to address this comment. MW21S and MW24S are discussed in the responses to Ecology Comments #2 and #3, respectively. Proposed MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06. MW23S and MW25S are discussed in the response to Ecology Comment #1. This Ecology comment is further addressed by in the Groundwater Monitoring Plan. Based on recent comments from Ecology (9/22/08 Ecology comment letter and subsequent discussion), because artesian wells at the Site may be influencing shallow groundwater, an attempt will be made to locate and decommission or otherwise mitigate leakage from the artesian wells. If the artesian wells are found and decommissioned, water levels and the need for shallow monitoring wells will be reevaluated.	MW22S	No analysis of soil samples unless field observations indicate the presence of contamination. Anticipated screened interval is 1-6 feet bgs.									
Additional Explorations													
Additional explorations to evaluate the nature and extent of contamination, including dioxins/furans. These explorations will provide data related to: a) regional area background concentrations of dioxins/furans and metals not related to a site release, b) management of soil that will be excavated as part of the infrastructure improvements, and c) evaluation of COPC distribution in different fill types and spatial coverage related to general extent of COPCs.	Evaluate extent of lead and PAHs at DP11.	DP29	0-2						x				light sand fill
			2-6				x						silt or gravel
			6-10				x						silt or gravel
			10-14						x				silt or gravel
	Evaluate dioxins/furans in fill (1891 to 1908 time interval), evaluate dioxins/furans in soil within the infrastructure corridor, and provide additional sampling data for parcel 9.	DP30	0-2				x	x					light sand fill
			2-4				x	x	x				light sand fill or silt
			6-8				x	x (if silt)				9	light sand fill or silt

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration	Sampling Depth Interval (ft bgs)[1]	Soil Analyses								Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
		Boring (DP) Well (MW)		NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]		
	Locations DP31 and DP41 are selected to obtain dioxins/furans data from soil not associated with any AOC source. This data will be used to evaluate dioxins/furans concentrations related to regional dioxin sources and regional background levels as it is possible that detected concentrations of dioxins/furans and metals in soil samples collected to date are attributable to an area or regional background rather than a site release. DP31 is located on parcel 6 in an area where no historical sources (AOCs) were located and the underlying fill is from the 1948 to 1975 time period. DP41 is located on parcel 2 in an area where no historical sources (AOCs) were located and the underlying fill is from the post 1975 time period.	DP31	0-2					x					light sand fill
			2-6	x			x	x					light sand fill
		DP41	0-2					x					gravel fill
			2-6				x	x					silt
	Evaluate dioxins/furans in post-1975 fill within the infrastructure corridor. These data will assist with evaluating background conditions as well as inform waste characterization and disposal associated with the excavated infrastructure corridor soils.	DP32	0-2					x			x		gravel fill
			2-6				x	x	x		x		gravel fill
			6-9					x				9	gravel fill
	Evaluate dioxins/furans in fill (1891 to 1908 time interval) near infrastructure corridor and on Parcel 4.	DP34	0-2					x					light sand fill
			2-6	X	X	X	x	x	x		x		light sand fill
			8-10	X	X	X	x	x	x			10	light sand fill or gravel
	These borings are located on Parcel 4 and the locations were selected to gather information to support soil characterization during construction activities associated with the Children's Hands on Museum.	DP26	0-2				X	x	X				light sand fill
			2-6					x	X				silt or light sand fill
			6-10				X	X					
		DP42	0-2				X	x					gravel fill
			2-6				X	x					light sand fill
			6-10				X	X					

Notes:

Blank boxes (no X) indicate that soil samples will be collected from the specified depth intervals and held for potential analyses by the analytical laboratory

Shaded cells indicate explorations and samples that will be collected in first phase of investigation

[1] Samples will be collected approximately every 2 feet in soil borings for field screening and potential chemical analyses. Discrete soil samples will be obtained from within the depth intervals shown in this column (rather than composite samples.) The depth ranges represent the intervals that a sample will be analyzed for the COPCs identified in the Soil Analyses columns. Additional samples may be analyzed if field observations indicate the presence of contamination.

[2] The metals listed; arsenic, cadmium and lead, represent metals that had concentrations exceeding screening levels in one or more locations. Some soil samples collected from the infrastructure corridor may also be analyzed for "RCRA 8" metals to provide data needed by soil disposal facilities. The RCRA metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium & silver.

[3]TOC= total organic carbon. TOC and other physical soil properties such as grain size may also be analyzed at various locations for the possibility of establishing site specific Method B cleanup levels.

[a] Also analyze for EPH.
[b] Also analyze for total organic carbon
x = sample collected for analytical testing. Red X = additional analytical testing requested by Ecology in it's September 22, 2008 comment letter.
As = Arsenic, Cd = Cadmium, Pb = Lead
PCBs = Polychlorinated biphenyls
HCID = Hydrocarbon Identification test (NWTPH-HCID)
NWTPH-Dx = Diesel-range and motor oil-range total petroleum hydrocarbons
TPH-MO = motor oil-range petroleum hydrocarbons
D/F = Dioxins and furans
NWTPH-G = Gasoline-range total petroleum hydrocarbons

TABLE 2
PROPOSED NEW MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
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				Existing Well Data[2]		
Well I.D.	**Purpose**	**Installation Method/Well Diameter**	**Proposed Well Screen Interval (BGS-feet)[1]**	**Nearest Existing well**	**Highest DTW**	**Lowest DTW**
MW21s	MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19.	Direct push/1-inch	2 to 7	MW19	3.47	3.78
MW22s	MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06.	Direct push/1-inch	1 to 6	MW6	0.84	1.14
MW23s	MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18.	Direct push/1-inch	4 to 9	MW16	5.41	6.35
MW24s	MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	Direct push/1-inch	2.5 to 7.5	MW10	3.48	3.8
MW25s	MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04	Direct push/1-inch	2 to 7	MW7 and MW8	5.0 & 2.55	5 & 2.62

Notes:

Based on recent comments from Ecology, because artesian wells at the Site may be influencing groundwater levels, an attempt will be made to locate and decommission the artesian wells. If the artesian wells are found and decommissioned, the need for shallow monitoring wells will be reevaluated.

[1]Across water table with one foot of screen above predicted high water table elevation and four feet of screen below this elevation, subject to approval by Ecology and issuance of well construction variance.

[2] Based on depth to water measurements collected August 2007 and July 2008 during low and high tides.

bgs=below ground surface

DTW = depth to water in feet as measured from top of well casing. Top of well casings for referenced wells is approximately at ground surface.

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TABLE 3
PROPOSED GROUNDWATER MONITORING AND CHEMICAL ANALYTICAL TESTING PLAN
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

		Past Groundwater Monitoring and Sampling Events												Proposed Future Groundwater Monitoring									
		Last Sampling Events			Chemical Analytical Testing Completed									Physical Parameter Monitoring		Chemical Analytical Testing Proposed							
Well No.[3,4,5]	**Associated Historic Source Area/Concern and Contaminant of Potential Concern (COPC)**	**Jan-07**	**Jun-07**	**Aug-07**	**TPH-Gasoline**	**TPH-Diesel**	**TPH-Oil**	**VOCs**	**Total PP Metals**	**SVOCs (and PAHs)[6]**	**PCBs[7]**	**Dioxins/Furans[8]**	**Previous Exceedance of Screening Level (MTCA A or B)**	**Depth to Water**	**Conductivity, pH, ORP, Turbidity, DO, Salinity, Fe^{2+} (using a Horiba U-10 flow through cell)**	**TPH-Gasoline**	**TPH-Diesel**	**TPH-Oil**	**VOCs (BETX and HVOCs)**	**Total RCRA Metals**	**PAHs[6]**	**PCBs[7]**	**Dioxins/Furans[8]**
MW01	Oil House (TPH)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW02	Machine Shops (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x [1]	x	--	--
MW03	Tar Dipping Tank (TPH, PAHs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW04	Near former Transformers (PCBs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	x	--
MW05 [2]	Power House Area (TPH, metals, VOCs, D/F)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	x	x
MW06	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW22s (if MW22s is not installed, MW06 wil be sampled for parameters planned for MW22s)							
MW07	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW08	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW09	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW10	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW24s (if MW24s is not installed, MW10 wil be sampled for parameters planned for MW24s)							
MW11	None: downgradient from offsite gasoline station	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW12 [2]	Power House Area (TPH, metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW13	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic, diesel**	x	x	x	x	x	x	x [1]	x	--	--
MW14	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	N	N	N	N	N	N	N	N	N	N/A	x	x	x	x	x	x	x	x	--	--
MW15 [2]	None	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW16 [2]	Boiler House Area (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	x (tested Aug-08)
MW17	Shops (TPH, PAHs, Metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	--	--
MW18 [2]	None: downgradient well near Marine View Drive	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW19	Panel Oiling (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW21s (if MW21s is not installed, MW19 wil be sampled for parameters planned for MW21s)							
MW20	Refuse Fire Area (TPH, metals, PAHs, D/F)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
Proposed Wells and/or Sampling Locations																							
MW21s (paired with MW19)[9]	Panel Oiling (TPH, PAHs)													x	x	x	x	x	x	x	x	--	--
MW22s (paired with MW06)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW23s (paired with MW16)[9]	Boiler House Area (TPH, PAHs)													x	x	x	x	x	--	--	--	--	--
MW24s (paired with MW10)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW25s (no pairing)	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
Seep 1[10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 2 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 3 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 4 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--

Notes:

[1]Dissolved metals to be tested in addition to total metals at locations where metals exceedances have been measured. Also test these samples for aluminum and iron (Al and Fe^{3+}) to represent suspended clay particles. Results to potentially be used for evaluating sorption of COPCs.

[2]MW05, MW12, MW16 and MW18 are downgradient wells between the subject property and East Bay. These wells will be considered for potential future compliance wells.

[3]MW04, 05, 06, 07, 08, 10 were sampled and tested July 13, 2007 for diesel-range hydrocarbons only.

[4]MW01 through MW10 were installed in January 2007. MW11 through MW20 were installed in July and August 2007.

[5]MW14 was not sampled in 2007 because other monitoring wells surrounding MW14 were sampled and tested.

[6]Note on SVOCs. The only SVOC exceedances were cPAHs, therefore only cPAHs will be analyzed, rather than the full SVOC list.

[7]Note on PCBs. PCBs have not been detected in any of the groundwater samples obtained from MW01 through MW20 at the site; nor have they been detected above soil screening levels. Therefore PCBs will only be tested at locations where low level detections of PCBs were detected in soil on Parcel 3 and near the former transformer location (MW04).

[8]Note on Dioxins/Furans. Dioxin/Furans were not detected in a groundwater sample obtained and tested from MW16 in August 2008. Dioxin sampling and testing approach is based on obtaining samples from potential source area wells that are also downgradient compliance wells (MW05 and MW16). If dioxins/furans are detected in groundwater at MW05 or MW16, then additional testing will be conducted at the other compliance wells (MW04, MW11, MW12

[9]This well will not be installed if water levels drop sufficiently after the artesian wells are decommissioned if the existing paired monitoring well screen is not totally submerged.

[10]Water from this seep area will only be sampled if it is determined to represent groundwater (see Section 5.4.2 of Sample and Analysis Plan)

x = sample collected for analytical testing
Y = Yes; N = No; NA = not applicable; "--" = Not tested
TPH-Gasoline by Ecology Method NWTPH-Gx
TPH-Diesel and Oil by Ecology Method NWTPH-Dx
VOCs (volatile organic compounds) by EPA Method 8260B
RCRA Metals (As, Ba, Cd, Cr, Pb, Ag, Se, Hg) by EPA Methods 6000/7000
PAHs (polycyclic aromatic hydrocarbons) by EPA Method 8270sim
PCBs (polychlorinated biphenyls) by EPA Method 8082
Dioxins/Furans by EPA Method 1613B
ORP = Oxidation Reduction Potential
DO = Dissolved Oxygen
Fe = Iron
Al = Aluminum
COPCs = contaminants of potential concern

TABLE 4
SOIL ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1]	
		Target Reporting Limits	Analytical Method
Total Petroleum Hydrocarbons			
Gasoline-Range	mg/kg	5.0E+00	NW-TPH-Gx
Diesel-Range	mg/kg	5.0E+00	NW-TPH-Dx
Oil-Range (including Mineral O	mg/kg	1.0E+01	NW-TPH-Dx
Metals			
Arsenic	mg/kg	5.0E+00	6010B ICP
Cadmium	mg/kg	2.0E-01	6010B ICP
Lead	mg/kg	2.0E+00	6010B ICP
Volatile Organic Compounds[2]			
BTEX	mg/kg	1.0E-03	EPA 8260B
Semivolatile Organic Compounds[2]			
SVOCs	mg/kg	6.7E-02	EPA 8270
4-Chloro-3-methylphenol	mg/kg	3.3E-01	EPA 8270
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	mg/kg	5.0E-03	EPA 8270D SIM
Polychlorinated Biphenyls[2]			
Total PCBs	mg/kg	4.0E-03	8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	mg/kg	5.0E-07	1613/8290
2,3,7,8-TCDF	mg/kg	5.0E-07	1613/8290
-Penta, Hexa, Hepta	mg/kg	2.0E-06	1613/8290
-Octa	mg/kg	5.0E-06	1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

mg/kg = milligrams per kilogram
SVOCs = Semivolatile Organic Compounds
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TCDF = Tetrachlorinated Dibenzofurans
PCBs =Polychlorinated Biphenyls
BTEX = benzene, toluene, ethylbenzene, and xylenes
PAHs = Polycyclic Aromatic Hydrocarbons

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TABLE 5
GROUNDWATER ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1] Target Reporting Limits	Analytical Method
Petroleum Hydrocarbons			
Gasoline-Range	mg/L	0.03	NWTPH-G
Diesel-Range	mg/L	0.25	NW-TPH-Dx
Oil-Range	mg/L	0.50	NW-TPH-Dx
Si/Acid Cleaned TPH-D	mg/L	0.25	NW-TPH-Dx
Si/Acid Cleaned TPH-O	mg/L	0.50	NW-TPH-Dx
Metals *(Total or Dissolved)*			
Arsenic	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Barium	mg/L	0.01	EPA 6020/200.8 ICP-MS
Cadmium	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Chromium	mg/L	0.0005	EPA 6020/200.8 ICP-MS
Lead	mg/L	0.001	EPA 6020/200.8 ICP-MS
Mercury	mg/L	0.00002	EPA 7470 GFAA & CVAA
Selenium	mg/L	0.1	EPA 6020/200.8 ICP-MS
Silver	mg/L	0.02	EPA 6020/200.8 ICP-MS
Volatile Organic Compounds[2]			
VOCs	µg/L	1.0	EPA 8260B (5 mL purge)
Methylene Chloride	µg/L	2.0	EPA 8260B (5 mL purge)
Acetone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Butanone	µg/L	5.0	EPA 8260B (5 mL purge)
Vinyl Acetate	µg/L	5.0	EPA 8260B (5 mL purge)
4-Methyl-2-Pentanone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Hexanone	µg/L	5.0	EPA 8260B (5 mL purge)
Tetrachloroethene	µg/L	0.2	EPA 8260B (20 mL purge)
1,1,2-Trichlorotrifluoroethane	µg/L	2.0	EPA 8260B (5 mL purge)
Acrolein	µg/L	50	EPA 8260B (5 mL purge)
1,2-Dibromo-3-Chloropropane	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichloropropane	µg/L	2.0	EPA 8260B (5 mL purge)
trans-1,4-Dichloro-2-Butene	µg/L	5.0	EPA 8260B (5 mL purge)
Hexachlorobutadiene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,4-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Naphthalene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Semivolatile Organic Compounds[2]			
SVOCs	µg/L	1.0	EPA 8270D
Benzyl Alcohol	µg/L	5.0	EPA 8270D
N-Nitroso-Di-N-Propylamine	µg/L	5.0	EPA 8270D
Hexachloroethane	µg/L	2.0	EPA 8270D
2-Nitrophenol	µg/L	5.0	EPA 8270D
Benzoic Acid	µg/L	10	EPA 8270D
bis(2-Chloroethoxy) Methane	µg/L	1.0	EPA 8270D
2,4-Dichlorophenol	µg/L	5.0	EPA 8270D
1,2,4-Trichlorobenzene	µg/L	1.0	EPA 8270D
Naphthalene	µg/L	1.0	EPA 8270D
4-Chloroaniline	µg/L	5.0	EPA 8270D
4-Chloro-3-methylphenol	µg/L	5.0	EPA 8270D
Hexachlorocyclopentadiene	µg/L	5.0	EPA 8270D
2,4,6-Trichlorophenol	µg/L	5.0	EPA 8270D
2,4,5-Trichlorophenol	µg/L	5.0	EPA 8270D
2-Nitroaniline	µg/L	5.0	EPA 8270D
3-Nitroaniline	µg/L	5.0	EPA 8270D
2,4-Dinitrophenol	µg/L	10	EPA 8270D
4-Nitrophenol	µg/L	5.0	EPA 8270D
2,6-Dinitrotoluene	µg/L	5.0	EPA 8270D
2,4-Dinitrotoluene	µg/L	5.0	EPA 8270D
4-Nitroaniline	µg/L	5.0	EPA 8270D
Pentachlorophenol	µg/L	5.0	EPA 8270D
3,3'-Dichlorobenzidine	µg/L	5.0	EPA 8270D
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	µg/L	0.01	8270M GC/MS Low Level
Polychlorinated Biphenyls			
Total PCBs	µg/L	0.01	EPA 8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	µg/L	0.000005	EPA 1613/8290
-Penta, Hexa, Hepta	µg/L	0.000025	EPA 1613/8290
-Octa	µg/L	0.00005	EPA 1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

mg/L = milligrams per liter
µg/L = micrograms per liter
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TPH-O = Oil-range Petroleum Hydrocarbons
TPH-D = Diesel-range Petroleum Hydrocarbons
SVOC = Semivolatile Organic Compound
VOCs = volatile organic compounds
PCB = Polychlorinated Biphenyls
PAHs = polycyclic aromatic hydrocarbons

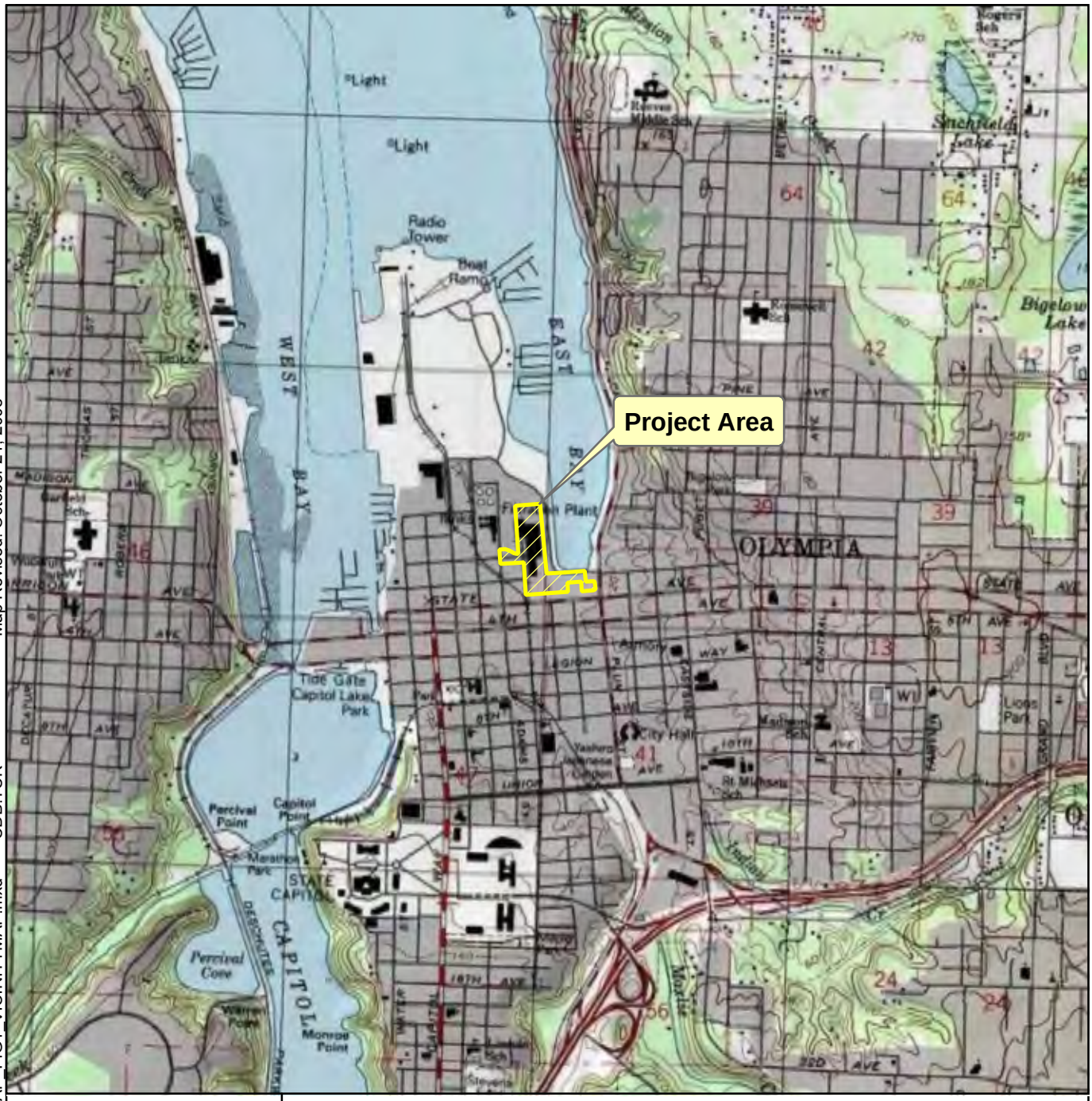
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TABLE 6
SAMPLE CONTAINERS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

		Soils				Waters			
Analysis	Method	Minimum Sample Size	Sample Containers	Sample Preservation	Holding Times	Minimum Sample Size	Sample Containers	Sample Preservation	Holding Times
Diesel Range Hydrocarbons	NWTPH-Dx	100 g	8 or 16 oz amber glass wide-mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4 C, HCl to pH < 2	14 days to extraction 40 days from extraction to analysis
Gas Range Hydrocarbons	NWTPH-G	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
VOC	SW-846 8260B	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
Metals (including Mercury)	SW-846 6010/6020 SW-846 7470/7471	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	180 days/ 28 days for Mercury	500 mL	1 L poly bottle	HNO_3 - pH<2 (Dissolved metals preserved after filtration)	180 days (28 days for Mercury)
SVOCs (PAHs)	SW-846 8270C	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCB	SW-846 8082	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCDD/PCDF	SW-846 8290	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	30 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	30 days to extraction 40 days from extraction to analysis

Note:
Holding Times are based on elapsed time from date of collection
VOC = Volatile Organic Compounds
SVOC = Semivolatile Organic Compound
PCDD = Polychlorinated Dibenzo-p-dioxins
PCDF = Polychlorinated Dibenzofurans
PCB =Polychlorinated Biphenyls
HCl = Hydrochloric Acid
HNO_3 = Nitric Acid
oz = ounce
mL = milliliter
L = liter
g = gram

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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.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: Interstates, state routes, and roads from TIGER 2000. County boundaries, cities, and waterbodies from Department of Ecology. U.S. topographic map from National Geographic Society.

Lambert Conformal Conic, Washington State Plane North, North American Datum 1983

Vicinity Map

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 1

Office: TAC Path: P:\0\061503402\GIS\061503407_SAP_FIG1_VICINITYMAP.mxd CDB:TCK Map Revised: October 21, 2008

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG2_EXPLOR_LOC.mxd CDB:TCK Map Revised: October 21, 2008



Proposed Direct-Push Boring Location

Phase 1 Explorations

Test Pit (GeoEngineers, Inc. - Oct. 2007)

Direct-Push Boring (GeoEngineers, Inc. - Sept. 2006, Jan. & July 2007)

Direct-Push Boring (Brown and Caldwell - Nov. 2006, Jan. & Feb. 2007)

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

Direct-Push Boring (Northwest Testing Company, Oct. 2006)

Cone Penotrometer Test (Landau - May 2007)

Boring (Landau - May 2007)

N W E S

150 0 150

Feet

Reference: Aerial photograph (dated April 2008) and Approximate Infastructure Improvement Corridor from Skillings Connolly.
Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes: 1. The locations of all features shown are approximate.

2. This drawing is for infomation 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.

Site Plan and Exploration Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 2

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG3_MW_LOCS.mxd CDB:TCK Map Revised: October 21, 2008



Proposed Monitoring Well Location

Monitoring Well (GeoEngineers, Inc. - Jan. & July 2007)

Monitoring Well (Delta Environmental - June 2003)

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N
W E
S

150 0 150
Feet

Site Plan and Monitoring Well Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 3

Reference: Aerial photograph (dated April 2008) from Skillings Connolly. Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for infomation 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.

Attachment B

PIONEER Field Forms

PREPARED BY:

PIONEER TECHNOLOGIES CORPORATION

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Olympia, WA 98503
Phone: 360.570.1700
Fax: 360.570.1777
www.uspioneer.com

April 2013

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: _____ Site Location: _____

Requested By / Date: _____ Work Deadline: _____

SERVICES REQUESTED	COMPLETED
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☐ Review Docs: _____	☐ YES ☐ NO	☐ Health & Safety Meeting	☐ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☐ Coordinate Access: _____	☐ YES ☐ NO	☐ Draw Site Map _____	☐ YES ☐ NO
☐ Coordinate Sub / Equip: _____	☐ YES ☐ NO	☐ Cuttings / Purge Water Characterization & Disposal	
☐ Purchase / Rent Equip: _____	☐ YES ☐ NO	☐ Potential HW _____	☐ YES ☐ NO
☐ Client/Agency Coordination: _____	☐ YES ☐ NO	☐ Non-Haz _____	☐ YES ☐ NO
☐ Calibrate Equipment: _____	☐ YES ☐ NO	☐ Background _____	☐ YES ☐ NO

_____

_____

SAMPLING REQUIREMENTS

☐ Field Testing: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

☐ Site Map ☐ Camera ☐ Survey Equip / GPS ☐ Vehicle

☐ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☐ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☐ Sample Kit / Cooler / COC / Ice _____

☐ IDW: ☐ Drums _____ ☐ 5-gal buckets _____

☐ Other: _____

☐ Other: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date:_____ Site Location: _____ Site Arrival Time: _____ Site Departure Time :_____

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

NOTES ON WORK COMPLETED

SIGNATURE:_____ DATE:_____

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID		Drilling Co.	
Project/Site Name		Lisc. Driller	
Field Professional		Drilling Method	
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

Attachment C

Responses to Ecology Comments on the Work Plan

PREPARED BY:

PIONEER TECHNOLOGIES CORPORATION

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April 2013

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February 19, 2013

Mr. Steve Teel, LHG
Washington State Department of Ecology
Toxics Cleanup Program – Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7705

Subject: Responses to Ecology October 31, 2012 Comments
August 10, 2012 Data Gap Work Plan for Soil-to-Indoor Air Pathway
East Bay Redevelopment Site, Olympia, Washington
Ecology Facility/Site No. 5785176, Agreed Order DE5471

Dear Mr. Teel:

Thank you for your October 31, 2012 letter providing comments on the aforementioned work plan. On behalf of the Port of Olympia (Port) and in accordance with our November 7, 2012 meeting, PIONEER Technologies Corporation (PIONEER) is submitting for your review the attached responses to comments. A revised work plan will be submitted for your review and approval within 30 days after approval of these responses.

If you have further questions or comments regarding these responses, please do not hesitate to contact me at (360) 570-1700.

Respectfully,



Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)
Senior Professional Engineer

cc: Mr. Scott Rose, Washington State Department of Ecology (electronic copy)
Ms. Alex Smith, Port of Olympia (electronic copy)
Mr. Eric Hielema, LOTT Clean Water Alliance (electronic copy)
Mr. Jay Burney, City of Olympia (electronic copy)

Attachments:
1. Responses to Ecology Comments

RESPONSES TO ECOLOGY COMMENTS
Ref: Ecology Letter to Port of Olympia dated October 31st, 2012

August 10, 2012 Data Gap Work Plan for Soil-to-Indoor Air Pathway at East Bay Redevelopment Site

#	Comment	Response
1	Delete the collection of soil samples from SVP-1 and -2. Collection of soil gas samples from dedicated boring locations will result in more representative soil gas samples. Any soil samples that are collected for analysis shall be done with separate borings that are installed after all soil gas samples have been collected.	As discussed during our November 7, 2012 meeting, the work plan will be revised so that soil samples are collected from soil borings advanced adjacent to SVP-1 and SVP-2 (e.g., offset approximately two feet) after the soil gas samples are collected from SVP-1 and SVP-2.
2	The driller shall ensure that the Post-Run Tubing (PRT) tip threads and seat shall be cleaned on a daily basis (or more frequently if needed) and the O-ring shall be changed daily.	The work plan will be revised to indicate that the driller will clean the PRT tip threads and seat on a daily basis (or more frequently if needed), and change the O-ring daily.
3	Only rigid wall tubing shall be used. The tubing above the PRT connector shall be thick-wall so that sufficient torque is available to screw the tip tightly into the seat.	The work plan will be revised to clarify that the ¼-inch-diameter Teflon tubing being used is rigid wall tubing.
4	The drive point shall be installed to a depth of at least 5 feet below grade (fbg) and the point that soil gas enters the tubing (sampling point) shall be at a depth of at least 5 fbg.	The work plan will be revised to clarify that the top of the drive point will be at least five feet below ground surface (bgs) (the work plan currently states the drive point will be approximately five feet bgs).
5	The rods shall be pulled back no more than 6 inches above sampling point.	The work plan will be revised to indicate that the rods will be pulled back no more than 6 inches above the sampling point (the work plan currently states that rods will be pulled back approximately 6 to 12 inches).
6	An equilibration period of 60 minutes shall be observed after soil gas probe installation and prior to shut-in testing, leak testing, purging, and sampling. The time period for equilibration shall begin after the rods have been pulled back.	The work plan will be revised to incorporate the requested changes.
7	Section 2.2 and Table 4: Delete the use of an eight-hour sampling period and 6-liter Summa Canister. All soil gas samples shall be collected using a Summa canister size of 1-liter and the regulator shall be adjusted by the laboratory so that the flow rate is between 100-200 milliliters per minute. Probe vacuum shall be < 100 inches water (or <8 inches mercury).	Although PIONEER and the Port generally believe that longer sample periods and larger sample volumes provide more representative soil gas data, the work plan will be revised to incorporate the requested changes.
8	We do not recommend the collection of an ambient air sample for this investigation. Ecology's 2009 draft Soil Vapor Guidance document does not recommend the collection of ambient air samples in a Tier 1 Assessment. If an ambient air sample is to be collected against	As discussed during our November 7, 2012 meeting, it is a PIONEER standard operating procedure to collect at least one synoptic, upwind ambient air sample during every vapor intrusion (VI) investigation we conduct (regardless of whether it is a Tier 1, Tier II, or other VI investigation). The purpose of collecting the

RESPONSES TO ECOLOGY COMMENTS
Ref: Ecology Letter to Port of Olympia dated October 31st, 2012

August 10, 2012 Data Gap Work Plan for Soil-to-Indoor Air Pathway at East Bay Redevelopment Site

#	Comment	Response
	Ecology's recommendation, please describe specifically what this data will be used for.	ambient air sample is to approximate ambient air background concentrations at the time of soil gas sampling. The constituents of interest for this soil gas investigation (i.e., benzene, toluene, ethylbenzene, and xylenes) are ubiquitously present in ambient air at detectable concentrations. Since ambient air often mixes with shallow soil gas, the soil gas concentrations measured during this investigation could be influenced by background constituent concentrations in ambient air. Thus, the ambient air data could be a helpful line of evidence, if necessary, to help determine whether or not soil gas concentrations were significantly affected by ambient air concentrations. Although Ecology's 2009 draft VI guidance document does not recommend collection of an ambient air sample during a Tier I Assessment, it also does not specifically recommend not collecting an ambient air sample. Since Ecology's 2009 draft VI guidance document does recommend collection of an upwind ambient air sample as part of a Tier II Assessment, it is prudent to collect an upwind air sample as part of this investigation.
9	Soil gas sampling shall not be performed immediately following a significant rain event.	As discussed during our November 7, 2012 meeting, PIONEER and the Port agree that soil gas samples should not be collected when vadose zone pores are saturated. As a result, the work plan will be revised to indicate that soil gas samples will not be collected if (1) ponded water on the ground surface is present within 20 feet of a SVP, or (2) it has been less than 48 hours since it rained more than ½-inch in a 24-hour period. Given the amount of ponded water typically at the Site during the winter, note that these criteria will likely mean that soil gas samples will not be collected before late spring at the earliest.
10	Soil vapor samples shall be analyzed for oxygen, carbon dioxide, methane, nitrogen, and helium by ASTM D1946.	As discussed during our November 7, 2012 meeting, PIONEER and the Port understand that some of these proposed analyses are intended as a line of evidence to help evaluate whether or not aerobic degradation is likely occurring for the constituents of interest. The work plan will be revised to incorporate the analyses of these constituents as requested.

RESPONSES TO ECOLOGY COMMENTS
Ref: Ecology Letter to Port of Olympia dated October 31st, 2012

August 10, 2012 Data Gap Work Plan for Soil-to-Indoor Air Pathway at East Bay Redevelopment Site

#	Comment	Response
11	Soil gas sample collection shall be stopped when the vacuum gauge on the sampling canister indicates that between 3 to 5 inches of mercury vacuum is remaining.	The work plan will be revised to incorporate the requested change (the work plan currently states that sample collection will be stopped when the remaining canister volume is 5 inches of mercury).
12	Please add a section describing how soil and soil gas sample borings will be decommissioned.	The work plan will be revised as requested to indicate that the driller will decommission the soil borings and SVP borings by backfilling the boreholes with bentonite chips and hydrating the bentonite chips.
13	Please add a section discussing field quality control (QC). Field QC soil gas samples shall include equipment blanks and duplicate samples. Equipment blanks shall be collected from the assembled soil gas probe (including tip and tubing) on a daily frequency. Duplicate samples shall be collected by using a T-splitter at the point of sample collection to divide the sample stream into two separate containers. Duplicate samples shall be collected on a daily frequency.	As requested, a field QC section will be added to the work plan and field QC samples will be collected. One field duplicate sample will be collected during the sampling event using a T-splitter at the point of sample collection. One equipment blank per sampling event will be collected after the soil gas samples are collected. The equipment blank sample will be collected by connecting a Summa canister and dedicated to the cleaned, non-dedicated PRT equipment after the PRT equipment is placed on the ground surface in a non-impacted location. Note that the equipment blank sample will be affected by ambient air background concentrations.
14	Delete Attachment C. Ecology does not agree with the soil gas screening level calculations presented in Attachment C. As stated in Appendix D of the Soil Vapor Guidance, Ecology does not recommend that investigators rely upon Johnson and Ettinger Model predictions when the source is vadose zone soils. Other issues with Attachment C include the lack of soil gas sample data from the Site and the use of an attenuation factor that is inconsistent with Table B-1 of the Guidance.	As requested, the work plan will be revised by deleting Attachment C and using the default soil gas screening levels in Table B-1 of Ecology's 2009 draft VI guidance document (based on a default soil gas-to-indoor air attenuation factor of 0.1). However, PIONEER and the Port firmly believe that the soil gas screening level calculations in Attachment C are consistent with Ecology's 2009 draft VI guidance document, and are appropriate for this investigation. As a result, PIONEER and the Port may use the Johnson and Ettinger Model (JEM) calculations in Attachment C as necessary when evaluating the data collected pursuant to the work plan. As stated in Appendix D of Ecology's 2009 draft VI guidance document, "JEM is a handy VI assessment tool and Ecology endorses its use during Tier I screening." As discussed during our November 7, 2012 meeting, please note the following about the text in Appendix D of Ecology's 2009 draft VI guidance document and the JEM calculations in Attachment C:

RESPONSES TO ECOLOGY COMMENTS
Ref: Ecology Letter to Port of Olympia dated October 31st, 2012

August 10, 2012 Data Gap Work Plan for Soil-to-Indoor Air Pathway at East Bay Redevelopment Site

#	Comment	Response
		• The text on page 24 of Appendix D about not using JEM predictions when the VI source is vadose zone soil is strictly in the context of using the JEM soil-to-indoor air spreadsheet. The JEM soil-to-indoor air spreadsheet is not the JEM spreadsheet being used in Attachment C. Rather, the soil gas-to-indoor air JEM spreadsheet, which is recommended in Appendix D for these situations, is used in Attachment C. • The calculations presented in Attachment C are equally protective of human health regardless if the JEM is operated in forward calculation mode or backward calculation mode. Appendix D of the guidance discusses using the JEM in "forward calculation" mode, where a measured soil gas concentration is inputted and used to predict an expected indoor air concentration, which is then compared with an indoor air screening level. Attachment C of the work plan uses the same JEM equation in "backward calculation" mode. In "backward calculation" mode, a protective (or target) indoor air concentration is determined, and then the JEM is used to back calculate the soil gas concentration that will produce the target indoor air concentration. This soil gas concentration is the protective soil gas screening level. • Appendix D of the guidance discusses Ecology concerns about using various site-specific input assumptions during a screening level evaluation (as opposed to relying upon conservative default input assumptions). As shown in Attachment C of the work plan, all of the JEM inputs used in the Attachment C calculations were conservative, default input assumptions.
15	Please add that Ecology will be provided 48-hours notice of the beginning of field work.	The work plan will be revised to incorporate the requested change.

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March 12, 2013

Mr. Steve Teel, LHG
Washington State Department of Ecology
Toxics Cleanup Program – Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7705

Subject: Response to Comment for Ecology's February 28, 2013 Comment
Data Gap Work Plan for Soil-to-Indoor Air Pathway
East Bay Redevelopment Site, Olympia, Washington
Ecology Facility/Site No. 5785176, Agreed Order DE5471

Dear Mr. Teel:

Thank you for your February 28, 2013 letter approving the February 19, 2013 response to comment (RTC) document and for providing an additional comment on the August 10, 2012 Data Gap Work Plan for Soil-to-Indoor Air Pathway. On behalf of the Port of Olympia (Port), PIONEER Technologies Corporation (PIONEER) is submitting the attached RTC for the additional February 28th comment. A revised work plan will be submitted for your review and approval within 30 days after approval of this RTC.

If you have further questions or comments regarding this RTC, please do not hesitate to contact me at (360) 570-1700.

Respectfully,



Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)
Senior Professional Engineer

cc: Mr. Scott Rose, Washington State Department of Ecology (electronic copy)
Ms. Alex Smith, Port of Olympia (electronic copy)
Mr. Eric Hielema, LOTT Clean Water Alliance (electronic copy)
Mr. Jay Burney, City of Olympia (electronic copy)

Attachment:
1. Response to Ecology Comment

RESPONSE TO ECOLOGY COMMENT
Ref: Ecology Letter to Port of Olympia dated February 28, 2013

August 10, 2012 Data Gap Work Plan for Soil-to-Indoor Air Pathway at East Bay Redevelopment Site

#	Comment	Response
1	Currently, the plan proposes to analyze the following contaminants of concern in soil gas by EPA Method TO-15: benzene, toluene, ethylbenzene, and total xylenes (BTEX). However, there are additional constituents that either have been detected in soil samples from the Site (such as naphthalene) or that could be present in soil gas from a gasoline source (such as I ,3-butadiene, hexane, chloromethane, ethylene dibromide, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene). **Therefore, please modify the work plan to include the full list of TO-15 analytical constituents.**	The work plan is designed to collect additional data to further evaluate the soil-to-indoor air pathway due to concentrations of total petroleum hydrocarbons in the gasoline range (TPH-G) in three soil samples that were less than three times the TPH-G soil screening level. Since there are no Model Toxics Control Act (MTCA) Method B air cleanup levels for TPH-G, BTEX were originally selected as TPH-G surrogates for this investigation because BTEX constituents typically comprise a larger percentage of a gasoline mixture than other gasoline components. Nonetheless, the work plan will be revised to add the analysis of the following constituents consistent with MTCA Table 830-1 requirements for a TPH-G release: • n-hexane • 1,2-dibromoethane • 1,2-dichloroethane • methyl tertiary-butyl ether • naphthalene [(1)] In addition, the work plan will be revised to add the analysis of the following constituents since they were detected in one of the soil samples with a TPH-G screening level exceedance, are typically associated with gasoline, and have soil gas screening levels in Appendix B of Ecology's 2009 draft vapor intrusion guidance document: • 1,2,4-trimethylbenzene • 1,3,5-trimethylbenzene Analysis of additional volatile organic compounds (VOCs) beyond those listed above (i.e., the full TO-15 analyte list) is not required per MTCA Table 830-1 and is not warranted for this situation (i.e., minor TPH-G exceedances in soil). Furthermore, analysis of non-target VOCs can significantly complicate vapor intrusion evaluations due to the ubiquitous presence of many VOCs in ambient air and shallow soil gas at background concentrations that often exceed screening levels. The constituents listed in this response will be analyzed in all media (i.e., soil, soil gas, and ambient air).

[(1)] 1-methylnaphthalene and 2-methylnapthtalene cannot be analyzed by Method TO-15 due to their molecular size. In addition, Appendix B of Ecology's 2009 draft vapor intrusion guidance document does not have screening levels for 1-methylnaphthalene, 2-methylnaphthalene, or total naphthalenes.



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April 12, 2013

Mr. Steve Teel, LHG
Washington State Department of Ecology
Toxics Cleanup Program – Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7705

Subject: Data Gap Work Plan for the Soil-to-Indoor Air Pathway and Response to Comments for Ecology's March 14, 2013 Comments East Bay Redevelopment Site, Olympia, Washington Ecology Facility/Site No. 5785176, Agreed Order DE5471

Dear Mr. Teel:

On behalf of the Port of Olympia (Port), PIONEER Technologies Corporation (PIONEER) is enclosing two copies of the revised Data Gap Work Plan for the Soil-to-Indoor Pathway at the East Bay Redevelopment Site (Site) for your review and approval. The work plan incorporates the Washington State Department of Ecology (Ecology) comments provided in an October 31, 2012 letter and a February 28, 2013 letter, in accordance with the February 19, 2013 and March 12, 2013 response to comments (RTC) documents. All RTC documents are included in Attachment C of the work plan for reference.

The enclosed work plan was not revised to address the comments in your March 14, 2013 letter for the reasons presented in the associated RTC (see Attachment C of the work plan). If the event that you do not agree with the RTC for the March 14th comments, the Port would like to request an April meeting to quickly reach final resolution on the issue.

Respectfully,



Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)
Senior Professional Engineer

cc: Mr. Scott Rose, Washington State Department of Ecology (electronic copy)
Ms. Alex Smith, Port of Olympia (electronic copy)
Mr. Eric Hielema, LOTT Clean Water Alliance (electronic copy)
Mr. Jay Burney, City of Olympia (electronic copy)

Enclosures:
1. Data Gap Work Plan for the Soil-to-Indoor Pathway at the East Bay Redevelopment Site

RESPONSE TO ECOLOGY COMMENTS
Ref: Ecology Letter to Port of Olympia dated March 14, 2013

Data Gap Work Plan for the Soil-to-Indoor Air Pathway at the East Bay Redevelopment Site

#	Comment	Response
1	The response references MTCA Table 830-1 and implies that it is an applicable guide for the soil-to-indoor air pathway. As noted in the table footnote, this table provides a list of required analyses for groundwater and soil media only (not soil vapor/soil gas).	Model Toxics Control Act (MTCA) Table 830-1 is the appropriate regulatory source to determine soil gas analytes for this investigation of total petroleum hydrocarbons in the gasoline range (TPH-G) for the following reasons: • WAC 173-340-750(3)(b)(ii)(C) specifies that Table 830-1 should be used to determine analytes for air quality investigations of petroleum products. • The soil medium is the source of the TPH-G being evaluated during this investigation. • The Table 830-1 analyte list for TPH-G includes all of the primary components of gasoline.
2	Ecology agrees with the Port's addition of n-hexane, 1,2-dibromoethane (ethylene dibromide), 1,2-dichloroethane (ethylene dichloride), methyl tertiary-butyl ether, naphthalene, 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene to the analyses list. We also agree with the Port's response to not analyze for the entire list of EPA Method TO-15 constituents, provided that 1,3-butadiene and chloromethane are also added to the constituent list.	Thank you for agreeing with the proposed approach of focusing the analyte list on the gasoline-related constituents. However, the Port does not agree with Ecology's request to add 1,3-butadiene or chloromethane to the constituent list for the reasons described in Response #1 and because these constituents are not associated with gasoline (either as principal components or breakdown products). The lack of 1,3-butadiene and chloromethane in gasoline is documented in material safety data sheets (MSDSs) for various gasoline products (see the five representative gasoline MSDSs that are attached) and the following government information resources: • **1,3-Butadiene** – The United States National Library of Medicine (USNLM) Hazardous Substances Data Bank (HSDB) indicates 1,3-butadiene "is a product of incomplete combustion resulting from natural processes and human activity. It is also an industrial chemical used in the production of polymers, polybutadiene, styrene-butadiene rubbers and lattices, and nitrile-butadiene rubbers. 1,3-butadiene is also released in emissions from motor vehicles and tobacco smoke." Regarding vehicle emissions, the USNLM's Toxicology Bibliographic Information (TOXLINE) adds that 1,3-butadiene "enters the environment from exhaust emissions from gasoline- and diesel-powered vehicles, from non-transportation fuel combustion, from biomass combustion, and from industrial on-site uses. While 1,3-butadiene is not persistent, it is ubiquitous in the urban environment because of its widespread combustion sources. The highest atmospheric concentrations have been measured in air in cities and close to industrial sources." Note: A California Office of Environmental Health Hazard Assessment (OEHHA) toxicity summary document indicated 1,3-butadiene can be found in gasoline vapor. However, the reference provided in the OEHHA document for this assertion is the USNLM HSDB. Neither the USNLM HSDB nor USNLM TOXLINE indicate that 1,3-butadine is present in gasoline itself. Rather, 1,3-butadiene can be present in motor vehicle exhaust as a result of incomplete combustion and/or the presence of rubber and plastic products that contain 1,3-butadiene.

RESPONSE TO ECOLOGY COMMENTS
Ref: Ecology Letter to Port of Olympia dated March 14, 2013

Data Gap Work Plan for the Soil-to-Indoor Air Pathway at the East Bay Redevelopment Site

#	Comment	Response
		• **Chloromethane** – A 1998 United States Agency for Toxic Substances and Disease Registry (ATSDR) public health statement for chloromethane indicates that the primary historical use of chloromethane was as a refrigerant and that the primary current use is the production of silicones. That said, the ATSDR document indicates that "most of the chloromethane that is released to the environment (estimated at up to 99%) comes from natural sources. Chloromethane is always present in the air at very low levels. Most of the naturally occurring chloromethane comes from chemical reactions that occur in the oceans or from chemical reactions that occur when materials like grass, wood, charcoal, and coal are burned. It is also released to the air as a product of some plants or from rotting wood." It should also be noted that Section 3.1.3.2 of the 2009 draft Ecology vapor intrusion guidance strongly implies that only benzene, toluene, ethylbenzene, and xylenes (BTEX) need to be analyzed in soil gas when evaluating a TPH-G release. Thus, the Port's soil gas analyte list already goes above and beyond what is typically analyzed in this type of situation by including other gasoline-related constituents besides BTEX. Attachments: • MSDS for BP Regular Unleaded Gasoline • MSDS for BP Marine Gasoline • MSDS for CHEVRON and TEXACO Mid-grade Unleaded Gasolines • MSDS for CITGO Gasolines, All Grades Unleaded • MSDS for Valero Unleaded Gasoline

BP OIL CO -- GASOLINE, BP REGULAR UNLEADED

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MSDS Safety Information

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FSC: 9130
MSDS Date: 04/25/1995
MSDS Num: CGCVB
LIIN: 00N082378
Product ID: GASOLINE, BP REGULAR UNLEADED
MFN: 01
Responsible Party
Cage: 0D3L4
Name: BP OIL CO
Address: 200 PUBLIC SQUARE
City: CLEVELAND OH 44114-2375
Info Phone Number: 800-321-8642; 216-586-8023
Emergency Phone Number: 800-424-9300(CHEMTREC)
Published: Y

==========

Contractor Summary

==========

Cage: 0D3L4
Name: BP OIL CO
Address: 200 PUBLIC SQ
City: CLEVELAND OH 44114-2375
Phone: 216-586-4219/216-586-6499
Cage: 82250
Name: BP OIL COMPANY
Address: 200 PUBLIC SQ
City: CLEVELAND OH 44114-2375
Phone: 216-586-8023

==========

Ingredients

==========

Cas: 8006-61-9
RTECS #: LX3300000
Name: GASOLINE (MAY CONTAIN INGREDIENTS 2-11) % WT: 99.99-100
% Wt: <100
OSHA PEL: 300 PPM
ACGIH TLV: 300 PPM; 500 STEL

Cas: 108-88-3
RTECS #: XS5250000
Name: TOLUENE (SARA 313) (CERCLA)
% Wt: 10-12
OSHA PEL: 200 PPM
ACGIH TLV: 50 PPM, S

EPA Rpt Qty: 1000 LBS
DOT Rpt Qty: 1000 LBS

Cas: 109-66-0
RTECS #: RZ9450000
Name: PENTANE
% Wt: 9-11
OSHA PEL: 1000 PPM
ACGIH TLV: 600 PPM; 750 STEL

Cas: 1330-20-7
RTECS #: ZE2100000
Name: XYLENE (SARA 313) (CERCLA)
% Wt: 6-10
OSHA PEL: 100 PPM
ACGIH TLV: 100 PPM; 150 STEL
EPA Rpt Qty: 1000 LBS
DOT Rpt Qty: 1000 LBS

Cas: 110-54-3
RTECS #: MN9275000
Name: HEXANE (CERCLA)
% Wt: 8-10
OSHA PEL: 500 PPM
ACGIH TLV: 50 PPM
EPA Rpt Qty: 1 LB
DOT Rpt Qty: 1 LB

Cas: 142-82-5
RTECS #: MI7700000
Name: HEPTANE (C7 & HIGHER)
% Wt: 6-8
OSHA PEL: 500 PPM
ACGIH TLV: 400 PPM; 500 STEL

Cas: 106-97-8
RTECS #: EJ4200000
Name: BUTANE
% Wt: 4-6
OSHA PEL: 800 PPM
ACGIH TLV: 800 PPM

Cas: 71-43-2
RTECS #: CY1400000
Name: BENZENE (SARA 313) (CERCLA)
% Wt: 0-3
OSHA PEL: N/K (FP N)

ACGIH TLV: 10 PPM
EPA Rpt Qty: 10 LBS
DOT Rpt Qty: 10 LBS

Cas: 95-63-6
RTECS #: DC3325000
Name: BENZENE, 1,2,4-TRIMETHYL-; (1,2,4-TRIMETHYLBENZENE) (SARA 313)
% Wt: 0-3
OSHA PEL: 25 PPM
ACGIH TLV: 25 PPM

Cas: 100-41-4
RTECS #: DA0700000
Name: BENZENE, ETHYL-; (ETHYLBENZENE) (SARA 313)
% Wt: 0-2
OSHA PEL: 100 PPM
ACGIH TLV: 100 PPM; 125 STEL
EPA Rpt Qty: 1000 LBS
DOT Rpt Qty: 1000 LBS

Cas: 110-82-7
RTECS #: GU6300000
Name: CYCLOHEXANE (SARA 313) (CERCLA)
% Wt: 1
OSHA PEL: 300 PPM
ACGIH TLV: 300 PPM
EPA Rpt Qty: 1000 LBS
DOT Rpt Qty: 1000 LBS

Name: SUPDAT: EXPLODE IN HEAT OF FIRE. IRRIT OR TOX SUBSTANCES MAY BE EMITTED
UPON THERMAL DECOMP.

Name: EXPLAN OF CARCIN: ANNUAL REPORT ON CARCINS: 1994:KNOWN TO BE CARCIN. OSHA
REGULATED: CFR 29 1910.1028.

Name: EFTS OF OVEREXP:INHAL:MAY CAUSE RESP TRACT IRRIT & CNS SYMPS SIMILAR
TO INGEST. MAY CAUSE IRREGULAR HEART RHYTHM

Name: ING 14:& BEHAVIORAL CHG. CHRONIC:TOLUENE APPEARS ON NAVY LIST OF
OCCUP CHEM REPRO HAZS. SEEK CONSULT FROM APPROP

Name: ING 15: HLTH PROFESSIONALS CONCERNING LATEST HAZ LIST & SAFE HNDLG
& EXPOS INFO (FP N). SOLV "SNIFFING" OR

Name: ING 16:INTENTIONAL PRLNGD OVEREXP TO HIGH LEVELS OF SOLV VAPS CAN PRDCE
ABNORM BEHAVIOR, CONVLS, HALLUCINATIONS,

Name: ING 17: DELIRIUM, NERVOUS SYS DMG & SUDDEN DEATH. CONTACT NEHC FOR MORE INFO ON HEALTH HAZARDS (FP N).

Name: FIRST AID: NOT BRTHG, ENSURE CLEAR AIRWAY & START CPR. IF BRTHG IS DFCLT, ADMIN O*2 IF AVAIL. MONITOR CLOSELY.

Name: ING 19: GET IMMED MED ATTN. NOTES TO MD: INGEST:MOST IMPORTANT RISK TO ASSESS IS EXTENT OF ASPIR INTO LUNGS

Name: ING 20: SINCE ACUTE CHEM PNEUMIT CAN RAPIDLY PROGRESS TO RESP FAILURE. GASPING, COUGH & CHOKING ARE PRESUMPTIVE

Name: ING 21: EVID OF ASPIR. SUGGEST ALL PATIENTS SUSPECTED OF HYDROCARB ASPIR HAVE BASE LINE CHEST X-RAY. CONSIDER

Name: ING 22: IMMED HOSPITALIZATION FOR ASYMPTOMATIC CHILDREN W/ABNORM CHEST X-RAY, OBTUNDED OR HYPOXIC PATIENTS,

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Name: ING 23: INTENTIONAL/MASSIVE INGESTS & PATIENTS W/ABNORM CHEST X-RAYS W/CLINICALLY SIGNIFICANT PULM DISEASE. GI

Name: ING 24: SYMPS ARE USUALLY MINOR & PATHOLOGICAL CHGS OF LIVER & KIDNEY REPORTED UNCOMMON IN ACUTE INTOXICATIONS.

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Health Hazards Data

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LD50 LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.

Route Of Entry Inds - Inhalation: YES

Skin: YES

Ingestion: YES

Carcinogenicity Inds - NTP: YES

IARC: YES

OSHA: YES

Effects of Exposure: INGEST:ASPIR INTO LUNGS MAY CAUSE PNEUMIT. MAY CAUSE GI DISTURBS. SYMPS INCL IRRIT, NAUS, VOMIT & DIARR. MAY CAUSE HARMFUL CNS EFTS; MAY INCL EXCITATION, EUPHORIA, HDCH, DIZZ, DROW, BLURRED VISION, FATG, TREMORS, CONVLS, UNCON, COMA, RESP A RREST & DEATH. SKIN:SLIGHT IRRIT. RPTD/PRLNGD CNTCT MAY CAUSE (EFTS OF OVEREXP)

Explanation Of Carcinogenicity: GASOLINE: IARC MONO, VOL 45, PG 159, 1989:GROUP 2B. BENZENE: IARC MONO, VOL 7, PG 120, 1987:GROUP 1. NTP 7TH

Signs And Symptions Of Overexposure: HLTH HAZ: DEFAT, REDNESS, ITCH, INFLAM, CRACKING & POSS BURNS & SECONDARY INFECTION. HIGH PRESS SKIN INJECTIONS ARE SERIOUS MED EMERS. INJURY MAY NOT APPEAR SERIOUS AT FIRST; W/IN FEW HRS, TISS BECOMES SWOLLEN, DISCOLORED & EXTREMELY PAINFU L. EYES:MAY CAUSE IRRIT, REDNESS, PAIN, BLURRED VISION, LACRIM & CONJ.

Medical Cond Aggravated By Exposure: NONE SPECIFIED BY MANUFACTURER.

First Aid: INGEST:DO NOT INDUCE VOMIT; ASPIR DANGER. GET IMMED MED ATTN. IF

SPONT VOMIT OCCURS, MONITOR FOR BRTHG DFCLTY. SKIN:REMOVE CONTAMD CLTHG IMMED. WASH AREA W/SOAP & WATER. GET MED ATTN IF IRRIT PERSISTS. HIGH PRESS SKIN INJECTIONS REQ IMMED M ED CARE. EYES:FLUSH IMMED W/LG AMTS OF WATER FOR AT LST 15 MIN. HOLD LIDS AWAY FROM EYEBALL. GET MED ATTN IF IRRIT RSLTS. INHAL:REMOVE FROM EXPOS. IF

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Handling and Disposal

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Spill Release Procedures: SHUT OFF IGNIT SOURCE. STOP LEAK IF W/OUT RISK. WATER SPRAY MAY REDUCE VAP BUT MAY NOT PVNT IGNIT IN CLSD SPACES. SM SPILL:TAKE UP W/NONCOMBUST ABSORB & PLACE INTO CNTNRS. LG SPILL:DIKE FAR AHEAD OF LIQ SPILL. CNTCT NEHC FOR MORE INFO (FP N).

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Methods: CHECK 40 CFR 261 TO DETERMINE WHETHER THIS SUBSTANCE IS HAZARDOUS WASTE. TRANSPORTATION, STORAGE, TREATMENT & DISPOSAL OF THIS WASTE MATERIAL MUST BE CONDUCTED IN COMPLIANCE W/ALL APPLIC FEDERAL, STATE & LOCAL REGS. FOR MORE INFO CNTCT NEHC (FP N).

Handling And Storage Precautions: STORE ONLY IN APPRVD, CLEARLY LABELED CNTNRS (NEVER IN GLASS/UNAPPRVD PLASTIC CNTNRS); TIGHTLY CLSD IN COOL, DRY, ISOLATED, WELL-VENTD AREA.

Other Precautions: DO NOT SIPHON PROD BY MOUTH. USE ONLY AS MOTOR FUEL; NOTFOR CLEANING, PRESS APPLIANCE FUEL/ANY OTHER USE. KEEP OUT OF REACH OFCHILDREN. EMPTY CNTNRS MAY CNTN TOX, FLAM, COMBUST, EXPLO RESIDUE/VAPS.CONTACT NEHC FOR MORE INFO (FP N).

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Fire and Explosion Hazard Information

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Flash Point Method: TCC

Flash Point Text: -35F,-37C

Lower Limits: 1.4%

Upper Limits: 7.6%

Extinguishing Media: USE DRY CHEMICAL, ALCOHOL FOAM, ALL PURPOSE AFFF OR CARBON DIOXIDE TO EXTINGUISH FIRE.

Fire Fighting Procedures: USE NIOSH APPRVD SCBA & FULL PROT EQUIP (FP N). WATER MAY BE INEFTIVE BUT SHOULD BE USED TO COOL FIRE-EXPOS CNTNRS, STRUCTURES & TO PROTECT PERS. IF (SUPDAT)

Unusual Fire/Explosion Hazard: DANGEROUS WHEN EXPOS TO HEAT/FLAME. VAPS FORM FLAM/EXPLO MIXS W/AIR AT ROOM TEMP. VAP/GAS MAY SPREAD TO DISTANT IGNIT SOURCE & FLASH BACK. VAPS MAY CONC(SUPDAT)

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Control Measures

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Respiratory Protection: IF EXPOS LIMS ARE EXCEEDED OR IRRIT IS EXPERIENCED, NIOSH APPRVD RESP PROT SHOULD BE WORN. VENT & OTHER FORMS OF ENGINEERING CTS ARE OFTEN PREF MEANS FOR CONTROLLING CHEM EXPOS. RESP PROT MAY BE NEEDED FOR NON-ROUTINE OR EMER SITUATIONS.

Ventilation: NONE SPECIFIED BY MANUFACTURER.

Protective Gloves: IMPERVIOUS GLOVES.
Eye Protection: ANSI APPRVD CHEM WORKERS GOGGLES (FP N).
Other Protective Equipment: ANSI APPROVED EYE WASH & DELUGE SHOWER (FP N).
AVOID SKIN CONTACT. WEAR PROT CLTHG. DO NOT WEAR CNTCT LENSES.
Work Hygienic Practices: WASH HANDS IF IN CNTCT W/MATL. USE GOOD PERSONAL
HYGIENE. WEAR REGULARLY CLEANED WORK CLTHG. SHOWER & CHANGE AFTER WORK.
Supplemental Safety and Health: FIRE FIGHT PROC: LEAK/SPILL HAS NOT IGNITED,
VENT AREA & USE WATER SPRAY TO DISPERSE GAS/VAP & PROTECT PERS. USE
WATER TO DULUTE SPILLS & FLUSH THEM AWAY FROM IGNIT SOURCE. DO NOT FLUSH
DOWN PUBLIC SEWERS/OTHER DRAIN SYS. EXPLO HAZ: IN CONF INED AREAS. RUNOFF TO
SEWER MAY CAUSE FIRE/EXPLO HAZ. CNTNRS MAY

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Physical/Chemical Properties

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B.P. Text: >80F,>27C
Vapor Pres: 760 @ 100F
Vapor Density: 1.2
Spec Gravity: 0.72-0.74
Evaporation Rate & Reference: >1 (H*2O=1)
Solubility in Water: NEGLIGIBLE
Appearance and Odor: CLEAR LIQUID WITH A STRONG HYDROCARBON ODOR.
Percent Volatiles by Volume: 100

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Reactivity Data

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Stability Indicator: YES
Stability Condition To Avoid: STABLE UNDER CONDITIONS OF NORMAL USE.
Materials To Avoid: AVOID CONTACT WITH STRONG OXIDIZERS.
Hazardous Decomposition Products: COMBUSTION MAY PRODUCE CARBON MONOXIDE,
CARBON DIOXIDE AND REACTIVE HYDROCARBONS.
Hazardous Polymerization Indicator: NO
Conditions To Avoid Polymerization: NOT RELEVANT

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Toxicological Information

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Ecological Information

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MSDS Transport Information

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Regulatory Information

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Other Information

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HAZCOM Label
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Product ID: GASOLINE, BP REGULAR UNLEADED
Cage: 0D3L4
Company Name: BP OIL CO
Street: 200 PUBLIC SQ
City: CLEVELAND OH
Zipcode: 44114-2375
Health Emergency Phone: 800-424-9300(CHEMTREC)
Label Required IND: Y
Date Of Label Review: 02/03/1998
Status Code: C
Label Date: 02/03/1998
Origination Code: G
Chronic Hazard IND: Y
Eye Protection IND: YES
Skin Protection IND: YES
Signal Word: DANGER
Respiratory Protection IND: YES
Health Hazard: Moderate
Contact Hazard: Moderate
Fire Hazard: Severe
Reactivity Hazard: None
Hazard And Precautions: FLAMMABLE. ACUTE: INGEST: ASPIRATION INTO LUNGS MAY CAUSE PNEUMIT. MAY CAUSE GI DISTURBS. SYMPTOMS INCL IRRIT, NAUSEA, VOMIT & DIARR. MAY CAUSE HARMFUL CNS EFTS; MAY INCL EXCITATION, EUPHORIA, HEADACHE, DIZZ, DROW, BLURRED VISION, FATIGUE, TREMORS, CONVLS, UNCON, COMA, RESP ARREST & DEATH. SKIN: SLIGHT IRRIT. EYES: SLIGHT IRRIT. MAY CAUSE REDNESS, PAIN, BLURRED VISION, LACRIMATION & CONJ. INHAL: MAY CAUSE RESP TRACT IRRIT, CNS DEPRESSION & IRREGULAR HEART RHYTHM. CHRONIC: CAN CER HAZARD. GASOLINE IS LISTED AS AN ANIMAL LUNG CARCINOGEN. CONTAINS BENZENE WHICH IS LISTED AS A HUMAN LUNG CARCINOGEN (FP N). MAY ADVERSELY EFFECT LIVER & KIDNEY.
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Disclaimer (provided with this information by the compiling agencies): This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever expressly or implied warrants, states, or intends said information to have any application, use or viability by or to any person or persons outside the Department of Defense nor any person or persons contracting with any instrumentality of the United States of America and disclaims all liability for such use. Any person utilizing this instruction who is not a military or civilian employee of the United States of America should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation regardless of similarity to a corresponding Department of Defense or other government situation.

MATERIAL SAFETY DATA SHEET



========== CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ==========

TRADE NAME: GASOLINE, BP MARINE
CAS NUMBER: Mixture
SYNONYM(S): GASOLINE; MARINE GASOLINE
MSDS NUMBER: 2334
PRODUCT CODE: NA
HIERARCHY: NA
MANUFACTURER/SUPPLIER: BP Oil Company
ADDRESS: 200 Public Square, Cleveland, OH 44114-2375
TELEPHONE NUMBERS - 24 HOUR EMERGENCY ASSISTANCE:
BP America: 800-321-8642
CHEMTREC Assistance (In U.S.): 800-424-9300
CHEMTREC Assistance (Elsewhere): 703-527-3887
TELEPHONE NUMBERS - GENERAL ASSISTANCE: (Normal Office Hours):
(8:00-4:30 M-F, EST):
Technical: 216-586-6184
MSDS Contact: 216-586-8023

========== COMPOSITION/INFORMATION ON INGREDIENTS ==========

COMPONENT:Gasoline
CAS NO.: 8006-61-9
% BY WT.: 90 - 92
EXPOSURE LIMITS:
890 mg/m3 (300 ppm) TLV ACGIH
1480 mg/m3 (500 ppm) STEL ACGIH
900 mg/m3 (300 ppm) PEL OSHA
1500 mg/m3 (500 ppm) STEL OSHA

COMPONENT:Alkylation Naphtha, Light ..C7-10
CAS NO.: 64741-66-8
% BY WT.: 8 - 10
EXPOSURE LIMITS:
890 mg/m3 (300 ppm) TLV ACGIH for gasoline
1480 mg/m3 (500 ppm) STEL ACGIH for gasoline
900 mg/m3 (300 ppm) PEL OSHA for gasoline
1500 mg/m3 (500 ppm) STEL OSHA for gasoline

May contain the following:

COMPONENT:Xylene

CAS NO.: 1330-20-7
% BY WT.: 5 - 10
EXPOSURE LIMITS:
434 mg/m3 (100 ppm) TLV ACGIH
651 mg/m3 (150 ppm) STEL ACGIH
435 mg/m3 (100 ppm) PEL OSHA
655 mg/m3 (150 ppm) STEL OSHA
435 mg/m3 (100 ppm) REL NIOSH
655 mg/m3 (150 ppm) STEL NIOSH
900 ppm IDLH NIOSH
435 mg/m3 (100 ppm) TWA (skin) MEXICAN
655 mg/m3 (150 ppm) STC (skin) MEXICAN

COMPONENT:Toluene
CAS NO.: 108-88-3
% BY WT.: 5 - 7
EXPOSURE LIMITS:
188 mg/m3 (50 ppm) TLV (skin) ACGIH
375 mg/m3 (100 ppm) PEL OSHA
560 mg/m3 (150 ppm) STEL OSHA
375 mg/m3 (100 ppm) REL NIOSH
560 mg/m3 (150 ppm) STEL NIOSH
500 ppm IDLH NIOSH
375 mg/m3 (100 ppm) TWA MEXICAN
560 mg/m3 (150 ppm) STC MEXICAN

COMPONENT:1,2,4-Trimethylbenzene
CAS NO.: 95-63-6
% BY WT.: 0 - 3
EXPOSURE LIMITS:
123 mg/m3 (25 ppm) TLV ACGIH
125 mg/m3 (25 ppm) PEL OSHA
125 mg/m3 (25 ppm) REL NIOSH
125 mg/m3 (25 ppm) TWA MEXICAN
170 mg/m3 (35 ppm) STC MEXICAN

COMPONENT:Benzene
CAS NO.: 71-43-2
% BY WT.: 0 - 2
EXPOSURE LIMITS:
1.6 mg/m3 (0.5 ppm) TLV (skin) ACGIH
8 mg/m3 (2.5 ppm) STEL (skin) ACGIH
1 ppm PEL OSHA
5 ppm STEL OSHA
0.1 ppm REL NIOSH
1 ppm STEL NIOSH
500 ppm IDLH NIOSH
30 mg/m3 (10 ppm) TWA MEXICAN
75 mg/m3 (25 ppm) STC MEXICAN

COMPONENT:Ethylbenzene
CAS NO.: 100-41-4
% BY WT.: 0 - 2
EXPOSURE LIMITS:
434 mg/m3 (100 ppm) TLV ACGIH
543 mg/m3 (125 ppm) STEL ACGIH
435 mg/m3 (100 ppm) PEL OSHA

545 mg/m3 (125 ppm) STEL OSHA
435 mg/m3 (100 ppm) REL NIOSH
545 mg/m3 (125 ppm) STEL NIOSH
800 ppm IDLH NIOSH (LEL)
435 mg/m3 (100 ppm) TWA MEXICAN
545 mg/m3 (125 ppm) STC MEXICAN

COMPONENT:Cyclohexane
CAS NO.: 110-82-7
% BY WT.: 0 - 1
EXPOSURE LIMITS:
1030 mg/m3 (300 ppm) TLV ACGIH
1050 mg/m3 (300 ppm) PEL OSHA
1050 mg/m3 (300 ppm) REL NIOSH
1300 ppm IDLH NIOSH (LEL)
1050 mg/m3 (300 ppm) TWA MEXICAN

The OSHA Permissible Exposure Limits listed above were promulgated by OSHA in 1989. This standard was vacated by the U.S. Court of Appeals for the Eleventh Circuit. Exposure limits defined in specific chemical standards found in 29 CFR 1910.1000-1048 are not covered by this ruling and are still enforceable.

========== HAZARDS IDENTIFICATION ==========

EMERGENCY OVERVIEW:

Clear Liquid With a Strong Hydrocarbon Odor.
Danger! Extremely Flammable Liquid and Vapors. Vapor May Cause Flash Fire. Harmful or Fatal If Swallowed. Aspiration Hazard If Swallowed--Can Enter Lungs and Cause Damage. Vapors May Be Harmful. May Be Irritating To the Skin, Eyes and Respiratory Tract. Overexposure May Cause Adverse Nervous System Effects. Long-Term Exposure To Vapors Has Caused Cancer In Some Laboratory Animals.

POTENTIAL HEALTH EFFECTS:

SKIN:

Repeated or prolonged contact may result in defatting, redness, itching, inflammation, cracking and possible secondary infection. High pressure skin injections are Serious Medical Emergencies. Injury may not appear serious at first; within a few hours, tissue will become swollen, discolored and extremely painful (see Notes to Physician section).

EYE:

May cause irritation, redness, pain, blurred vision, lacrimation and conjunctivitis. Exposure to vapors, fumes or mists may cause irritation. Contact with heated material may cause thermal burns.

INHALATION:

May cause respiratory tract irritation. Exposure may cause central

nervous system symptoms similar to those listed under "Ingestion" (see Ingestion section). May cause irregular heart rhythm. Repeated or prolonged exposures may cause behavioral changes.

INGESTION:

Aspiration into lungs may cause pneumonitis. May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea. May cause harmful central nervous system effects. Effects may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death.

SPECIAL TOXIC EFFECTS:

May cause adverse liver and kidney effects based on tests with laboratory animals. A product of similar composition has been found to be carcinogenic to laboratory animals when given by inhalation. Also, a variety of mutagenicity assays have been conducted that have yielded conflicting results. IARC has determined that there is limited evidence for the carcinogenicity of gasoline in experimental animals and inadequate evidence for the carcinogenicity of gasoline in humans. (IARC Class- 2B). Warning: The use of any hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of combustion products and inadequate oxygen levels. IARC has determined that gasoline engine exhaust is possibly carcinogenic to humans. (IARC Class- 2B). This product contains benzene. Acute benzene poisoning causes central nervous system depression. Chronic exposure affects the hematopoietic system causing blood disorders including anemia and pancytopenia. Mutagenic and clastogenic in mammalian and non-mammalian test systems. Reproductive toxicant only at doses that are maternally toxic, based on tests with animals. May be absorbed through the skin. Benzene is carcinogenic to laboratory animals when given by intubation or by inhalation. Chronic exposure to high levels of benzene has been shown to cause cancer (certain forms of leukemia) in humans. Carcinogenic determination: IARC--Human and Animal sufficient evidence of carcinogenicity; (IARC Class--1); NTP--Known carcinogen; ACGIH--Suspected carcinogen. Solvent "sniffing" (abuse) or intentional prolonged overexposure to high levels of solvent vapors can produce abnormal behavior, convulsions, hallucinations, delirium, nervous system damage and sudden death. The major component of this product has been tested in a dermal carcinogenicity study and mutagenicity assays and was negative.

FIRST AID MEASURES

SKIN:

Remove contaminated clothing immediately. Wash area of contact thoroughly with soap and water. Get medical attention if irritation persists. Thermal burns require immediate medical attention. When burned from contact with hot material, flush skin immediately with large amounts of tepid or lukewarm water. If possible, submerge affected area in lukewarm water. Get immediate medical attention. High pressure skin injections are serious medical emergencies. Skin injections require immediate medical care.

EYE:

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation results. Thermal burns require immediate medical attention.

INHALATION:

Remove affected person from source of exposure. If not breathing, ensure clear airway and institute cardiopulmonary resuscitation (CPR). If breathing is difficult, administer oxygen if available. Continue to monitor closely. Get immediate medical attention.

INGESTION:

Do not induce vomiting because of danger of aspirating liquid into lungs. Get immediate medical attention. If spontaneous vomiting occurs, monitor for breathing difficulty.

NOTES TO PHYSICIAN:

Ingestion: The most important risk to assess is the extent of aspiration of the product into the lungs since an acute chemical pneumonitis can rapidly progress to respiratory failure. Gasping, coughing, and choking are presumptive evidence of aspiration. It is suggested that all patients suspected of hydrocarbon aspiration have base line chest x-rays. Immediate hospitalization should be considered for asymptomatic children with an abnormal chest x-ray, obtunded or hypoxic patients, intentional or massive ingestions, and patients with abnormal chest x-rays with clinically significant pulmonary disease. Monitor arterial blood gases, chest x-ray and pulmonary function tests in symptomatic patients (dyspnea, tachypea, wheezing, retractions, persistent coughing). Monitor complete blood count, urinalysis, and liver and kidney function test in patients with significant exposure. Monitor fluids and electrolytes. Do not induce emesis. Gentle, cautious gastric lavage may be indicated if performed soon after ingestion, or in patients who are comatose or at risk of convulsing. Protect airway by placement in Trendelenburg and left lateral decubitus position or by cuffed endotracheal tube (adults). Administer activated charcoal slurry, aqueous or mixed with saline cathartic or sorbitol. Observe patients with ingestion carefully for the possible development of esophageal or gastrointestinal tract irritation or burns. If signs or symptoms of esophageal irritation or burns are present, consider endoscopy to determine the extent of injury. Hydrocarbons may increase the sensitivity of the myocardium to catecholamines; electrocardiographic monitoring may be indicated and careful consideration should be given to the selection of bronchodilators. Hydrocarbons may sensitize the myocardium, therefore epinephrine and other stimulants which may cause arrhythmias should be avoided. Acute central nervous system signs and symptoms may result from large ingestions or aspiration-induced hypoxia. Inhalation Abuse: Gasoline is one of the solvents used by chemical substance abusers. These patients may present with acute and/or chronic central nervous system signs or symptoms. They may also present with arrhythmias. In case of skin injection, consider prompt debridement of the wound to minimize

necrosis and tissue loss.

========== FIREFIGHTING MEASURES ==========

FLASH POINT: -37 C (-34.6 F) TCC
AUTOIGNITION TEMPERATURE: 444 C (831.2 F)
FLAMMABILITY LIMITS IN AIR (% BY VOL.) LOWER: > 1.4
FLAMMABILITY LIMITS IN AIR (% BY VOL.) UPPER: < 7.6

HAZARDOUS COMBUSTION PRODUCTS:

Combustion may produce CO, CO2 and reactive hydrocarbons.

BASIC FIRE FIGHTING PROCEDURES:

Use dry chemical, foam or carbon dioxide to extinguish fire. Water may be ineffective but should be used to cool fire-exposed containers, structures and to protect personnel. If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop leak. Use water to flush spills away from sources of ignition. Do not flush down public sewers or other drainage systems. Exposed firefighters must wear MSHA/NIOSH approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

UNUSUAL FIRE & EXPLOSION HAZARDS:

Dangerous when exposed to heat or flame. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources and flash back. Vapors may concentrate in confined areas. Vapors or gas may accumulate in low areas. Runoff to sewer may cause fire or explosion hazard. Containers may explode in heat of fire. Irritating and/or toxic substances may be emitted upon thermal decomposition.

========== ACCIDENTAL RELEASE MEASURES ==========

If your facility or operation has an "Oil or Hazardous Substance Contingency Plan", activate its procedures. Take immediate steps to stop and contain the spill. Caution should be exercised regarding personnel safety and exposure to the spilled material. For technical advice and assistance related to chemicals, contact CHEMTREC (800/424-9300) and your local fire department. Notify the National Response Center, if required. Also notify appropriate state and local regulatory agencies, the LEPC and the SERC. Contact the local Coast Guard if the release is into a waterway. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. (Also see Personal Protection Information section.)
Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire.
Shut off ignition sources; no flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Water spray may reduce vapor; but it may not prevent ignition in closed spaces. Small Spills: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large Spills: Dike far ahead of liquid spill for later disposal.

When reporting a spill to the National Response Center or the Coast Guard, you may need to supply the Coast Guard Chemical Hazard Response Information System (CHRIS) code:

Group Number: 33
CHRIS Code: GAT

Additional spill related information may be found in the U.S. Coast Guard Chemical Hazard Response Information System (CHRIS) Manual.

During an accidental release, personal protection equipment may be required (see Section EXPOSURE CONTROLS/PERSONAL PROTECTION). Additional regulatory requirements may apply (see Section REGULATORY INFORMATION).

========== HANDLING AND STORAGE ==========

HANDLING:

Use only with adequate ventilation. Keep containers closed. Use non-sparking tools. Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Static electricity may ignite gasoline vapors when filling portable containers. Place the container on the ground before filling. Keep the nozzle in contact with the container during filling. Do not fill any portable container in or on a vehicle or marine craft. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Remove contaminated clothing and clean before reuse. Wash thoroughly after work using soap and water. Do not siphon this product by mouth. Use only as a motor fuel. Do not use for cleaning, pressure appliance fuel, or any other use. Keep out of reach of children.

Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose containers unless adequate precautions are taken against these hazards.

STORAGE:

Store gasoline only in approved, clearly labeled containers. Never store in glass or unapproved plastic containers. Store in tightly closed containers in cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles.

========== EXPOSURE CONTROLS / PERSONAL PROTECTION ==========

ENGINEERING CONTROLS:

Ventilation and other forms of engineering controls are often the preferred means for controlling chemical exposures.

PERSONAL PROTECTION EQUIPMENT (PPE):

EYE PROTECTION:

Avoid eye contact with this material. Wear safety glasses or chemical

goggles. Provide an eyewash station immediately accessible to the work area. Do not wear contact lenses when working with this substance.

SKIN PROTECTION:

Avoid skin contact. If skin contact is anticipated, protective clothing, including impervious gloves, should be worn. Wash hands if they come in contact with this material. Use good personal hygiene. Wear regularly cleaned work clothing. Showering and changing into street clothing after work is desirable. Product spilt on clothing may result in delayed evaporation and a subsequent fire hazard. Wash contaminated clothing separately. If clothing is to be laundered by someone else, inform launderer of proper procedures.

RESPIRATORY PROTECTION:

If exposure limits are exceeded or if irritation is experienced, NIOSH approved respiratory protection should be worn. Respiratory protection may be needed for non-routine or emergency situations.

See Section COMPOSITION/INFORMATION ON INGREDIENTS For Exposure Guidelines.

PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT:	26.6667 C (80 F) - 226.6667 C (440 F)
SP. GRAVITY (Water=1):	0.72 - 0.74 @ 15.56 C (60.008 F)
MELTING POINT:	NA
% VOLATILE:	100 @ 225 C (437 F)
VAPOR PRESSURE:	760 MM HG @ 37.8 C (100.04 F)
EVAPORATION RATE:	> 1
VAPOR DENSITY (Air=1):	1.2 as vapor
VISCOSITY:	ND
% SOLUBILITY IN WATER:	Negligible
POUR POINT:	ND
pH:	ND
BULK DENSITY:	ND
MOLECULAR WEIGHT:	Mixture
MOLECULAR FORMULA:	Mixture

ODOR/APPEARANCE:

Clear Liquid With a Strong Hydrocarbon Odor.

STABILITY AND REACTIVITY

STABILITY/INCOMPATIBILITY:

Stable under conditions of normal use. Avoid contact with strong oxidizers.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS:

Thermal decomposition or combustion may produce CO, CO2 and reactive hydrocarbons.

TOXICOLOGICAL INFORMATION

OTHER:

An extensive profile which characterizes adverse health effects information for this material has been prepared by the Agency for Toxic Substances Disease Registry (ATSDR). Individuals interested in a summary of the toxicology of this material should reference this document.

========== DISPOSAL CONSIDERATIONS ==========

WASTE DISPOSAL (Resource Conservation & Recovery Act - RCRA):

This material, when discarded or disposed of, is a characteristic hazardous waste according to Federal regulations (40 CFR 261). This material exhibits the characteristic of ignitability and is assigned the EPA Hazardous Waste Number of D001. The discarding or disposal of this material must be done at a properly permitted facility in accordance with the regulations of 40 CFR 262, 263, 264, and 268. Additionally, the discarding or disposal of this material may be further regulated by state, regional, or local regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate, or otherwise inappropriate. The transportation, storage, treatment and disposal of this waste material must be conducted in compliance with all applicable Federal, state, and local regulations.

There may be specific current regulations at the local, regional, or state level that pertain to this information. Chemical additions, processing, or otherwise altering this material may make the waste management information presented in this MSDS, incomplete, inaccurate, or otherwise inappropriate.

========== TRANSPORT INFORMATION ==========

U.S. DEPARTMENT OF TRANSPORTATION (D.O.T.):

Proper Shipping Name (49 CFR 172.101):	Gasoline
Hazard Class (49 CFR 172.101):	3
UN/NA Code (49 CFR 172.101):	UN 1203
Packing Group (49 CFR 179.101):	PG II
Bill Of Lading Desc. (49 CFR 172.101):	Gasoline, 3, UN 1203, PG II
Labels Required (49 CFR 172.101):	Flammable Liquid
Placards Required (49 CFR 172.101):	Flammable Liquid

INTERNATIONAL AND DOMESTIC AIR TRANSPORTATION:

IATA Proper Shipping Name:	Gasoline
Hazard Class:	3
Subsidiary Risk:	NA
UN Code:	UN 1203
Package Specification:	305, 307
Labels Required:	Flammable Liquid, Orientation Arrows

INTERNATIONAL WATER TRANSPORTATION:

IMDG Proper Shipping Name:	Gasoline
Hazard Class:	3.1
UN Code:	UN 1204
IMDG Page Number:	3141
Labels Required:	Flammable Liquid
Placards Required:	Flammable

CANADIAN TRANSPORTATION OF DANGEROUS GOODS (T.D.G.):

Shipping Name:	Gasoline
PIN (UN/NA):	UN 1203
Regulated Class:	3
Division:	None
Packaging Group:	PG II
Labels Required:	Flammable Liquid
Placards Required:	Flammable

REGULATORY INFORMATION

NOTIFICATION:

Clean Water Act (Oil Spills): Any spill or release, or substantial threat of release, of this material to navigable water (virtually any surface water) sufficient to cause a visible sheen upon the water must be reported immediately to the National Response Center (800/424-8802), as required by U.S. Federal Law. Failure to report may result in substantial civil and criminal penalties. Also contact the Coast Guard and appropriate state and local regulatory agencies. CERCLA/SARA (Chemical Spills): The reportable quantity for this material is 333 * pound(s). This material contains one or more constituents regulated as hazardous substances under U.S. Federal Law. Any spill or other release, or substantial threat of release, of this material to the air, water or land (unless entirely contained in the workplace) equal to or in excess of the reportable quantity must be reported immediately to the National Response Center (800/424-8802). Also contact appropriate state and local regulatory agencies. Contact the Coast Guard if spilled into navigable waterways under their jurisdiction. Failure to report may result in substantial civil and criminal penalties. * Calculated on the basis for whichever hazardous component provides the lowest value for: RQ / % in mixture

CLEAN WATER ACT:

This material contains a mixture of substances, some of which are listed as toxic pollutants pursuant to 40 CFR 122.21, Appendix D, Tables II/III/V. Any unusual introduction of this substance into the facility's process streams, stormwater and/or wastewater could result in the violation of U.S. Federal Law. Facilities must notify the USEPA as soon as they know, or have reason to believe, that any activity has occurred, or will occur, which would result in the discharge of a toxic pollutant which is not regulated in the facility's NPDES permit. Notification levels are described in 40 CFR 122.42(a)(1) and 122.42(a)(2). Refer to spill section for additional regulatory requirements.

CLEAN AIR ACT:

This material contains a substance listed as a hazardous air pollutant under U.S. Federal regulations. See 40 CFR Part 61 for restrictions which may apply to its use.

US EPA TOXIC SUBSTANCE CONTROL ACT (TSCA):

This product contains 1,2,4-Trimethylbenzene and is subject to EPA TSCA Section 12(b) Export Notification Regulation.

US EPA SUPERFUND AMENDMENTS & REAUTHORIZATION ACT (SARA) TITLE III INFORMATION:

Listed below are the hazard catagories for SARA Section 311/312 (40 CFR 370):

Immediate Hazard:	X
Delayed Hazard:	X
Fire Hazard:	X
Pressure Hazard:	-
Reactivity Hazard:	-

This product contains the following toxic chemicals subject to the annual toxic chemical release reporting requirements of SARA Section 313 (40 CFR 372):

COMPONENT:	CAS NO.:	% BY WT.:
Xylene	1330-20-7	10
Toluene	108-88-3	7
1,2,4-Trimethylbenzene	95-63-6	3
Benzene	71-43-2	2
Ethylbenzene	100-41-4	2
Cyclohexane	110-82-7	1

OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA):

Contains Benzene. Consult OSHA Standard 1910 1028. Initial air monitoring should be conducted to determine if exposures are above 0.5 ppm action limit or 1 ppm PEL. If exposures are above, OSHA requirements apply for training, medical surveillance, personal/protective equipment, regulated areas, etc.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):

All components of this product are listed on the Canadian DSL or NDSL inventories.

CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CATEGORIES:

The following WHMIS categories apply to this product:

Compressed Gas:	-	Other Toxic Effects:	X
Flammable/Combustible:	X	Bio Hazardous:	-
Oxidizer:	-	Corrosive:	-
Acutely Toxic:	X	Dangerously Reactive:	-

STATE REGULATIONS:

This product contains ingredient(s) known to the State of California to cause cancer, birth defects or other reproductive harm.

OTHER INFORMATION

NFPA RATINGS:		HMIS RATINGS:	
Health:	1	Health:	1
Flammability:	3	Flammability:	3
Reactivity:	0	Reactivity:	0
Special Hazards:		Personal Protective Equipment:	H

REVISION DATE: 10-dec-1996
REPLACES SHEET DATED: 02-may-1995
COMPLETED BY: BP OIL HSEQ DEPARTMENT
REVISION SUMMARY: The following section(s) have been revised since the previous issue of this MSDS:

- COMPOSITION/INFORMATION ON INGREDIENTS
- HAZARDS IDENTIFICATION
- FIRST AID MEASURES
- FIREFIGHTING MEASURES
- HANDLING AND STORAGE
- EXPOSURE CONTROLS / PERSONAL PROTECTION
- PHYSICAL AND CHEMICAL PROPERTIES
- STABILITY AND REACTIVITY
- TOXICOLOGICAL INFORMATION
- DISPOSAL CONSIDERATIONS
- TRANSPORT INFORMATION
- REGULATORY INFORMATION
- OTHER INFORMATION

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

ND: No Data NA: Not Applicable *See specific note or section

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

CHEVRON and TEXACO MID-GRADE UNLEADED GASOLINES

Product Use: Fuel
Product Number(s): CPS201001 [See Section 16 for Additional Product Numbers]
Synonyms: Calco Mid-Grade Unleaded Gasoline, Chevron Mid-Grade Unleaded Gasoline, Chevron Plus Unleaded Gasoline, Texaco Power Plus Gasoline
Company Identification
Chevron Products Company
Marketing, MSDS Coordinator
6001 Bollinger Canyon Road
San Ramon, CA 94583
United States of America

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
MSDS Requests: http://www.chevron.com/contact
Technical Information: (510) 242-5357

SPECIAL NOTES: This MSDS applies to: all motor gasoline.

SECTION 2 HAZARDS IDENTIFICATION

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EMERGENCY OVERVIEW

- EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE
- CAUSES SKIN IRRITATION
- HARMFUL OR FATAL IF SWALLOWED - MAY CAUSE LUNG DAMAGE IF SWALLOWED
- MAY CAUSE DIZZINESS, DROWSINESS AND REDUCED ALERTNESS
- VAPOR HARMFUL
- MAY CAUSE CANCER BASED ON ANIMAL DATA
- KEEP OUT OF REACH OF CHILDREN
- MAY CAUSE RESPIRATORY TRACT IRRITATION IF INHALED
- TOXIC TO AQUATIC ORGANISMS. MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT

****

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin causes irritation. Skin contact may cause drying or defatting of the skin. Symptoms may include pain, itching, discoloration, swelling, and blistering. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death.

Inhalation: The vapor or fumes from this material may cause respiratory irritation. Symptoms of respiratory irritation may include coughing and difficulty breathing. Excessive or prolonged breathing of this material may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:

Reproduction and Birth Defects: This material is not expected to cause birth defects or other harm to the developing fetus based on animal data.

Cancer: Prolonged or repeated exposure to this material may cause cancer. Contains naphthalene, which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Gasoline has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Contains benzene, which has been classified as a carcinogen by the National Toxicology Program (NTP) and a Group 1 carcinogen (carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Contains ethylbenzene which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Whole gasoline exhaust has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Contains benzene, which has been classified as an A1 Group Confirmed Human Carcinogen by the American Conference of Governmental Industrial Hygienists (ACGIH).

See Section 11 for additional information. Risk depends on duration and level of exposure.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Gasoline	86290-81-5	100 %vol/vol
Benzene	71-43-2	0.1 - 4.9 %vol/vol
Toluene (methylbenzene)	108-88-3	1 - 25 %vol/vol
Ethyl benzene	100-41-4	0.1 - 3 %vol/vol
Xylene (contains o-, m-, & p- xylene isomers in varying amounts)	1330-20-7	1 - 15 %vol/vol
Butane	106-97-8	1 - 12 %vol/vol
Heptane	142-82-5	1 - 4 %vol/vol
Hexane	110-54-3	1 - 5 %vol/vol
Cyclohexane	110-82-7	1 - 3 %vol/vol
Methylcyclohexane	108-87-2	1 - 2 %vol/vol
Pentane, 2,2,4-trimethyl- (Isooctane)	540-84-1	1 - 13 %vol/vol

Naphthalene	91-20-3	0.1 - 2 %vol/vol
Ethanol	64-17-5	0 - 10 %vol/vol
Methyl tert-butyl ether (MTBE)	1634-04-4	<= 0.1 %vol/vol

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue or if any other symptoms develop.
Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES

See Section 7 for proper handling and storage.

FLAMMABLE PROPERTIES:
Flashpoint: (Tagliabue Closed Cup ASTM D56) < -45 °C (< -49 °F)
Autoignition: > 280 °C (> 536 °F)
Flammability (Explosive) Limits (% by volume in air): Lower: 1.4 Upper: 7.6 (Typical)

EXTINGUISHING MEDIA: Dry Chemical, CO2, AFFF Foam or alcohol resistant foam if >15% volume polar solvents (oxygenates).

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: Use water spray to cool fire-exposed containers and to protect personnel. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this

material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. All equipment used when handling the product must be grounded. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. This product presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Do not taste or swallow. Do not breathe vapor or fumes. Never siphon gasoline by mouth.
Do not store in open or unlabeled containers. READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL. Keep out of the reach of children. Wash thoroughly after handling.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'. Improper filling of portable gasoline containers creates danger of fire. Only dispense gasoline into approved and properly labeled gasoline containers. Always place portable containers on the ground. Be sure pump nozzle is in contact with the container while filling. Do not use a nozzle's lock-open device. Do not fill portable containers that are inside a vehicle or truck/trailer bed.

General Storage Information: DO NOT USE OR STORE near heat, sparks, flames, or hot surfaces . USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal

protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Suggested materials for protective gloves include: Chlorinated Polyethylene (or Chlorosulfonated Polyethylene), Nitrile Rubber, Polyurethane, Viton.
Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors.
When used as a fuel, this material can produce carbon monoxide in the exhaust. Determine if airborne concentrations are below the occupational exposure limit for carbon monoxide. If not, wear an approved positive-pressure air-supplying respirator.
Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.
Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Benzene	ACGIH	.5 ppm (weight)	2.5 ppm (weight)	--	Skin A1 Skin
Benzene	CVX	1 ppm (weight)	5 ppm (weight)	--	--
Butane	ACGIH	1000 ppm (weight)	--	--	--
Cyclohexane	ACGIH	100 ppm (weight)	--	--	--
Ethanol	ACGIH	1000 ppm (weight)	--	--	A4
Ethyl benzene	ACGIH	100 ppm (weight)	125 ppm (weight)	--	A3
Gasoline	ACGIH	300 ppm (weight)	500 ppm (weight)	--	A3
Heptane	ACGIH	400 ppm (weight)	500 ppm (weight)	--	--
Hexane	ACGIH	50 ppm (weight)	--	--	Skin
Methyl tert-butyl ether (MTBE)	ACGIH	50 ppm (weight)	--	--	A3
Methyl tert-butyl ether (MTBE)	CVX	--	50 ppm	--	--
Methylcyclohexane	ACGIH	400 ppm	--	--	--

		(weight)			
Naphthalene	ACGIH	10 ppm (weight)	15 ppm (weight)	--	Skin
Pentane, 2,2,4-trimethyl- (Isooctane)	ACGIH	300 ppm (weight)	--	--	--
Toluene (methylbenzene)	ACGIH	50 ppm (weight)	--	--	Skin A4
Xylene (contains o-, m-, & p- xylene isomers in varying amounts)	ACGIH	100 ppm (weight)	150 ppm (weight)	--	A4

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless to yellow
Physical State: Liquid
Odor: Petroleum odor
pH: Not Applicable
Vapor Pressure: 5 psi - 15 psi (Typical) @ 37.8 °C (100 °F)
Vapor Density (Air = 1): 3 - 4 (Typical)
Boiling Point: 37.8°C (100°F) - 204.4°C (400°F) (Typical)
Solubility: Insoluble in water; miscible with most organic solvents.
Freezing Point: Not Applicable
Melting Point: Not Applicable
Specific Gravity: 0.7 g/ml - 0.8 g/ml @ 15.6°C (60.1°F) (Typical)
Viscosity: <1 SUS @ 37.8°C (100°F)
Evaporation Rate: No data available
Odor Threshold: No data available
Coefficient of Water/Oil Distribution: No data available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.
Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: For a 4-hour exposure, the Primary Irritation Index (PII) in rabbits is: 4.8/8.0.
Skin Sensitization: This material did not cause skin sensitization reactions in a Buehler guinea pig test.

Acute Dermal Toxicity: LD50: >3.75g/kg (rabbit).
Acute Oral Toxicity: LD50: >5 ml/kg (rat)
Acute Inhalation Toxicity: 4 hour(s) LD50: >20000mg/m3 (rat). For additional information on the acute toxicity of the components, call the technical information center.**Subchronic Effects:** Exposure of rats for 13 weeks (6 hr/day for 5 days/week) to the light ends of gasoline (up to 20,000 mg/m3) resulted in minimal responses of toxicity. There were no indications of neurotoxicity based morphological, functional and biochemical indices. There was also no evidence of immunotoxicity in the rats. However, when rats were exposed to gasoline vapor containing ethanol up to 20,000 mg/m3 there was evidence of both humoral immune suppression and mild astrogliosis. **Reproduction and Birth Defects:** Exposure of rats to the light ends of gasoline at up to 20,000 mg/m3 had generally no impact upon reproductive abilities and did not cause birth defects. **Genetic Toxicity:** Gasoline was not mutagenic, with or without activation, in the Ames assay (Salmonella typhimurium), Saccharamyces cerevisesae, or mouse lymphoma assays. In addition, point mutations were not induced in human lymphocytes. Gasoline was not mutagenic when tested in the mouse dominant lethal assay. Administration of gasoline to rats did not cause chromosomal aberrations in their bone marrow cells. Inhalation exposure of rats to the light ends of gasoline caused increased sister chromatid exchange in their peripheral white blood cells but did not cause an increase in micronucleated red blood cells in their bone marrow.

ADDITIONAL TOXICOLOGY INFORMATION:

Gasolines are highly volatile and can produce significant concentrations of vapor at ambient temperatures. Gasoline vapor is heavier than air and at high concentrations may accumulate in confined spaces to present both safety and health hazards. When vapor exposures are low, or short duration and infrequent, such as during refueling and tanker loading/unloading, neither total hydrocarbon nor components such as benzene are likely to result in any adverse health effects. In situations such as accidents or spills where exposure to gasoline vapor is potentially high, attention should be paid to potential toxic effects of specific components. Information about specific components in gasoline can be found in Sections 2/3, 8 and 15 of this MSDS. More detailed information on the health hazard of specific gasoline components can be obtained calling the Chevron Emergency Information Center (see Section 1 for phone numbers).

Pathological misuse of solvents and gasoline, involving repeated and prolonged exposure to high concentrations of vapor is a significant exposure on which there are many reports in the medical literature. As with other solvents, persistent abuse involving repeated and prolonged exposures to high concentrations of vapor has been reported to result in central nervous system damage and eventually, death. In a study in which ten human volunteers were exposed for 30 minutes to approximately 200, 500 or 1000 ppm concentrations of gasoline vapor, irritation of the eyes was the only significant effect observed, based on both subjective and objective assessments.

Lifetime inhalation of wholly vaporized unleaded gasoline at 2056 ppm has caused increased liver tumors in female mice and kidney cancer in male rats. In their 1988 review of carcinogenic risk from gasoline, The International Agency for Research on Cancer (IARC) noted that, because published epidemiology studies did not include any exposure data, only occupations where gasoline exposure may have occurred were reviewed. These included gasoline service station attendants and automobile mechanics. IARC also noted that there was no opportunity to separate effects of combustion products from those of gasoline itself. Although IARC allocated gasoline a final overall classification of Group 2B, i.e. possibly carcinogenic to humans, this was based on limited evidence in experimental animals plus supporting evidence including the presence in gasoline of benzene. The actual evidence for carcinogenicity in humans was considered inadequate.

To explore the health effects of workers potentially exposed to gasoline vapors in the marketing and distribution sectors of the petroleum industry, the American Petroleum Institute sponsored a cohort mortality study (Publication 4555), a nested case-control study (Publication 4551), and an exposure assessment study (Publication 4552). Histories of exposure to gasoline were reconstructed for cohort of more than 18,000 employees from four companies for the time period between 1946 and 1985. The results of the cohort mortality study indicated that there was no increased mortality from either kidney cancer or leukemia among marketing and marine distribution employees who were exposed to gasoline in the petroleum industry, when compared to the general population. More importantly, based on internal

comparisons, there was no association between mortality from kidney cancer or leukemia and various indices of gasoline exposure. In particular, neither duration of employment, duration of exposure, age at first exposure, year of first exposure, job category, cumulative exposure, frequency of peak exposure, nor average intensity of exposure had any effect on kidney cancer or leukemia mortality. The results of the nested case-control study confirmed the findings of the original cohort study. That is, exposure to gasoline at the levels experienced by this cohort of distribution workers is not a significant risk factor for leukemia (all cell types), acute myeloid leukemia, kidney cancer or multiple myeloma.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
96 hour(s) LC50: 2.7 mg/l (Oncorhynchus mykiss)
48 hour(s) LC50: 3.0 mg/l (Daphnia magna)
96 hour(s) LC50: 8.3 mg/l (Cyprinodon variegatus)
96 hour(s) LC50: 1.8 mg/l (Mysidopsis bahia)
This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Gasoline studies have been conducted in the laboratory under a variety of test conditions with a range of fish and invertebrate species. An even more extensive database is available on the aquatic toxicity of individual aromatic constituents. The majority of published studies do not identify the type of gasoline evaluated, or even provide distinguishing characteristics such as aromatic content or presence of lead alkyls. As a result, comparison of results among studies using open and closed vessels, different ages and species of test animals and different gasoline types, is difficult.

The bulk of the available literature on gasoline relates to the environmental impact of monoaromatic (BTEX) and diaromatic (naphthalene, methylnaphthalenes) constituents. In general, non-oxygenated gasoline exhibits some short-term toxicity to freshwater and marine organisms, especially under closed vessel or flow-through exposure conditions in the laboratory. The components which are the most prominent in the water soluble fraction and cause aquatic toxicity, are also highly volatile and can be readily biodegraded by microorganisms.

ENVIRONMENTAL FATE
Ready Biodegradability: This material is expected to be readily biodegradable. Following spillage, the more volatile components of gasoline will be rapidly lost, with concurrent dissolution of these and other constituents into the water. Factors such as local environmental conditions (temperature, wind, mixing or wave action, soil type, etc), photo-oxidation, biodegradation and adsorption onto suspended sediments, can contribute to the weathering of spilled gasoline.

The aqueous solubility of non-oxygenated unleaded gasoline, based on analysis of benzene, toluene, ethylbenzene+xylenes and naphthalene, is reported to be 112 mg/l. Solubility data on individual gasoline constituents also available.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by USEPA under RCRA (40CFR261), Environment Canada, or other State, Provincial, and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal

facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: UN1203, GASOLINE, 3, II

IMO/IMDG Shipping Description: UN1203, GASOLINE, 3, II, FLASH POINT SEE SECTION 5

ICAO/IATA Shipping Description: UN1203, GASOLINE, 3, II

DOT Shipping Description: UN1203, GASOLINE, 3, II

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:
01-1=IARC Group 1
01-2A=IARC Group 2A
01-2B=IARC Group 2B
35=WHMIS IDL

The following components of this material are found on the regulatory lists indicated.

Benzene	01-1, 35
Butane	35
Cyclohexane	35
Ethanol	01-1, 35
Ethyl benzene	01-2B, 35
Gasoline	01-2B
Heptane	35
Hexane	35
Methylcyclohexane	35
Naphthalene	01-2B, 35
Pentane, 2,2,4-trimethyl- (Isooctane)	35
Toluene (methylbenzene)	35
Xylene (contains o-, m-, & p- xylene isomers in varying amounts)	35

WHMIS CLASSIFICATION:
Class B, Division 2: Flammable Liquids
Class D, Division 2, Subdivision A: Very Toxic Material - Carcinogenicity
Class D, Division 2, Subdivision B: Toxic Material - Skin or Eye Irritation
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3,s.2).

MSDS PREPARATION:

This Material Safety Data Sheet has been prepared by the Toxicology and Health Risk Assessment Unit, ERTC, P.O. Box 1627, Richmond, CA 94804, (888)676-6183.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3,s.2).

MSDS PREPARATION:

This Material Safety Data Sheet has been prepared by the Toxicology and Health Risk Assessment Unit, ERTC, P.O. Box 1627, Richmond, CA 94804, (888)676-6183.

Revision Date: MAY 10, 2011

SECTION 16 OTHER INFORMATION

HMIS RATINGS: Health: 2* Flammability: 3 Reactivity: 0

Additional Product Number(s): CPS201003, CPS201004, CPS201006, CPS201007, CPS201008, CPS201010, CPS201011, CPS201018, CPS201021, CPS201025, CPS201031, CPS201032, CPS201033, CPS201034, CPS201036, CPS201037, CPS201038, CPS201041, CPS201043, CPS201046, CPS201048, CPS201064, CPS201208, CPS201210, CPS201211, CPS201212, CPS201230, CPS201231, CPS201232, CPS201260, CPS201261, CPS201262, CPS201271, CPS201272, CPS201273, CPS201280, CPS201281, CPS201282, CPS201288, CPS201290, CPS201291, CPS201292, CPS201851, CPS201852, CPS201858, CPS201859, CPS201860, CPS204004, CPS204005, CPS204012, CPS204013, CPS204024, CPS204025, CPS204048, CPS204049, CPS204072, CPS204073, CPS204090, CPS204091, CPS204106, CPS204107, CPS204118, CPS204119, CPS204142, CPS204143, CPS204166, CPS204167, CPS204190, CPS204191, CPS204202, CPS204203, CPS204209, CPS204214, CPS204215, CPS204226, CPS204227, CPS204250, CPS204251, CPS204274, CPS204275, CPS204292, CPS204293, CPS204325, CPS204326, CPS204360, CPS204361, CPS204366, CPS204367, CPS204372, CPS204373, CPS204378, CPS204379, CPS204384, CPS204385, CPS204390, CPS204391, CPS204396, CPS204397, CPS204402, CPS204403, CPS204408, CPS204409, CPS204414, CPS204415, CPS204420, CPS204421, CPS204426, CPS204427, CPS204432, CPS204433, CPS204438, CPS204439, CPS204468, CPS204469, CPS204486, CPS204487, CPS204504, CPS204505, CPS204522, CPS204523, CPS204540, CPS204541, CPS204558, CPS204559, CPS204576, CPS204577, CPS204594, CPS204595, CPS204612, CPS204613, CPS204630, CPS204631, CPS204648, CPS204649, CPS204666, CPS204667, CPS204692, CPS204693, CPS204698, CPS204699, CPS204704, CPS204705, CPS204710, CPS204711, CPS204723, CPS204724, CPS204729, CPS204730

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 2, 3, 4, 8, 11, 15

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health

	Administration

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

CITGO Gasolines, All Grades Unleaded

Material Safety Data Sheet

CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210

MSDS No. UNLEAD
Revision Date 10/14/2008

IMPORTANT: This MSDS is prepared in accordance with 29 CFR 1910.1200. Read this MSDS before transporting, handling, storing or disposing of this product and forward this information to employees, customers and users of this product.

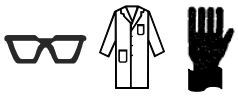
Hazard Rankings

	HMIS	NFPA
Health Hazard	* 2	1
Fire Hazard	3	3
Reactivity	0	0

*** = Chronic Health Hazard**

Protective Equipment

Minimum Recommended
See Section 8 for Details



Emergency Overview

Physical State Liquid.

Color Transparent, clear to amber or red. **Odor** Pungent, characteristic gasoline.

DANGER:
Extremely flammable liquid; vapor may cause flash fire or explosion.
Vapor may travel considerable distance to source of ignition and flash back.
Use Only as a Motor Fuel. Do Not Siphon by Mouth.
Harmful or fatal if swallowed - Can enter lungs and cause damage.
High concentrations of vapor reduce oxygen available for breathing and may cause suffocation.
May be harmful if inhaled or absorbed through the skin.
Mist or vapor may irritate the eyes, mucous membranes, and respiratory tract.
Liquid contact may cause eye and skin irritation.
Overexposures may cause central nervous system (CNS) depression and target organ effects (See Section 3).
Harmful or fatal if swallowed - Can enter lung and cause damage.
Inhalation overexposure can increase the heart's susceptibility to arrhythmias (irregular beats).
Contains Benzene - Cancer Hazard.
Long term exposure to gasoline vapor has caused cancer in laboratory animals.
Avoid Spills. Spills may present both a physical and an environmental hazard.

SECTION 1. PRODUCT IDENTIFICATION

Trade Name	CITGO Gasolines, All Grades Unleaded	**Technical Contact**	(832) 486-5940
Product Number	Various	**Medical Emergency**	(832) 486-4700
CAS Number	Mixture.	**CHEMTREC Emergency (United States Only)**	(800) 424-9300
Product Family	Motor fuels.		

Synonyms Unleaded Gasolines; Conventional Unleaded Gasoline with Ethanol; Unleaded Gasoline with Ethanol; Reformulated Unleaded Gasoline with Ethanol; Motor Gasolines; Petrol; Automobile Motor Fuels; Finished Gasolines; Gasoline, Regular Unleaded; Gasoline, Mid-grade Unleaded; Gasoline, Premium Unleaded; Reformulated Gasolines (RFG); Reformulated Motor Fuels; Oxygenated Motor Spirits; Gasoline, Regular Reformulated; Gasoline, Mid-grade Reformulated; Gasoline, Premium Reformulated; CBOB; RBOB; GTAB; Clean Burning Gasoline (CBG); CARB Gasoline with Ethanol.

SECTION 2. COMPOSITION

Gasoline is a complex and variable mixture that originates from finished refinery streams. These streams can contain the components listed below that are regulated or are associated with certain potential health effects. The typical concentration of ethanol in gasoline does not exceed 10% (v/v).

Component Name(s)	CAS Registry No.	Concentration (%)
Toluene	108-88-3	<25
Pentanes, all isomers	Mixture	<20
Octanes, all isomers	Mixture	<20
Xylene, all isomers	1330-20-7	<18
Hexane, other isomers	Mixture	<15
Heptane, all isomers	142-82-5	<15
Ethanol	64-17-5	<10
n-Hexane	110-54-3	<8
Benzene	71-43-2	<5
Trimethylbenzenes, all isomers	25551-13-7	<5
2,2,4-Trimethylpentane	540-84-1	<5
Cumene	98-82-8	<4
Ethylbenzene	100-41-4	<4
1, 2, 4 Trimethylbenzene	95-63-6	<3
Cyclohexane	110-82-7	<3
Cyclopentane	287-92-3	<2
Naphthalene	91-20-3	<2
Styrene	100-42-5	<1

SECTION 3. HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry Skin contact. Eye contact. Inhalation. Ingestion.

Signs and Symptoms of Acute Exposure

Inhalation Breathing high concentrations may be harmful. Mist or vapor can irritate the throat and lungs. Breathing this material may cause central nervous system depression with symptoms including nausea, headache, dizziness, fatigue, drowsiness, or unconsciousness. Breathing high concentrations of this material, for example, in an enclosed space or by intentional abuse, can cause irregular heartbeats which can cause death.

Eye Contact This product can cause eye irritation with short-term contact with liquid, mists or vapor. Symptoms include stinging, watering, redness, and swelling. In severe cases, permanent eye damage can result.

Skin Contact This material can cause skin irritation. The severity of irritation will depend on the amount of material that is applied to the skin and the speed and thoroughness that it is removed. It is likely that some components of this material are able to pass into the body through the skin and may cause similar effects as from breathing or swallowing it. If the skin is damaged or abraded, absorption increases.

Ingestion

If swallowed, this material may irritate the mucous membranes of the mouth, throat, and esophagus. It can be readily absorbed by the stomach and intestinal tract. Symptoms include a burning sensation of the mouth and esophagus, nausea, vomiting, dizziness, staggered gait, drowsiness, loss of consciousness and delirium, as well as additional central nervous system (CNS) effects.

Due to its light viscosity, there is a danger of aspiration into the lungs during swallowing and subsequent vomiting. Aspiration can result in severe lung damage or death. Cardiovascular effects include shallow rapid pulse with pallor (loss of color in the face) followed by flushing (redness of the face). Also, progressive CNS depression, respiratory insufficiency and ventricular fibrillation leads to death.

Chronic Health Effects Summary

Intentional misuse by deliberately concentrating and inhaling gasoline can be harmful or fatal. Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage ("Petrol Sniffers Encephalopathy"), delirium, seizures and sudden death are associated with repeated abuse of gasoline or naphtha.

Chronic effects of ingestion and subsequent aspiration into the lungs may include pneumatocele (lung cavity) formation and chronic lung dysfunction.

Benzene, a component of this product, is associated with blood disorders and may damage bone marrow, causing certain types of anemia. The International Agency for Research on Cancer (IARC) (1987, 2004, 2007) and the U.S. EPA (IRIS 2007) have determined that benzene is a human carcinogen. It is also capable of causing changes in living cells' genetic material (chromosomes) and is considered to be a mutagen.

Repeated and prolonged overexposure to n-hexane has been associated with peripheral nerve tissue damage. Adverse effects include numbness, tingling, pain, and loss of muscle control in the extremities, disorientation, impaired vision and reflexes, decline in motor function and paralysis.

Prolonged or repeated overexposure to toluene, a component of this product, has been associated with reproductive effects in experimental animals and in long-term chemical abuse situations. Long-term overexposure to toluene has been associated with impaired color vision. Also, long-term overexposure to toluene in occupational environments have been associated with hearing damage.

Prolonged or repeated overexposure to xylene, a component of this product, has been associated with hearing damage in laboratory animals. Repeated overexposure may cause injury to bone marrow, blood cells, kidney, and liver.

Refer to Section 11 of this MSDS for additional health-related information.

Conditions Aggravated by Exposure

Disorders of the following organs or organ systems that may be aggravated by significant exposure to this material or its components include: Skin, Respiratory System, Liver, Kidneys, Central Nervous System (CNS), Cardiovascular System, Blood-forming system.

Target Organs

May cause damage to the following organs: blood, kidneys, lungs, the reproductive system, liver, mucous membranes, heart, peripheral nervous system, cardiovascular system, upper respiratory tract, skin, auditory system, bone marrow, central nervous system (CNS), eye, lens or cornea

Carcinogenic Potential

This material may contain benzene, ethylbenzene, naphthalene or styrene at concentrations above 0.1%. Benzene is considered to be a known human carcinogen by OSHA, IARC and NTP. IARC has identified ethylbenzene, styrene, naphthalene, gasoline and gasoline engine exhaust as possibly carcinogenic to humans (Group 2B) based on laboratory animal studies.

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

OSHA Health Hazard Classification				OSHA Physical Hazard Classification					
Irritant	X	Sensitizer		Combustible		Explosive		Pyrophoric	
Toxic		Highly Toxic		Flammable	X	Oxidizer		Water-reactive	
Corrosive		Carcinogenic	X	Compressed Gas		Organic Peroxide		Unstable	

SECTION 4. FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation Immediately move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately. If exposed to benzene in an emergency situation, a medical evaluation should be completed at the end of the work-shift in accordance with OSHA requirements.

Eye Contact Flush eyes with cool, clean, low-pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. If easily accomplished, check for and remove contact lenses. If contact lenses cannot be removed, seek immediate medical attention. Do not use eye ointment. Seek medical attention.

Skin Contact Remove contaminated shoes and clothing. Flush affected area with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. Do not use ointments. If skin surface is not damaged, clean affected area thoroughly with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists.

Ingestion Do not induce vomiting. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately.

Notes to Physician INHALATION: Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Administer supplemental oxygen with assisted ventilation, as required.

This material (or a component) sensitizes the heart to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.

INGESTION: If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.

SECTION 5. FIRE FIGHTING MEASURES

NFPA Flammability Classification NFPA Class-IB flammable liquid.

Flash Point Closed cup: -43°C (-45°F). (Tagliabue [ASTM D-56])

Lower Flammable Limit AP 1.4 % **Upper Flammable Limit** AP 7.6 %

Autoignition Temperature	AP 280°C (536°F)
Hazardous Combustion Products	Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons, aldehydes and other products of incomplete combustion.
Special Properties	Flammable Liquid! This material releases vapors at or below ambient temperatures. When mixed with air in certain proportions and exposed to an ignition source, its vapor can cause a flash fire. Use only with adequate ventilation. Vapors are heavier than air and may travel long distances along the ground to an ignition source and flash back. A vapor and air mixture can create an explosion hazard in confined spaces such as sewers. If container is not properly cooled, it can rupture in the heat of a fire.
Extinguishing Media	SMALL FIRE: Use dry chemicals, carbon dioxide, foam, or inert gas (nitrogen). Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces. LARGE FIRE: Use foam, water fog, or water spray. Water may be ineffective. Water may not extinguish the fire. Water fog and spray are effective in cooling containers and adjacent structures. However, water can be used to cool the external walls of vessels to prevent excessive pressure, autoignition or explosion. DO NOT use a solid stream of water directly on the fire as the water may spread the fire to a larger area.
Protection of Fire Fighters	Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles. Cover pooling liquid with foam. Containers can build pressure if exposed to radiant heat; cool adjacent containers with flooding quantities of water until well after the fire is out. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines. Be aware that burning liquid will float on water. Notify appropriate authorities of potential fire and explosion hazard if liquid enter sewers or waterways.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Flammable Liquid! Release causes an immediate fire or explosion hazard. Evacuate all non-essential personnel from immediate area and establish a "regulated zone" with site control and security. A vapor-suppressing foam may be used to reduce vapors. Eliminate all ignition sources. All equipment used when handling this material must be grounded. Stop the leak if it can done without risk. Do not touch or walk through spilled material. Remove spillage immediately from hard, smooth walking areas. Prevent spilled material from entering waterways, sewers, basements, or confined areas. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to appropriate waste containers. Use clean, non-sparking tools to collect absorbed material.

For large spills, secure the area and control access. Prevent spilled material from entering sewers, storm drains, other drainage systems, and natural waterways. Dike far ahead of a liquid spill to ensure complete collection. Water mist or spray may be used to reduce or disperse vapors; but, it may not prevent ignition in closed spaces. This material will float on water and its run-off may create an explosion or fire hazard. Verify that responders are properly HAZWOPER-trained and wearing appropriate respiratory equipment and fire-resistant protective clothing during cleanup operations. In an urban area, cleanup spill as soon as possible; in natural environments, cleanup on advice from specialists. Pick up free liquid for recycle and/or disposal if it can be accomplished safely with explosion-proof equipment. Collect any excess material with absorbant pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal. Comply with all applicable local, state and federal laws and regulations.

SECTION 7. HANDLING AND STORAGE

Handling

FLAMMABLE LIQUID AND VAPOR. **USE ONLY as a motor fuel.** DO NOT siphon by mouth. DO NOT use as a lighter fluid, solvent or cleaning fluid. Prior to handling or refueling, stop all engines and auxillary equipment. Turn off all electronic equipment including cellular telephones. DO NOT leave nozzle unattended during filling or refueling a vehicle. DO NOT re-enter vehicle while refueling. Keep nozzle spout in contact with the container during the entire filling operations.

A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always bond receiving containers to the fill pipe before and during loading, following NFPA-704 and /or API RP 2003 requirements. Always keep nozzle in contact with the container throughout the loading process. Do not fill any portable container in or on a vehicle. Special precautions, such as reduced loading rates and increased monitoring, must be observed during "switch loading" operations (i.e., loading this material in tanks or shipping compartments that previously contained middle distillates or similar products).

A spill or leak can cause an immediate fire or explosion hazard. Keep containers closed and do not handle or store near heat, sparks, or any other potential ignition sources. Avoid contact with oxidizing agents. Do NOT breathe vapor. Use only with adequate ventilation and personal protection. Never siphon by mouth. Avoid contact with eyes, skin, and clothing. Prevent contact with food and tobacco products. Do NOT take internally.

When performing repairs and maintenance on contaminated equipment, keep unnecessary persons away from the area. Eliminate all potential ignition sources. Drain and purge equipment, as necessary, to remove material residues. Follow proper entry procedures, including compliance with 29 CFR 1910.146 prior to entering confined spaces such as tanks or pits. Use gloves constructed of impervious materials and protective clothing if direct contact is anticipated. Use appropriate respiratory protection when concentrations exceed any established occupational exposure level (See Section 8) Promptly remove contaminated clothing. Wash exposed skin thoroughly with soap and water after handling.

Non-equilibrium conditions may increase the fire hazard associated with this product. A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always bond receiving containers to the fill pipe before and during loading. Always confirm that receiving container is properly grounded. Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards associated with electrostatic charges. Carefully review operations that may increase the risks associated with static electricity such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. In addition to bonding and grounding, efforts to mitigate the hazards of an electrostatic discharge may include, but are not limited to, ventilation, inerting and/or reduction of transfer velocities. Dissipation of electrostatic charges may be improved with the use of conductivity additives when used with other mitigation efforts, including bonding and grounding. Always keep nozzle in contact with the container throughout the loading process.

Do NOT fill any portable container in or on a vehicle. Do NOT use compressed air for filling, discharging or other handling operations. Product container is NOT designed for elevated pressure. Do NOT pressurize, cut, weld, braze solder, drill, or grind on containers. Do NOT expose product containers to flames, sparks, heat or other potential ignition sources. Empty containers may contain material residues which can ignite with explosive force. Observe label precautions.

Protect the environment from releases of this material. Prevent discharges to surface waters and groundwater. Maintain handling, transfer and storage equipment in proper working order.

Misuse of empty containers can be dangerous. Empty containers may contain material residues which can ignite with explosive force. **Cutting or welding of empty containers**

can cause fire, explosion, or release of toxic fumes from residues. Do not pressurize or expose empty containers to open flame, sparks, or heat. Keep container closed and drum bungs in place. All label warnings and precautions must be observed. Return empty drums to a qualified reconditioner. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling, or disposing of empty containers and/or waste residues of this material.

Storage

Keep container tightly closed. Store in a cool, dry, well-ventilated area. Store only in approved containers. Do not store with oxidizing agents. Do not store at elevated temperatures or in direct sunlight. Protect containers against physical damage. Head spaces in tanks and other containers may contain a mixture of air and vapor in the flammable range. Vapor may be ignited by static discharge. Storage area must meet OSHA requirements and applicable fire codes. Additional information regarding the design and control of hazards associated with the handling and storage of flammable and combustible liquids may be found in professional and industrial documents including, but not limited to, the National Fire Protection Association (NFPA) publications NFPA 30 ("Flammable and Combustible Liquid Code"), NFPA 77 ("Recommended Practice on Static Electricity") and the American Petroleum Institute (API) Recommended Practice 2003, (“Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents").

Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls

Provide ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits indicated below. All electrical equipment should comply with the National Electrical Code. An emergency eye wash station and safety shower should be located near the work-station.

Personal Protective Equipment

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.



Eye Protection

Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Chemical goggles should be worn during transfer operations or when there is a likelihood of misting, splashing, or spraying of this material. A suitable emergency eye wash water and safety shower should be located near the work station.

Hand Protection

Avoid skin contact. Use gloves (e.g., disposable PVC, neoprene, nitrile, vinyl, or PVC/NBR). Wash hands with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use this material as a skin cleaner.

Body Protection

Avoid skin contact. Wear long-sleeved fire-retardant garments (e.g., Nomex®) while working with flammable and combustible liquids. Additional chemical-resistant protective gear may be required if splashing or spraying conditions exist. This may include an apron, boots and additional facial protection. If product comes in contact with clothing, immediately remove soaked clothing and shower. Promptly remove and discard contaminated leather goods.

Respiratory Protection For known vapor concentrations above the occupational exposure guidelines (see below), use a NIOSH-approved organic vapor respirator if adequate protection is provided. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134). For airborne vapor concentrations that exceed the recommended protection factors for organic vapor respirators, use a full-face, positive-pressure, supplied air respirator. Due to fire and explosion hazards, do not enter atmospheres containing concentrations greater than 10% of the lower flammable limit of this product.

General Comments Warning! Use of this material in spaces without adequate ventilation may result in generation of hazardous levels of combustion products and/or inadequate oxygen levels for breathing. Odor is an inadequate warning for hazardous conditions.

Occupational Exposure Guidelines

Substance	Applicable Workplace Exposure Levels
Gasoline	**ACGIH (United States).** TWA: 300 ppm 8 hour(s). STEL: 500 ppm 15 minute(s).
Pentanes, all isomers	**ACGIH (United States).** TWA: 600 ppm 8 hour(s). **OSHA (United States).** TWA: 1000 ppm 8 hour(s).
Octanes, all isomers	**ACGIH (United States).** TWA: 300 ppm 8 hour(s). **OSHA (United States).** TWA: 500 ppm 8 hour(s).
Toluene	**ACGIH (United States). Skin** TWA: 20 ppm 8 hour(s). **OSHA (United States).** TWA: 200 ppm 8 hour(s). CEIL: 300 ppm PEAK: 500 ppm 1 times per shift, 10 minute(s).
Hexane, other isomers	**ACGIH (United States).** TWA: 500 ppm 8 hour(s). STEL: 1000 ppm 15 minute(s).
Heptane, all isomers	**ACGIH (United States).** TWA: 400 ppm 8 hour(s). STEL: 500 ppm 15 minute(s). **OSHA (United States).** TWA: 500 ppm 8 hour(s).
Xylene, all isomers	**ACGIH (United States).** TWA: 100 ppm 8 hour(s). STEL: 150 ppm 15 minute(s). **OSHA (United States).** TWA: 100 ppm 8 hour(s).
Ethanol	**ACGIH (United States).** TWA: 1000 ppm 8 hour(s). **OSHA (United States).** TWA: 1000 ppm 8 hour(s).
Benzene	**ACGIH (United States). Skin** TWA: 0.5 ppm 8 hour(s). STEL: 2.5 ppm 15 minute(s). **OSHA (United States). Skin Notes: See Table Z-2 for exclusions in 20 CFR 1910.1028 to the PEL.** TWA: 1 ppm 8 hour(s). STEL: 5 ppm 15 minute(s).
n-Hexane	**ACGIH (United States). Skin** TWA: 50 ppm 8 hour(s). **OSHA (United States).** TWA: 500 ppm 8 hour(s).
Cumene	**ACGIH (United States).** TWA: 50 ppm 8 hour(s). **OSHA (United States). Skin**

	TWA: 50 ppm 8 hour(s).
Trimethylbenzenes, all isomers	**ACGIH (United States).** TWA: 25 ppm 8 hour(s).
Ethylbenzene	**ACGIH (United States).** TWA: 100 ppm 8 hour(s). STEL: 125 ppm 15 minute(s). **OSHA (United States).** TWA: 100 ppm 8 hour(s).
Cyclohexane	**ACGIH (United States).** TWA: 100 ppm 8 hour(s). **OSHA (United States).** TWA: 300 ppm 8 hour(s).
Cyclopentane	**ACGIH (United States).** TWA: 600 ppm 8 hour(s).
Naphthalene	**ACGIH (United States). Skin** TWA: 10 ppm 8 hour(s). STEL: 15 ppm 15 minute(s). **OSHA (United States).** TWA: 10 ppm 8 hour(s).
Styrene	**ACGIH (United States).** TWA: 20 ppm 8 hour(s). STEL: 40 ppm 15 minute(s). **OSHA (United States).** TWA: 100 ppm 8 hour(s). STEL: 200 ppm 15 minute(s). PEAK: 600 ppm

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

Physical State	Liquid.	**Color**	Transparent, clear to amber or red.	**Odor**	Pungent, characteristic gasoline.
Specific Gravity	0.72 - 0.77 (Water = 1)	**pH**	Not applicable	**Vapor Density**	3 to 4 (Air = 1)

Boiling Range	38 to 204°C (100 to 400°F)	**Melting/Freezing Point**	Not available.
Vapor Pressure	220 to 450 mm Hg at 20°C (68°F) or 6 to 15 Reid-psia at 37.8°C (100°F).	**Volatility**	720 to 770 g/l VOC (w/v)
Solubility in Water	Very slightly soluble in cold water. (<0.1 % w/w)	**Viscosity (cSt @ 40°C)**	<1

Flash Point	Closed cup: -43°C (-45°F). (Tagliabue [ASTM D-56])
Additional Properties	Average Density at 60°F = 6.0 to 6.4 lbs./gal. (ASTM D-2161)

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability Stable. **Hazardous Polymerization** Not expected to occur.

Conditions to Avoid	Keep away from heat, flame and other potential ignition sources. Keep away from strong oxidizing conditions and agents.
Materials Incompatibility	Strong acids, alkalies and oxidizers such as liquid chlorine, other halogens, hydrogen peroxide and oxygen.
Hazardous Decomposition Products	No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.

SECTION 11. TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.

Toxicity Data

Gasoline:
VAPOR (TELo) Acute: 140 ppm (Human) (8 hours) - Mild eye irritant.
VAPOR (TELo) Acute: 500 ppm (Human) (1 hour) - Moderate eye irritant.
INHALATION (TCLo) Acute: 900 ppm (Human) (1 hour) - CNS and pulmonary effects.
DERMAL (TDLo) Acute: 53 mg/kg (Human) - Skin allergy effects.
INHALATION (LC50) Acute: 101,200 ppm (Rat, Mouse, & Guinea Pig) (5 minutes).

A major epidemiological study concluded that there was no increased risk of kidney cancer associated with gasoline exposures for petroleum refinery employees or neighboring residents. Another study identified a slight trend in kidney cancers among service station employees following a 30-year latency period. Two-year inhalation toxicity studies with fully vaporized unleaded gasoline (at concentrations of 67, 292 and 2,056 ppm in air) produced kidney damage and kidney tumors in male rats, but not in female rats or mice of either sex. Results from subsequent scientific studies suggest that the kidney damage, and probably the kidney tumor response, is limited to the male rat. The kidney tumors apparently were the result of the formation of alpha-2u-globulin, a protein unique to male rats. This finding is not considered relevant to human exposure. Under conditions of the study, there was no evidence that exposure to unleaded gasoline vapor is associated with developmental toxicity. Experimental studies with laboratory animals did suggest that overexposure to gasoline may adversely effect male reproductive performance. Also, in laboratory studies with rats, the maternal and developmental "no observable adverse effect level" (NOAEL) was determined to be 9,000 ppm (75% of the LEL value). Female mice developed a slightly higher incidence of liver tumors compared to controls at the highest concentration. In a four week inhalation study of Sprague Dawley® rats, gasoline vapor condensate was determined to induce sister chromatid exchanges in peripheral lymphocytes. IARC has listed gasoline as possibly carcinogenic to humans (Group 2B).

Pentanes, all isomers
Studies of pentane isomers in laboratory animals indicate exposure to extremely high levels (roughly 10 vol.%) may induce cardiac arrhythmias (irregular heartbeats) which may be serious or fatal.

Toluene:
Effects from Acute Exposure:
Deliberate inhalation of toluene at high concentrations (e.g., glue sniffing and solvent abuse) has been associated with adverse effects on the liver, kidney and nervous system and can cause CNS depression, cardiac arrhythmias and death. Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects.

Effects from Repeated or Prolonged Exposure:
Studies of workers indicate long-term exposure may be related to impaired color vision and hearing. Some studies of workers suggest long-term exposure may be related to neurobehavioral and cognitive changes. Some of these effects have been observed in laboratory animals following repeated exposure to high levels of toluene. Several studies of workers suggest long-term exposure may be related to small increases in spontaneous abortions and changes in some gonadotropic hormones. However, the weight of evidence does not indicate toluene is a reproductive hazard to humans. Studies in laboratory animals indicate some changes in reproductive organs following high levels of exposure, but no significant effects on mating performance or reproduction were observed. Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Findings in laboratory animals were largely negative. Positive findings include small increases in minor skeletal and visceral malformations and developmental delays following very high levels of maternal exposure. Studies of workers indicate long-term exposure may be related to effects on the liver, kidney and blood, but these appear to be limited to changes in serum enzymes and decreased leukocyte counts. Studies in laboratory

animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland following very high levels of exposure. The relevance of these findings to humans is not clear at this time.

Heptane, all isomers
n-Heptane was not mutagenic in the Salmonella/microsome (Ames) assay and is not considered to be carcinogenic.

Xylene, all isomers
Effects from Acute Exposure:
ORAL (LD_{50}), Acute: 4,300 mg/kg [Rat].
INHALATION (LC_{50}), Acute: 4,550 ppm for four hours [Rat].
DERMAL (LD_{50}), Acute: 14,100 uL/kg [Rabbit].
Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, CNS damage and narcosis. Effects may be increased by the use of alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross over-exposure.

Effects from Prolonged or Repeated Exposure:
Impaired neurological function was reported in workers exposed to solvents including xylene. Studies in laboratory animals have shown evidence of impaired hearing following high levels of exposure. Studies in laboratory animals suggest some changes in reproductive organs following high levels of exposure but no significant effects on reproduction were observed. Studies in laboratory animals indicate skeletal and visceral malformations, developmental delays, and increased fetal resorptions following extremely high levels of maternal exposure. Adverse effects on the liver, kidney, bone marrow (changes in blood cell parameters) were observed in laboratory animals following high levels of exposure. The relevance of these observations to humans is not clear at this time.

Ethanol:
Inhalation exposure to ethanol vapor at concentrations above applicable workplace exposure levels is expected to produce eye and mucus membrane irritation. Human exposure at concentrations from 1000 to 5000 ppm produced symptoms of narcosis, stupor and unconsciousness. Subjects exposed to ethanol vapor in concentrations between 500 and 10,000 ppm experienced coughing and smarting of the eyes and nose. At 15,000 ppm there was continuous lacrimation and coughing. While extensive acute and chronic effects can be expected with ethanol consumption, ingestion is not expected to be a significant route of exposure to this product.

Benzene:

ORAL (LD50):	Acute: 930 mg/kg [Rat]. 4700 mg/kg [Mouse].
INHALATION (LC50):	
(VAPOR):	Acute: 10000 ppm 7 hour(s) [Rat]. 9980 ppm 8 hour(s) [Mouse].

Studies of Workers Over-Exposed to Benzene:
Studies of workers exposed to benzene show clear evidence that over-exposure can cause cancer of the blood forming organs (acute myelogenous leukemia) and aplastic anemia, an often fatal disease. Studies also suggest over-exposure to benzene may be associated with other types of leukemia and other blood disorders. Some studies of workers exposed to benzene have shown an association with increased rates of chromosome aberrations in circulating lymphocytes. One study of women workers exposed to benzene suggested a weak association with irregular menstruation. However, other studies of workers exposed to benzene have not demonstrated clear evidence of an effect on fertility or reproductive outcome in humans. Benzene can cross the placenta and affect the developing fetus. Cases of aplastic anemia have been reported in the offspring of persons severely over-exposed to benzene.

Studies in Laboratory Animals:
Studies in laboratory animals indicate that prolonged, repeated exposure to high levels of benzene vapor can cause bone marrow suppression and cancer in multiple organ systems. Studies in laboratory animals show evidence of adverse effects on male reproductive organs following high levels of exposure but no significant effects on reproduction have been observed. Embryotoxicity has been reported in studies of laboratory animals but effects were

limited to reduced fetal weight and skeletal variations.

n-Hexane:
This material contains n-hexane. Long-term or repeated exposure to n-hexane can cause permanent peripheral nerve damage. Initial symptoms are numbness of the fingers and toes. Also, motor weakness can occur in the digits, but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. Co-exposure to methylethyl ketone or methyl isobutyl ketone increases the neurotoxic properties of n-hexane. In laboratory studies, prolonged exposure to elevated concentrations of n-hexane was associated with decreased sperm count and degenerative changes in the testicles of rats.

Cumene:
Effects from Acute Exposure:
Overexposure to cumene may cause upper respiratory tract irritation and severe CNS depression.

Effects from Prolonged or Repeated Exposure:
Studies in laboratory animals indicate evidence of adverse effects on the kidney and adrenal glands following high level exposure. The relevance of these findings to humans is not clear at this time.

Trimethylbenzenes, all isomers
Studies of Workers:
Levels of total hydrocarbon vapors present in the breathing atmosphere of these workers ranged from 10 to 60 ppm. The TCLo for humans is 10 ppm, with somnolence and respiratory tract irritation noted.

Studies in Laboratory Animals:
In inhalation studies with rats, four of ten animals died after exposures of 2400 ppm for 24 hours. An oral dose of 5 mL/kg resulted in death in one of ten rats. Minimum lethal intraperitoneal doses were 1.5 to 2.0 mL/kg in rats and 1.13 to 12 mL/kg in guinea pigs. Mesitylene (1, 3, 5 Trimethylbenzene) inhalation at concentrations of 1.5, 3.0, and 6.0 mg/L for six hours was associated with dose-related changes in white blood cell counts in rats. No significant effects on the complete blood count were noted with six hours per day exposure for five weeks, but elevations of alkaline phosphatase and SGOT were observed. Central nervous system depression and ataxia were noted in rats exposed to 5,100 to 9,180 ppm for two hours.

Ethylbenzene
Effects from Acute Exposure:
ORAL (LD50), Acute: 3,500 mg/kg [Rat].
DERMAL (LD50), Acute: 17,800 uL/kg [Rabbit].
INTRAPERITONEAL (LD50), Acute: 2,624 mg/kg [Rat].

Effects from Prolonged or Repeated Exposure:
Findings from a 2-year inhalation study in rodents conducted by NTP were as follows: Effects were observed only at the highest exposure level (750 ppm). At this level the incidence of renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). Also, the incidence of tumors was elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified ethyl benzene as “possibly carcinogenic to humans” (Group 2B). Studies in laboratory animals indicate some evidence of post-implantation deaths following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

Cyclohexane
ORAL (LD50): Acute: 12705 mg/kg [Rat]. 813 mg/kg [Mouse].

Cyclohexane can cause eye, skin and mucous membrane irritation, CNS depressant and

narcosis at elevated concentrations. In experimental animals exposed to lethal concentrations by inhalation or oral route, generalized vascular damage and degenerative changes in the heart, lungs, liver, kidneys and brain were identified.

Cyclohexane has been the focus of substantial testing in laboratory animals. Cyclohexane was not found to be genotoxic in several tests including unscheduled DNA synthesis, bacterial and mammalian cell mutation assays, and in vivo chromosomal aberration. An increase in chromosomal aberrations in bone marrow cells of rats exposed to cyclohexane was reported in the 1980's. However, a careful re-evaluation of slides from this study by the laboratory which conducted the study indicates these findings were in error, and that no significant chromosomal effects were observed in animals exposed to cyclohexane. Findings indicate long-term exposure to cyclohexane does not promote dermal tumorigenesis.

Naphthalene
Studies in Humans Overexposed to Naphthalene:
Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from over-exposure to naphthalene. Persons with Glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have also been reported from over-exposure to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect.

Studies in Laboratory Animals:
Hemolytic anemia has been observed in laboratory animals exposed to naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) *in vitro.*

Styrene
Neurological injury associated with chronic styrene exposure include distal hypesthesia, decreased nerve conduction velocity, and altered psychomotor performance. These effects did not occur with exposures to airborne concentrations that were less than 100 ppm. Increased deaths from degenerative neurological disorders were found in a comprehensive epidemiological study of Danish reinforced plastics workers. These workers were reported to have a 2.5-fold increased risk for myeloid leukemia with clonal chromosome aberrations. Also, there are several studies that suggest potential reproductive effects in humans and experimental animals from overexposure to styrene. Styrene was not mutagenic in the standard (liquid phase) Ames Salmonella/microsome assay, but was weakly positive when tested in the vapor phase. IARC has listed styrene as possibly carcinogenic to humans (Group 2B).

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Unleaded gasoline is potentially toxic to freshwater and saltwater ecosystems. Various grades of gasoline exhibited range of lethal toxicity (LC_{100}) from 40 PPM to 100 PPM in ambient stream water with Rainbow Trout (*Salmo irideus*). A 24-hour TLm (Median Toxic Limit) was calculated to be 90 PPM with juvenile American Shad (*Squalius cephalus*). In Bluegill Sunfish (*Lepomis macrochirus*), Grey Mullet (*Chelon labrosus*) and Gulf Menhaden (*Brevoortia patronus*), gasoline exhibited a 96-hour LC_{50} of 8 PPM, 2 PPM, and 2 PPM, respectively.

Environmental Fate

Biodegradability: Readily biodegradable in aerobic conditions. Residual components most recalcitrant to biodegration are branched alkanes.

Partition Coefficient (log Kow): 2.13 to 4.85.

Photodegration: Gasoline will partition to air, with the atmospheric half-life for constituents ranging from 0.8 days to 16 days.

Stability in water: Gasoline is not readily susceptible to hydrolysis under aquatic conditions, and the constituents readily partition to air.

SECTION 13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Maximize material recovery for reuse or recycling. Recovered non-usable material may be regulated by US EPA as a hazardous waste due to its ignitibility (D001) and/or its toxic (D018) characteristics. Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a RCRA "hazardous waste" at the time of disposal. Transportation, treatment, storage and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact your regional US EPA office for guidance concerning case specfic disposal issues.

SECTION 14. TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.

US DOT Status A U.S. Department of Transportation regulated material.

Proper Shipping Name Gasoline, 3, UN 1203, PG II
Gasohol, 3, NA 1203, PGII (Use only for gasoline blended with less than 20% ethanol)

Hazard Class 3 DOT Class: Flammable liquid.

Packing Group II

UN/NA Number UN1203 or NA1203

Reportable Quantity A Reportable Quantity (RQ) has not been established for this material.

Placard(s)



Emergency Response Guide No. 128

MARPOL III Status Not a DOT "Marine Pollutant" per 49 CFR 171.8.

SECTION 15. REGULATORY INFORMATION

TSCA Inventory This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

SARA 302/304 Emergency Planning and Notification The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.

SARA 311/312 Hazard Identification The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories:

Fire, Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard

SARA 313 Toxic Chemical Notification and Release Reporting

This product contains the following components in concentrations above *de minimis* levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA:
Toluene [CAS No.: 108-88-3] Concentration: <25%
Xylene, all isomers [CAS No.: 1330-20-7] Concentration: <18%
n-Hexane [CAS No.: 110-54-3] Concentration: <8%
Benzene [CAS No.: 71-43-2] Concentration: <5%
Cumene [CAS No.: 98-82-8] Concentration: <4%
Ethylbenzene [CAS No.: 100-41-4] Concentration: <4%
1,2,4--Trimethylbenzene [CAS No.: 95-63-6] Concentration: <3%
Cyclohexane [CAS No.: 110-82-7] Concentration: <3%
Naphthalene [CAS No.: 91-20-3] Concentration: <2%
Styrene [CAS No.: 100-42-5] Concentration: <1%

CERCLA

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are:
Toluene [CAS No.: 108-88-3] RQ = 1000 lbs. (453.6 kg) Concentration: <25%
Xylene, all isomers [CAS No.: 1330-20-7] RQ = 100 lbs. (45.36 kg) Concentration: <18%
n-Hexane [CAS No.: 110-54-3] RQ = 5000 lbs. (2268 kg) Concentration: <8%
Benzene [CAS No.: 71-43-2] RQ = 10 lbs. (4.536 kg) Concentration: <5%
2,2,4-Trimethylpentane [CAS No.: 540-84-1] RQ = 1000 lbs. (453.6 kg) Concentration: <5%
Cumene [CAS No.: 98-82-8] RQ = 5000 lbs. (2268 kg) Concentration: <4%
Ethylbenzene [CAS No.: 100-41-4] RQ = 1000 lbs. (453.6 kg) Concentration: <4%
Cyclohexane [CAS No.: 110-82-7] RQ = 1000 lbs. (453.6 kg) Concentration: <3%
Naphthalene [CAS No.: 91-20-3] RQ = 100 lbs. (45.36 kg) Concentration: <2%
Styrene [CAS No.: 100-42-5] RQ = 1000 lbs. (453.6 kg) Concentration: <1%

Clean Water Act (CWA)

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

California Proposition 65

This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):
Gasoline (Wholly Vaporized and Engine Exhaust), Benzene [CAS No. 71-43-3], Toluene [CAS No. 108-88-3], Ethylbenzene [CAS No.100-41-4] and Naphthalene [CAS No.91-20-3]

New Jersey Right-to-Know Label

Gasoline [NJDEP CAS No. 8006-61-9]

Additional Remarks

As minimum requirements, CITGO recommends that the following advisory information be displayed on equipment used to dispense gasoline in motor vehicles. Additional warnings specified by various regulatory authorities may be required: "DANGER: Extremely Flammable. Use as a Motor Fuel Only. No Smoking. Stop Engine. Turn Off All Electronic Equipment including Cellular Telephones. Do Not Overfill Tank. Keep Away from Heat and Flames. Do Not leave nozzle unattended during refueling. **Static Sparks Can Cause a Fire, especially when filling portable containers.** Containers must be metal or other material approved for storing gasoline. PLACE CONTAINER ON GROUND. DO NOT FILL ANY PORTABLE CONTAINER IN OR ON A VEHICLE. Keep nozzle spout in contact with the container during the entire filling operation. **Harmful or Fatal if Swallowed. Long Term-Exposure Has Caused Cancer in Laboratory Animals.** Avoid prolonged breathing of vapors. Keep face away from nozzle and gas tank. Never siphon by mouth."
WHMIS Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
WHMIS Class D-2B: Material causing other toxic effects (TOXIC).

SECTION 16. OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

Version Number 9.1

Revision Date 10/14/2008

ABBREVIATIONS

AP: Approximately EQ: Equal >: Greater Than <: Less Than

NA: Not Applicable ND: No Data NE: Not Established

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

IARC: International Agency for Research on Cancer

NIOSH: National Institute of Occupational Safety and Health

NPCA: National Paint and Coating Manufacturers Association

EPA: US Environmental Protection Agency

HMIS: Hazardous Materials Information System

OSHA: Occupational Safety and Health Administration

NTP: National Toxicology Program

NFPA: National Fire Protection Association

DISCLAIMER OF LIABILITY

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* * * * * END OF MSDS * * * * *

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**UNLEADED GASOLINE**
Version #	03
Issue date	07-28-2011
Revision date	11-13-2012
Supersedes date	09-28-2012
MSDS Number	002
Product use	Motor fuels.
Synonym(s)	Regular/Premium/Midgrade - Unleaded Gasoline, RFG - Reformulated Unleaded Gasoline, Conventional Unleaded Gasoline, Oxygenated Unleaded Gasoline, Non-Oxygenated Unleaded Gasoline, CARB (California Air Resource Board) Unleaded Gasoline, RBOB - Reformulated Blendstock for Oxygenate Blending, CBOB - Conventional Blendstock for Oxygenate Blending, Petrol, Motor Fuel. See section 16 for complete information.
Manufacturer/Supplier	Valero Marketing & Supply Company and Affiliates P.O. Box 696000 San Antonio, TX 78269-6000
General Assistance	210-345-4593
Emergency	24 Hour Emergency 866-565-5220 1-800-424-9300 (CHEMTREC USA)

2. Hazards Identification

Physical state	Liquid.
Appearance	Light straw to red clear liquid with characteristic strong odor of gasoline.
Emergency overview	DANGER! Extremely flammable liquid and vapor - vapor may cause flash fire. Will be easily ignited by heat, spark or flames. Heat may cause the containers to explode. Harmful if inhaled, absorbed through skin, or swallowed. Aspiration may cause lung damage. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Contains benzene. Cancer hazard - can cause cancer. Mutagen. May cause heritable genetic damage. May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Static accumulating flammable materials can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite material and vapor may cause flash fire (or explosion).
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Contact may irritate or burn eyes. Eye contact may result in corneal injury.
Skin	Harmful if absorbed through skin. Irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Inhalation	Harmful if inhaled. Irritating to respiratory system. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. May cause breathing disorders and lung damage. May cause cancer by inhalation. Prolonged inhalation may be harmful.
Ingestion	Harmful if swallowed. Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis. Irritating to mouth, throat, and stomach.
Target organs	Blood. Eyes. Liver. Respiratory system. Skin. Kidneys. Central nervous system.

Chronic effects Cancer hazard. Contains material which may have reproductive toxicity, teratogenetic or mutagenic effects. Liver injury may occur. Kidney injury may occur. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Signs and symptoms Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.

Potential environmental effects Toxic to aquatic organisms. Harmful to aquatic life with long lasting effects.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Gasoline	86290-81-5	0-100
Toluene	108-88-3	0-30
Hexane (Other Isomers)	96-14-0	5-25
Xylene (o, m, p isomers)	1330-20-7	0-25
Octane (All isomers)	111-65-9	0-18.5
Ethanol	64-17-5	0-10
1,2,4, Trimethylbenzene	95-63-6	0-6
n-Heptane	142-82-5	1-5
Pentane	109-66-0	1-5
Cumene	98-82-8	0-5
Ethylbenzene	100-41-4	0-5
Benzene	71-43-2	0-4.9
n-Hexane	110-54-3	0-3
Cyclohexane	110-82-7	0-3

4. First Aid Measures

First aid procedures

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Skin contact Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical attention immediately.

Notes to physician In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General advice If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. Fire Fighting Measures

Flammable properties Flammable by OSHA criteria. Containers may explode when heated.

Extinguishing media

Suitable extinguishing media Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Specific hazards arising from the chemical	Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.
Protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapors may form explosive air mixtures even at room temperature. Prevent buildup of vapors or gases to explosive concentrations. Some of these materials, if spilled, may evaporate leaving a flammable residue. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.
Specific methods	In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers.
Hazardous combustion products	Carbon monoxide. Carbon Dioxide. Sulfur oxides. Nitrogen oxides (NOx). Hydrocarbons.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental precautions	Gasoline may contain oxygenated blend products (Ethanol, etc.) that are soluble in water and therefore precautions should be taken to protect surface and groundwater sources from contamination. If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Extremely flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802. For highway or railways spills, contact Chemtrec at 1-800-424-9300.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Use non-sparking tools and explosion-proof equipment. Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.
Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.

Storage

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm
	TWA	0.5 ppm
Cumene (CAS 98-82-8)	TWA	50 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm
Pentane (CAS 109-66-0)	TWA	600 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Cumene (CAS 98-82-8)	PEL	245 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	PEL	1050 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	PEL	1900 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
		1000 ppm
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
n-Heptane (CAS 142-82-5)	PEL	2000 mg/m3
		500 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m3
		500 ppm
Octane (All isomers) (CAS 111-65-9)	PEL	2350 mg/m3
		500 ppm
Pentane (CAS 109-66-0)	PEL	2950 mg/m3
		1000 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	PEL	435 mg/m3
		100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Benzene (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 ppm
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	123 mg/m3
		25 ppm
Benzene (CAS 71-43-2)	STEL	8 mg/m3
		2.5 ppm
	TWA	1.6 mg/m3
		0.5 ppm
Cumene (CAS 98-82-8)	TWA	246 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	TWA	344 mg/m3
		100 ppm
Ethanol (CAS 64-17-5)	TWA	1880 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	543 mg/m3
		125 ppm
	TWA	434 mg/m3
		100 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3
		500 ppm
	TWA	1640 mg/m3
		400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Octane (All isomers) (CAS 111-65-9)	TWA	1400 mg/m3
		300 ppm
Pentane (CAS 109-66-0)	TWA	1770 mg/m3
		600 ppm
Toluene (CAS 108-88-3)	TWA	188 mg/m3
		50 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	651 mg/m3
		150 ppm
	TWA	434 mg/m3
		100 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm
	TWA	0.5 ppm
Cumene (CAS 98-82-8)	STEL	75 ppm
	TWA	25 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	TWA	200 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	20 ppm
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm
Pentane (CAS 109-66-0)	TWA	600 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm
	TWA	0.5 ppm
Cumene (CAS 98-82-8)	TWA	50 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	125 ppm
	TWA	100 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm
Pentane (CAS 109-66-0)	STEL	2210 mg/m3
		750 ppm
	TWA	1770 mg/m3
		600 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	123 mg/m3
		25 ppm
Benzene (CAS 71-43-2)	STEL	15.5 mg/m3
		5 ppm
	TWA	3 mg/m3
		1 ppm
Cumene (CAS 98-82-8)	TWA	246 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	TWA	1030 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	TWA	1880 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	543 mg/m3
		125 ppm
	TWA	434 mg/m3
		100 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3
		500 ppm
	TWA	1640 mg/m3
		400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm
Octane (All isomers) (CAS 111-65-9)	STEL	1750 mg/m3
		375 ppm
	TWA	1400 mg/m3
		300 ppm
Pentane (CAS 109-66-0)	TWA	350 mg/m3
		120 ppm
Toluene (CAS 108-88-3)	TWA	188 mg/m3
		50 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	651 mg/m3
		150 ppm
	TWA	434 mg/m3

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
		100 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	STEL	170 mg/m3
		35 ppm
	TWA	125 mg/m3
		25 ppm
Benzene (CAS 71-43-2)	STEL	16 mg/m3
		5 ppm
	TWA	3.2 mg/m3
		1 ppm
Cumene (CAS 98-82-8)	STEL	365 mg/m3
		75 ppm
	TWA	245 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	STEL	1300 mg/m3
		375 ppm
	TWA	1050 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
		125 ppm
	TWA	435 mg/m3
		100 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
n-Heptane (CAS 142-82-5)	STEL	2000 mg/m3
		500 ppm
	TWA	1600 mg/m3
		400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm
Octane (All isomers) (CAS 111-65-9)	STEL	1800 mg/m3
		375 ppm
	TWA	1450 mg/m3
		300 ppm
Pentane (CAS 109-66-0)	STEL	2250 mg/m3
		760 ppm
	TWA	1800 mg/m3
		600 ppm
Toluene (CAS 108-88-3)	TWA	188 mg/m3
		50 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	655 mg/m3
		150 ppm
	TWA	435 mg/m3
		100 ppm

Engineering controls	Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.
Personal protective equipment	
Eye / face protection	Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.
Skin protection	Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.
Respiratory protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.
General hygiene considerations	Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Light straw to red clear liquid with characteristic strong odor of gasoline.
Physical state	Liquid.
Form	Liquid.
Color	Light straw to red clear.
Odor	Characteristic Gasoline Odor (Strong).
Odor threshold	Not available.
pH	Not available.
Vapor pressure	60.8 - 101.3 kPa (20°C)
Vapor density	3 - 4 (Air=1)
Boiling point	80.1 - 440.1 °F (26.7 - 226.7 °C)
Melting point/Freezing point	44 °F (6.67 °C) May start to solidify at this temperature. This is based on data for the following ingredient: Cyclohexane. Weighted average: -91.9 deg C (-133.4 deg F)
Solubility (water)	Very slightly soluble.
Specific gravity	0.66 - 0.75 (Water=1) (60°F)
Flash point	-40 °F (-40 °C) (closed cup)
Flammability limits in air, upper, % by volume	7.1 %
Flammability limits in air, lower, % by volume	1.3 %
Auto-ignition temperature	> 500 °F (> 260 °C)
VOC	100 %
Evaporation rate	10 - 11 BuAc
Other data	
Flash point class	Flammable IA

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions and recommended use.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Sulfur oxides. Nitrogen oxides (NOx). Hydrocarbons.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)		
Acute		
Dermal		
LD50	Rabbit	> 3160 mg/kg
Inhalation		
LC50	Rat	> 2000 mg/l, 48 Hours
Oral		
LD50	Rat	6 g/kg
Benzene (CAS 71-43-2)		
Acute		
Oral		
LD50	Rat	3306 mg/kg
Cumene (CAS 98-82-8)		
Acute		
Inhalation		
LC50	Mouse	2000 mg/l, 7 Hours
	Rat	8000 mg/l, 4 Hours
Oral		
LD50	Rat	1400 mg/kg
		2.91 g/kg
Cyclohexane (CAS 110-82-7)		
Acute		
Oral		
LD50	Rat	12705 mg/kg
Ethanol (CAS 64-17-5)		
Acute		
Inhalation		
LC50	Rat	30000 mg/m3
Oral		
LD50	Rat	11.5 g/kg
Ethylbenzene (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	5.46 g/kg
n-Heptane (CAS 142-82-5)		
Acute		
Inhalation		
LC50	Rat	103 mg/l, 4 Hours
Octane (All isomers) (CAS 111-65-9)		
Acute		
Inhalation		
LC50	Rat	118 mg/l, 4 Hours
Pentane (CAS 109-66-0)		
Acute		
Inhalation		
LC50	Rat	364 mg/l, 4 Hours

Components	Species	Test Results
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	14.1 ml/kg
Inhalation		
LC50	Rat	49000 mg/m³, 4 Hours
Oral		
LD50	Rat	636 mg/kg
Xylene (o, m, p isomers) (CAS 1330-20-7)		
Acute		
Oral		
LD50	Rat	4300 mg/kg

Sensitization This substance may have a potential for sensitization which may provoke an allergic reaction among sensitive individuals.

Acute effects Harmful if inhaled, absorbed through skin, or swallowed. Harmful: may cause lung damage if swallowed. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea.

Local effects

US. ACGIH Threshold Limit Values

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Chronic effects Repeated exposure of laboratory animals to high concentrations of gasoline vapors has caused kidney damage and cancer in rats and cancer in mice. Gasoline was evaluated for genetic activity in assays using microbial cells, cultured mammalian cells and rat bone marrow cells. The results were all negative so gasoline was considered nonmutagenic under these conditions. Overexposure to this product or its components has been suggested as a cause of liver abnormalities in laboratory animals and humans. Lifetime studies by the American Petroleum Institute have shown that kidney damage and kidney cancer can occur in male rats after prolonged inhalation exposures at elevated concentrations of total gasoline. Kidneys of mice and female rats were unaffected. The U.S. EPA Risk Assessment Forum has concluded that the male rat kidney tumor results are not relevant for humans. Total gasoline exposure also produced liver tumors in female mice only. The implication of these data for humans has not been determined.

Subchronic effects Subchronic inhalation of benzene by rats produced decreased white blood cell counts, decreased bone marrow cell activity, increased red blood cell activity and cataracts. Blood disorders may occur after prolonged inhalation, prolonged skin contact and/or ingestion. Liver and kidney damage may occur after prolonged and repeated exposure.

Carcinogenicity

ACGIH Carcinogens

Benzene (CAS 71-43-2)	A1 Confirmed human carcinogen.
Ethanol (CAS 64-17-5)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Ethylbenzene (CAS 100-41-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Gasoline (CAS 86290-81-5)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Toluene (CAS 108-88-3)	A4 Not classifiable as a human carcinogen.
Xylene (o, m, p isomers) (CAS 1330-20-7)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Benzene (CAS 71-43-2)	1 Carcinogenic to humans.
Cumene (CAS 98-82-8)	2B Possibly carcinogenic to humans.
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Gasoline (CAS 86290-81-5)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (o, m, p isomers) (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

US NTP Report on Carcinogens: Known carcinogen

Benzene (CAS 71-43-2)	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Benzene (CAS 71-43-2) Cancer hazard.

Epidemiology Contains benzene. Human epidemiology studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-producing system and serious blood disorders, including leukemia. Animal tests suggest that prolonged and/or repeated overexposure to benzene may damage the embryo/fetus. The relevance of these animal studies to humans has not been fully established. Studies have shown a risk of spontaneous abortions in women exposed to high concentrations of organic solvents during pregnancy.

Mutagenicity In in-vitro experiments, neither benzene, toluene nor xylene changed the number of sister-chromatid exchanges (SCEs) or the number of chromosomal aberrations in human lymphocytes. However, toluene and xylene caused a significant cell growth inhibition which was not observed with benzene in the same concentrations. In in-vivo experiments, toluene changed the number of sister-chromatid exchanges (SCEs) in human lymphocytes. Toluene may cause heritable genetic damage.

Neurological effects Chronic exposure to high concentrations of various hydrocarbon blends may lead to polyneuropathy (peripheral nerve damage), characterized by progressive weakness and numbness in the extremities, loss of deep tendon reflexes and reduction of motor nerve conduction velocity. Numerous cases of polyneuritis have been reported following prolonged exposures to a petroleum fraction containing various isomers of heptane as major ingredients. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue) and/or damage.

Reproductive effects Benzene, xylene and toluene have demonstrated animal effects of reproductive toxicity. Animal studies of benzene have shown testicular effects, alterations in reproductive cycles, chromosomal aberrations and embryo/fetotoxicity. Ethanol has demonstrated human effects of reproductive toxicity. May damage fertility or the unborn child. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Avoid exposure to women during early pregnancy. Avoid contact during pregnancy/while nursing.

Teratogenicity Abusive inhalation of toluene ("glue sniffing") has been reported to be associated with birth defects in the offspring of abusers. Rats exposed to benzene and xylene vapor during pregnancy showed embryo/fetotoxic effects. Ethanol has demonstrated human effects of teratogenicity.

Further information Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Components		Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	7.19 - 8.28 mg/l, 96 hours
Benzene (CAS 71-43-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	8.76 - 15.6 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	5.3 mg/l, 96 hours
Cumene (CAS 98-82-8)			
Aquatic			
Crustacea	EC50	Brine shrimp (Artemia sp.)	3.55 - 11.29 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.7 mg/l, 96 hours
Cyclohexane (CAS 110-82-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	3.961 - 5.181 mg/l, 96 hours
Ethanol (CAS 64-17-5)			
Aquatic			
Algae	EC50	Freshwater algae	275 mg/l, 72 Hours
		Marine water algae	1970 mg/l
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
		Freshwater fish	11200 mg/l, 96 Hours

Components		Species	Test Results
Invertebrate	EC50	Freshwater invertebrate	5012 mg/l, 48 Hours
		Marine water invertebrate	857 mg/l, 48 Hours
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1 - 4 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4 mg/l, 96 hours
n-Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	5.5 mg/l, 96 hours
Xylene (o, m, p isomers) (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8 mg/l, 96 Hours

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment.

Environmental effects The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Aquatic toxicity Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Persistence and degradability Not available.

Bioaccumulation / Accumulation Not available.

Partition coefficient

Ethanol	-0.31
Benzene	2.13
Toluene	2.73
Ethylbenzene	3.15
Xylene (o, m, p isomers)	3.2
Pentane	3.39
Cyclohexane	3.44
Hexane (Other Isomers)	3.6
Cumene	3.66
n-Hexane	3.9
n-Heptane	4.66
Octane (All isomers)	5.18

13. Disposal Considerations

Waste codes D001: Waste Flammable material with a flash point <140 °F
D018: Waste Benzene

Disposal instructions Dispose in accordance with all applicable regulations. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

14. Transport Information

DOT

Basic shipping requirements:

UN number UN1203

Proper shipping name Gasoline

Hazard class	3
Packing group	II
Additional information:	
Special provisions	139, B33, B101, T8
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1203
UN proper shipping name	Gasoline
Transport hazard class(es)	3
Packing group	II
ERG code	3H

IMDG

UN number	UN1203
UN proper shipping name	Gasoline
Transport hazard class(es)	3
Packing group	II
EmS	F-E, S-E

TDG

Proper shipping name	GASOLINE; MOTOR SPIRIT; or PETROL, MARINE POLLUTANT
Hazard class	3
UN number	UN1203
Packing group	II
Marine pollutant	Yes
Special provisions	17

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Benzene (CAS 71-43-2)
Cumene (CAS 98-82-8)
Ethylbenzene (CAS 100-41-4)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Xylene (o, m, p isomers) (CAS 1330-20-7)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

1,2,4, Trimethylbenzene (CAS 95-63-6)	1.0 %
Benzene (CAS 71-43-2)	0.1 %
Cumene (CAS 98-82-8)	1.0 %
Cyclohexane (CAS 110-82-7)	1.0 %
Ethylbenzene (CAS 100-41-4)	0.1 %
n-Hexane (CAS 110-54-3)	1.0 %
Toluene (CAS 108-88-3)	1.0 %
Xylene (o, m, p isomers) (CAS 1330-20-7)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

1,2,4, Trimethylbenzene (CAS 95-63-6)	Listed.
Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Gasoline: 100
Toluene: 1000
Hexane (Other Isomers): 100
Xylene (o, m, p isomers): 100
Octane (All isomers): 100
Pentane: 100
Cumene: 5000
Ethylbenzene: 1000
Benzene: 10
n-Hexane: 5000
Cyclohexane: 1000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance (40 CFR 355, Appendix A)
No

Section 311/312 (40 CFR 370)
No

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)
Not controlled

Canadian regulations
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status
Controlled

WHMIS classification
B2 - Flammable Liquids
D1A - Immediate/Serious-VERY TOXIC
D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling



Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

State regulations
WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

1,2,4, Trimethylbenzene (CAS 95-63-6) Listed.
Benzene (CAS 71-43-2) Listed.

Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethanol (CAS 64-17-5)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hexane (Other Isomers) (CAS 96-14-0)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.
Pentane (CAS 109-66-0)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Toluene (CAS 108-88-3)	Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Benzene (CAS 71-43-2)	Listed: February 27, 1987 Carcinogenic.
Cumene (CAS 98-82-8)	Listed: April 6, 2010 Carcinogenic.
Ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004 Carcinogenic.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Developmental toxin.
Toluene (CAS 108-88-3)	Listed: January 1, 1991 Developmental toxin.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3)	Listed: August 7, 2009 Female reproductive toxin.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Male reproductive toxin.

US - New Jersey RTK - Substances: Listed substance

1,2,4, Trimethylbenzene (CAS 95-63-6)	Listed.
Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethanol (CAS 64-17-5)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.
Pentane (CAS 109-66-0)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

US - Pennsylvania RTK - Hazardous Substances: Special hazard

Benzene (CAS 71-43-2)	Special hazard.

US. Massachusetts RTK - Substance List

1,2,4, Trimethylbenzene (CAS 95-63-6)	Listed.
Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethanol (CAS 64-17-5)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hexane (Other Isomers) (CAS 96-14-0)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.
Pentane (CAS 109-66-0)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

US. New Jersey Worker and Community Right-to-Know Act

1,2,4, Trimethylbenzene (CAS 95-63-6)	500 LBS
Benzene (CAS 71-43-2)	500 LBS
Cumene (CAS 98-82-8)	500 LBS
Cyclohexane (CAS 110-82-7)	500 LBS
Ethylbenzene (CAS 100-41-4)	500 LBS
n-Hexane (CAS 110-54-3)	500 LBS

Pentane (CAS 109-66-0)	500 LBS
Toluene (CAS 108-88-3)	500 LBS
Xylene (o, m, p isomers) (CAS 1330-20-7)	500 LBS

US. Pennsylvania RTK - Hazardous Substances

1,2,4, Trimethylbenzene (CAS 95-63-6)	Listed.
Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethanol (CAS 64-17-5)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Gasoline (CAS 86290-81-5)	Listed.
Hexane (Other Isomers) (CAS 96-14-0)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.
Pentane (CAS 109-66-0)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

Other information

Note: This Material Safety Data Sheet applies to the listed products and synonym descriptions for Hazard Communication purposes only. Technical Specifications vary greatly depending on the products and are not reflected in this document. Consult specification sheets for technical information.

HMIS® ratings

Health: 2*
Flammability: 3
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 3
Instability: 0

Disclaimer

This Material Safety Data Sheet (MSDS) was prepared in accordance with 29 CFR 1910.1200 by Valero Marketing & Supply Co., ("VALERO"). VALERO does not assume any liability arising out of product use by others. The information, recommendations, and suggestions presented in this MSDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use , the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.

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JUNE 2014
DATA GAP INVESTIGATION WORK PLAN REGARDING
POC GWM

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

August 20, 2014

Ms. Alexandra K. Smith
Director of Environmental Programs
Port of Olympia
915 Washington St. NE
Olympia, WA 98501

City of Olympia
c/o Jay Burney
Assistant City Manager – Special Projects
P.O. Box 1967
Olympia, WA 98507-1967

LOTT Clean Water Alliance
c/o Eric Hielema
Senior Wastewater Engineer
500 Adams Street NE
Olympia, WA 98501

Re: Ecology Conditional Approval of the *SAP/QAPP for Point of Compliance Groundwater Monitoring*, Prepared by PIONEER Technologies Corporation, dated June 18, 2014, East Bay Redevelopment Site, Olympia, Washington, Agreed Order DE7830
Ecology Facility/Site No. 5785176
Cleanup Site ID No. 407.

Dear Ms. Smith, Mr. Burney, and Mr. Hielema:

Thank you for submitting the above-referenced revised work plan (plan) for our review in response to our May 7, 2014 comment letter. Ecology approves the plan provided that the following comment is incorporated:

- In addition to the planned sample from a depth of 1 to 3 feet below ground surface (bgs), please collect additional samples for laboratory analysis at boring DP57

below the 3 feet bgs depth in order to characterize the vertical depth of total petroleum hydrocarbons contamination at the DP08/DP57 location. Previously, only a single sample was analyzed from DP08 at the 1 to 3 feet bgs depth interval.

If you have any questions, please contact me at (360) 407-6247 or via e-mail at steve.teel@ecy.wa.gov.

Sincerely,

SS Teel

Steve Teel, LHG
Site Manager/Hydrogeologist
Toxics Cleanup Program
Southwest Regional Office

ST/ksc: Con-Approval GWMWP 08202014

By certified mail: (91 7199 9991 7033 1285 3165

cc: Mr. Troy Bussey, PIONEER Technologies Corporation
LOTT Clean Water Alliance, c/o Mr. Eric Hielema, Senior Wastewater Engineer
City of Olympia, c/o Mr. Jay Burney, Assistant City Manager – Special Projects
Mr. Chris Cleveland, Brown and Caldwell
Scott Rose – Department of Ecology
Diana Smith - Department of Ecology

Memo

PIONEER TECHNOLOGIES CORPORATION
5205 Corporate Ctr. Ct. SE, Ste. A
Olympia, WA 98503-5901
Phone: 360.570.1700
Fax: 360.570.1777
www.uspioneer.com

to: Steve Teel (Ecology)

from: Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)

cc: Scott Rose (Ecology), Alex Smith (Port of Olympia), Eric Hielema (LOTT Clean Water Alliance), and Jay Burney (City of Olympia)

date: June 18, 2014

subject: SAP/QAPP for Point of Compliance Groundwater Monitoring
East Bay Redevelopment Site, Olympia, Washington
Agreed Order DE7830, Ecology Facility/Site No. 5785176, Cleanup Site ID No. 407

Dear Mr. Teel:

On behalf of the Port of Olympia (Port), PIONEER Technologies Corporation (PIONEER) has prepared this Sampling and Analysis Plan (SAP) / Quality Assurance Project Plan (QAPP) for conducting groundwater monitoring (GWM) activities at proposed point of compliance (POC) monitoring wells (MWs) at the East Bay Redevelopment Site (Site). The purpose of this proposed sampling is to supplement the remedial investigation (RI) / feasibility study (FS) report and subsequent remedy implementation activities.

1 Introduction

The approximately 15-acre Site is located in Olympia, Washington, on the southeast corner of the Port peninsula adjacent to the East Bay of Budd Inlet (Figure 1). This Model Toxics Control Act (MTCA) Site is currently being addressed under Agreed Order DE7830. Investigation activities at the Site have been ongoing since 2006. Two Washington State Department of Ecology (Ecology)-approved interim actions (IAs) have been completed for the Site: (1) the Infrastructure IA was completed within the infrastructure corridor in 2010, and (2) the Parcel 4/5 IA was completed within Parcels 4 and 5 in 2012. A RI/FS report for the entire Site is currently being prepared. Based on an initial assessment of the data, the RI/FS Report will likely identify four in-place soil sampling locations with remediation level (RL) exceedances (PIONEER 2013a, 2013b). These soil RL exceedances are arsenic in DP04, total petroleum hydrocarbons (TPH) in the gasoline range (TPH-G) and total naphthalenes in DP06 and SVP-2SO, and total chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans (dioxins/furans) in MW24S (see Figure 1).[1] Ecology has requested the collection of additional groundwater data to further confirm the Port and PIONEER position that there are no soil RL exceedances associated with TPH in the diesel range (TPH-D) and TPH in the heavy oil range (TPH-HO) combined (Ecology 2013a, 2013b, 2014a; PIONEER 2013a, 2013b).[2]

A total of 26 monitoring wells (MWs) have been installed at the Site (see Figure 1) and a total of eight comprehensive GWM events have been conducted to date (PIONEER 2011). In general, there have been very few groundwater screening level (SL) exceedances in Site groundwater during these GWM events (PIONEER 2011). A 2011 evaluation demonstrated that arsenic and TPH-D and TPH-HO combined were the only constituents of potential concern (COPCs) with groundwater SL exceedances that potentially may be

[1] The soil RLs are expected to be 20 mg/kg for arsenic, 100 mg/kg for TPH-G, 5 mg/kg for total naphthalenes, and 0.00051 mg/kg for total dioxins/furans (PIONEER 2013a, 2013b).

[2] If additional groundwater data provides further confirmation that TPH-D and TPH-HO combined do not pose a concern for the soil-to-groundwater pathway, then it is anticipated that the soil cleanup level and soil RL for TPH-D and TPH-HO combined will be based on the direct contact pathway.

attributable to a release from Site soil (PIONEER 2011). The following locations have a groundwater SL exceedance or a soil-to-groundwater SL exceedance for these COPCs:

- Arsenic: MW24S (see Figure 1) is the only on-site MW with a dissolved arsenic exceedance (PIONEER 2011). The maximum dissolved arsenic concentration in MW24S was 12 ug/L (compared to the groundwater SL of 5.0 ug/L). DP04 (see Figure 1) is the only in-place soil sampling location with an arsenic soil concentration exceeding the 20 mg/kg soil-to-groundwater SL (PIONEER 2011, 2013a).[3]
- TPH-D and TPH-HO Combined: MW25S (see Figure 1) is the only on-site MW with a replicated exceedance for TPH-D and TPH-HO combined (PIONEER 2011). The maximum detected TPH-HO concentration in MW25S was 640 ug/L (compared to the current groundwater SL of 500 ug/L). TPH-D has never been detected in MW25S. TPH-D and TPH-HO combined were also detected at concentrations exceeding 500 ug/L in MW03, MW18, and MW24S during the December 2009 GWM event. However, the TPH-D and TPH-HO combined concentrations in MW03, MW18, and MW24S during the December 2009 GWM event are anomalous since TPH-D and TPH-HO have not been detected in these MWs during any other GWM events (with the exception of a TPH-D detection of 101 ug/L in MW24S during the August 2010 GWM event). In addition, the TPH-D and TPH-HO combined concentration of 1,750 ug/L in MW18 during the December 2009 GWM event, which is the highest TPH-D and TPH-HO combined concentration ever measured at the Site, is especially unusual since (1) there are no known TPH-D or TPH-HO sources upgradient of MW18, and (2) MW18 is tidally influenced (PIONEER 2011). The observed TPH-D and TPH-HO combined concentrations in MW03, MW18, and MW24S during the December 2009 GWM may be due to interferences associated with non-petroleum organic matter (Ecology 2011). DP02, DP04, DP08, DP13, MW22S, and MW25S (see Figure 1) are the only in-place soil sampling locations with combined TPH-D and TPH-HO soil concentrations exceeding 2,000 mg/kg (PIONEER 2011, 2013a).[4]

Based on recent RI/FS-related discussions between the Port and Ecology, the Port and Ecology agreed that additional GWM events would be helpful to supplement the RI/FS report and subsequent remedy implementation activities (Ecology 2013a, 2013b, 2014a; PIONEER 2013b). Specifically, additional GWM would help ensure compliance with soil cleanup levels, soil remediation levels, and groundwater cleanup levels for arsenic and TPH-D and TPH-HO combined. It is anticipated that the RI/FS report will establish a conditional groundwater POC at the eastern Site boundary in accordance with WAC 173-340-720(8)(c). A conditional groundwater POC is appropriate given the completed and anticipated cleanup actions, and the nature and extent of COPCs in fill material at the Site. Thus, this SAP/QAPP presents the plan for GWM activities that will be conducted in MWs along the anticipated groundwater POC. In addition, soil samples will be collected pursuant to this SAP/QAPP for potential use with establishing site-specific soil and groundwater cleanup levels for TPH-D and TPH-HO (Ecology 2014b; PIONEER 2014).

2 Sampling and Analysis Plan

2.1 PRE-MOBILIZATION PLANNING AND COORDINATION

Following approval of this SAP/QAPP and before the commencement of drilling-related fieldwork, PIONEER will complete the following pre-mobilization coordination activities:

[3] The arsenic soil-to-groundwater SL is the same value as the arsenic soil RL.

[4] The TPH-D and TPH-HO soil-to-groundwater SL of 2,000 mg/kg used in the 2011 soil-to-groundwater evaluation was based on the default residual saturation criteria in Washington Administrative Code (WAC) 173-340-747(10)(d)(i). However, in accordance with WAC 173-340-747(10)(c), the default residual saturation criteria does not apply since Site data has empirically demonstrated that Site soil concentrations have not caused an accumulation of light non-aqueous phase liquid (LNAPL) on or in groundwater (PIONEER 2011).



- Coordinate and subcontract (as necessary) with a licensed driller and licensed surveyor.
- Perform a public (i.e., Call Before You Dig) and private utility locate for the proposed MW and soil sampling locations.
- Ensure the licensed driller submits the applicable notices of intent and associated fees to Ecology's Water Resources Program.
- Submit a traffic management plan to the City of Olympia, and obtain supplies necessary to implement the traffic management plan (see Section 2.10).
- Arrange for the temporary storage and disposal of investigation-derived waste (IDW), as necessary.
- Coordinate with the project laboratory about the relevant details of the SAP/QAPP.
- Obtain equipment and supplies necessary to conduct the drilling-related fieldwork (e.g., soil sampling supplies, field turbidity meter).
- Notify the Ecology Site Manager at least one week prior to the anticipated fieldwork start date.
- Complete all necessary health and safety related pre-mobilization tasks per the health and safety plan.

Prior to commencement of each GWM event, PIONEER will complete the following pre-mobilization coordination activities:

- Coordinate with the project laboratory about the relevant details of the SAP/QAPP.
- Obtain equipment and supplies necessary to conduct the GWM event (e.g., interface probe, sampling pump, tubing).
- Re-submit the traffic management plan to the City of Olympia and/or notify the City of Olympia about the traffic management plan, and obtain supplies necessary to implement the traffic management plan (see Section 2.10).
- Arrange for the temporary storage and disposal of IDW, as necessary.
- Notify the Ecology Site Manager at least one week prior to the anticipated fieldwork start date.
- Complete all necessary health and safety related pre-mobilization tasks per the health and safety plan.

2.2 MW INSTALLATION, DEVELOPMENT, AND SURVEYING

MW26 and MW27 will be installed by a licensed Washington driller in accordance with Chapter 173-160 WAC Part II. The proposed locations of MW26 and MW27 are shown in Figure 1 (although the actual locations may need to be adjusted slightly based on utilities, access, and other field considerations). A truck-mounted direct-push or hollow-stem auger drill rig will be used to drill the borehole for each MW. Each borehole will be advanced approximately five to 10 feet below where groundwater is first encountered. Groundwater is expected to be encountered between approximately four to 12 feet below ground surface (bgs) in the vicinity of MW26 and MW27. Following each borehole advancement, a MW consisting of thread-coupled, flush-joint, two-inch diameter polyvinyl chloride (PVC) casing, 10 feet of 10-slot PVC screen, and a sand filter pack extending at least one-foot above the top of the screen will be constructed within the borehole. The MW screen will be placed at or near the bottom of the borehole so the screened interval straddles the depth at which groundwater was encountered, while taking into account anticipated seasonal and tidal fluctuations. Each MW will be sealed in accordance with WAC 173-160-450. In general, this MW sealing entails installing a bentonite plug above the top of the filter pack, filling the borehole annulus from the bentonite plug to near the land surface with bentonite or cement, and then installing a concrete surface seal. Flush-mount surface completions are planned. Each MW will be developed by overpumping with a submersible pump and/or hand bailing until the turbidity in the development water is less than 10 nephelometric turbidity units (NTU). If it is clearly not practical to continue development to reach the 10 NTU goal, then a development goal of 50 NTU will be used instead. A calibrated field turbidity meter will be used to measure the turbidity. PIONEER field personnel will log borehole lithology, MW construction details, and MW development activities using the forms included in Attachment 1.

A licensed surveyor will determine the vertical and horizontal location of the MW reference point (notch or mark, or north side of the top of PVC casing if no notch or mark) for MW26 and MW27. The vertical elevation will be surveyed to an accuracy of 0.01-foot with the North American Vertical Datum of 1988 (NAVD88). The horizontal accuracy will be approximately 1 foot. In addition, since the existing MWs had previously been surveyed to the National Geodetic Vertical Datum of 1929, the reference point for all existing MWs (see Figure 1) will be re-surveyed using NAVD88. The vertical and horizontal accuracy will be the same as specified above for MW26 and MW27.

2.3 DECOMMISSIONING MW24S

While a drill rig is on-site to install MW26 and MW27, a licensed Washington driller will also decommission MW24S in accordance with WAC 173-160-460. MW24S is being decommissioned to facilitate anticipated future soil removal activities associated with a soil RL exceedance in a MW24S soil sample.

2.4 DP57 AND DP58 SOIL SAMPLING AND ANALYSIS PROCEDURES

While a drill rig is on-site to install MW26 and MW27, a licensed Washington driller will also advance soil borings DP57 and DP58. DP57 and DP58 will be co-located with former soil borings DP08 and DP13, respectively (see Figure 1). A soil sample will be collected from DP57 at a depth of approximately one to three feet bgs, and a soil sample will be collected from DP58 at a depth of approximately four to six feet bgs (Ecology 2014b; PIONEER 2014). Soil samples for volatile analyses (i.e., volatile petroleum hydrocarbons [VPH] and benzene, toluene, ethylbenzene, and xylenes [BTEX]) will be collected using United States Environmental Protection Agency (USEPA) Method SW846-5035. PIONEER field personnel will log borehole lithology and soil sampling activities using the forms included in Attachment 1.

Both soil samples will be analyzed for petroleum hydrocarbons in the range analyzed by Ecology Method NWTPH-Dx (e.g., TPH-D, TPH-HO) as determined by prior analysis using Ecology Method NWTPH-HCID. In addition, both samples will be analyzed for VPH using Ecology Method NWVPH, extractable petroleum hydrocarbons (EPH) using Ecology Method NWEPH, BTEX by USEPA Method SW846-8260 or SW846-8021, and polycyclic aromatic hydrocarbons (PAHs) by USEPA Method SW846-8270.[5] All samples will be analyzed by an Ecology accredited laboratory. It is anticipated that Anatek Labs (which is an Ecology accredited laboratory for the analyses being performed) will perform the analyses. Sample containers will be provided by the project laboratory. Table 2 presents the sample containers, preservatives, and holding times for these analyses.

2.5 GWM LOCATIONS AND FREQUENCY

Groundwater measurements and groundwater samples will be collected from MW12, MW18, MW26, and MW27 during each GWM event (see Figure 1). In addition, groundwater measurements will be collected from existing interior MWs (i.e., MW02R, MW07, MW08, MW09, MW10, MW13, MW14, MW15, MW20, MW21S, MW22S, MW25S) in order to generate groundwater elevation contour maps for each GWM event (see Figure 1). The initial GWM frequency for these activities will be quarterly. If there are no groundwater SL exceedances during the first four quarters of GWM, the GWM frequency will be decreased in consultation with Ecology. Table 1 presents a summary of this GWM design.

2.6 GROUNDWATER MEASUREMENT PROCEDURES

During each GWM event, the static water level and any measurable LNAPL thickness will be measured in MW02R, MW07, MW08, MW09, MW10, MW12, MW13, MW14, MW15, MW18, MW20, MW21S, MW22S,

[5] The PAH constituents will include naphthalenes and carcinogenic PAHs (cPAHs).

MW25S, MW26, and MW27 using an electronic interface probe. The depth to water and any LNAPL thickness will be recorded to the nearest 0.01 foot from a consistent reference point (e.g., mark on the top of the MW casing). Groundwater measurements will be collected as synoptically as possible (e.g., all groundwater measurements will be collected within an approximately two hour period prior to groundwater sample collection).

2.7 GROUNDWATER SAMPLING AND ANALYSIS PROCEDURES

The following low-flow purging standard operating procedures will be used to purge water from each MW being sampled (i.e., MW12, MW18, MW26, and MW27). A peristaltic pump, equipped with dedicated polyethylene tubing, will be used to purge water from the MW. The tubing intake will be positioned approximately two feet above the bottom of the MW screen. A variable-frequency drive controller on the pump will be used to limit the purging flow rate to less than one liter per minute. During purging, relative water levels will be monitored with an interface probe or electronic water level indicator, and water quality parameters such as pH, specific conductivity, turbidity, dissolved oxygen, temperature, oxidation/reduction potential, and salinity will be measured with a calibrated water quality meter(s) to verify stabilization. Acceptable stabilization criteria are listed on the Groundwater Monitoring Form included in Attachment 1 (USEPA 2002). Groundwater samples will be collected immediately after the field measurements have stabilized without turning off the pumping system. In the event that drawdown is excessive or that water quality parameters do not stabilize, then the MW will be purged until three well volumes have been removed or the pump intake is covered by less than two feet of water, whichever occurs first. Sampling will be timed so that groundwater samples are collected as close to low tide as possible. In addition, since there have been instances during previous GWM events in which MW12 and MW18 did not contain enough water for sampling during low tides, sampling days should be timed to collect samples during low tides that are relatively high.

Each groundwater sample will be analyzed for total arsenic and dissolved arsenic by USEPA Method 200.8, and petroleum hydrocarbons in the range analyzed by Ecology Method NWTPH-Dx (e.g., TPH-D, TPH-HO).[6] All samples will be analyzed by an Ecology accredited laboratory. It is anticipated that Anatek Labs (which is an Ecology accredited laboratory for the analyses being performed) will perform the analyses. Sample containers will be provided by the project laboratory. Table 2 presents the sample containers, preservatives, and holding times for these analyses. The laboratory will perform the following preparation activities prior to analyzing these groundwater samples:

- The laboratory will filter each sample for dissolved arsenic analysis with a 0.45-micron filter.
- The laboratory will perform silica gel cleanup on each sample for NWTPH-Dx analysis.

2.8 EQUIPMENT DECONTAMINATION PROCEDURES

Non-dedicated drilling and GWM equipment (e.g., drill rods, interface probe) will be decontaminated in accordance with the following procedures:

- All non-dedicated equipment will be cleaned before use.
- Following use at each monitoring location, the affected portions of non-dedicated equipment will be scrubbed with potable water containing diluted detergent (e.g., Liquinox) before being sufficiently rinsed with potable water.
- Nitrile gloves will be changed before working at each sampling location.
- Dedicated sample tubing for each MW will be stored in dedicated plastic bags to prevent cross-contamination.

[6] During the first GWM event, each sample will be analyzed using Ecology Method NWTPH-HCID prior to NWTPH-Dx to determine which NWTPH-Dx product(s) to report.

2.9 INVESTIGATION-DERIVED WASTE

IDW will be managed and disposed of as follows:

- Drill cuttings will be containerized in a labeled drum, temporarily stored at a secure on-site location, and disposed of at an off-site facility permitted to receive such waste.
- Water generated during MW development, MW purging, and decontamination activities will be containerized in a labeled container, temporarily stored at a secure on-site location, and discharged to the LOTT Clean Water Alliance sanitary sewer in coordination with LOTT Clean Water Alliance. If water-related IDW cannot be discharged to the LOTT Clean Water Alliance sanitary sewer during a particular GWM event for some reason, it will be disposed of at an off-site facility permitted to receive such waste.
- Personal protective equipment (e.g., nitrile gloves) and other disposable drilling and sampling equipment will be disposed of as solid waste in the standard municipal solid waste stream.

2.10 TRAFFIC MANAGEMENT PLAN

Since the MW installation and/or GWM activities will likely involve obstructing City of Olympia sidewalks and/or road shoulders, a traffic management plan will be prepared and submitted to the City of Olympia. The traffic management plan will be implemented for all MW installation and GWM activities, as necessary. Based on similar previous Site activities, it is anticipated that the traffic management plan will entail closing isolated sidewalk sections and isolated road shoulders, and communicating those closures to the public with United States Department of Transportation (USDOT) approved road signs.

2.11 FIELD RECORDKEEPING

The four field forms included in Attachment 1 (i.e., Field Checklist, Daily Field Report, Boring Log/MW Installation Form, and Groundwater Monitoring Form) will be used to document field activities. The Field Checklist form is used to assist with planning and coordination prior to a field event. The Daily Field Report is used to document miscellaneous field activities and notes on a daily basis. The Boring Log/MW Installation Form is used to record drilling, MW installation, and MW development details. The Groundwater Monitoring Form is used to record and maintain monitoring, purging, sampling, and waste disposal data associated with GWM.

2.12 SAMPLE LABELING, HANDLING, AND SHIPMENT

Sample labels will clearly indicate the Site location, sample identification, date, time, sampler's initials, parameters to be analyzed, and added preservative (if any). Each sample will be individually labeled. Each sample identification will be unique. Sample nomenclature for primary soil samples, primary groundwater samples, and field quality control (QC) samples will be as follows:

- Primary soil samples: SO-DP-ID-sample date-top depth-bottom depth
- Primary groundwater samples: GW-MW-ID-sample date
- Soil trip blank samples: TB-TB-ID-sample date
- Field duplicate groundwater samples: GW-MW-ID-sample date-(01)

Sample packaging and shipping procedures are based on USEPA specifications and USDOT regulations as specified in 49 Code of Federal Regulations (CFR) 173.6 and 49 CFR 173.24. Samples will be shipped as environmental samples and not hazardous material. Samples will be shipped express delivery to the laboratory following sample collection using standard operating procedures.

2.13 CHAIN-OF-CUSTODY DOCUMENTATION

Chain-of-custody procedures will be followed to maintain and document sample possession. A sample is considered under a person's custody if it is in that person's physical possession, within visual sight of that person after taking physical possession, secured by that person so that the sample cannot be tampered with, or secured by that person in an area that is restricted to unauthorized personnel.

The originator (the sampler) will complete requested information on the custody record, including signature and date. Original signed custody records listing the samples in the cooler will accompany sample shipments. The originator of the custody record will retain a copy of the custody record.

3 Quality Assurance Project Plan

3.1 FIELD QUALITY CONTROL SAMPLES

For the DP57 and DP58 soil sampling and analysis, one trip blank sample will be analyzed for VPH and BTEX. During each GWM event, one groundwater field duplicate will be collected and analyzed for the same constituents as the primary samples.

3.2 LABORATORY QUALITY CONTROL

The project laboratory will be responsible for conducting laboratory QC procedures and reporting laboratory QC results in accordance with the laboratory's standard operating procedures. Laboratory QC analyses include method blanks, laboratory control samples (also known as blank spikes), matrix spikes, matrix spike duplicates, and surrogates. Expectations for laboratory control limits are shown in Table 3.

3.3 LABORATORY TARGET REPORTING LIMITS

Table 4 presents a comparison of target reporting limit expectations with current SLs. As shown in Table 4, the target reporting limits are less than or equal to these SLs.

3.4 DATA QUALITY REVIEW

Data quality will be reviewed following receipt of the analytical data from the project laboratory. Project data and QC data (e.g., lab QC results, actual RLs, holding times) will be reviewed in terms of precision, accuracy, representativeness, comparability, completeness, and sensitivity. Corrective action will be taken for field or laboratory procedures as necessary.

4 Schedule and Relationship with RI/FS Report

The anticipated schedule for this proposed work and the relationship of the proposed work to the RI/FS report is as follows:

- Drilling-related fieldwork activities (i.e., installation and development of MW26 and MW27, decommissioning of MW24S, soil sampling at DP57 and DP58) will commence within one month of receiving Ecology approval of this SAP/QAPP, subject to driller availability and City of Olympia approval of a traffic management plan.
- The first GWM event will commence within two weeks of completion of the drilling-related fieldwork described in the previous bullet.
- The second GWM event will commence approximately three months after the first GWM event.
- If, as expected, there are no groundwater SL exceedances in samples collected during the first and second GWM events, the draft RI/FS report will be submitted to Ecology within six weeks after receipt of



the analytical results from the second GWM event. However, if there are groundwater SL exceedances in samples collected during the first and/or second GWM events, then the Port and Ecology will meet to discuss a path forward for GWM and preparation of the draft RI/FS report.

- The third GWM event will commence approximately three months after the second GWM event.
- The fourth GWM event will commence approximately three months after the third GWM event.
- A report will be prepared to document MW installation and GWM activities through the first four GWM events. It is anticipated that this report will be a standalone addendum to the RI/FS report.
- The frequency of future GWM events (if any) will be determined based on the results of the first four GWM events and the recommended remedy in the RI/FS report.

References

Ecology 2011. Guidance for Remediation of Petroleum Contaminated Sites, September.

Ecology 2013a. Letter from Steve Teel to Alexandra Smith, Jay Burney, and Eric Hielema titled "Ecology Comments on the Interim Action Work Plan for the Remaining Portions of the East Bay Redevelopment Site, and the Evaluation of the Potential Soil-to-Indoor Air Pathway for TPH-G, East Bay Redevelopment Site," October 14.

Ecology 2013b. Letter from Steve Teel to Alexandra Smith, Jay Burney, and Eric Hielema titled "Ecology Comments on the Response to Comments on (1) Interim Action Work Plan for the Remaining Portions of the East Bay Redevelopment Site, and (2) Evaluation of the Potential Soil-to-Indoor Air Pathway for TPH-G, East Bay Redevelopment Site," December 16.

Ecology 2014a. Email from Steve Teel to Alex Smith titled "East Bay discussion earlier this week," February 6.

Ecology 2014b. Letter from Steve Teel to Alexandra Smith, Jay Burney, and Eric Hielema titled "Ecology Comments on the SAP/QAPP for Point of Compliance Groundwater Monitoring," East Bay Redevelopment Site, May 7.

PIONEER 2009. East Bay Site: Interim Action Work Plan, May.

PIONEER 2011. Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water Via Groundwater at the East Bay Redevelopment Site, May.

PIONEER 2013a. Interim Action Work Plan for the Remaining Portions of the East Bay Redevelopment Site, June.

PIONEER 2013b. Letter from Troy Bussey to Steve Teel titled "Response to Comments on (1) Interim Action Work Plan for the Remaining Portions of the East Bay Redevelopment Site, and (2) Evaluation of the Potential Soil-to-Indoor Air Pathway for TPH-G, East Bay Redevelopment Site," November 21.

PIONEER 2014. Letter from Troy Bussey to Steve Teel titled "Response to Comments on the SAP/QAPP for Point of Compliance Groundwater Monitoring," East Bay Redevelopment Site, June 18.

USEPA 2002. Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers, EPA Publication No. 542-S-02-001, May.

Attachments:

Figure 1: Locations of Key Exceedances and Proposed Sampling
Table 1: Summary of Sampling and Analysis Activities
Table 2: Sample Containers, Preservation, and Holding Times
Table 3: Laboratory Control Limits
Table 4: Target Reporting Limits
Attachment 1: PIONEER Field Forms

Figures





Legend

- Site Boundary
- Groundwater Elevation Contours From September 2009 GWM Event (feet above mean sea level)

Monitoring Wells

- Proposed MW
- Existing MW
- MW That Has Been Decommissioned
- MW with Replicated Groundwater SL Exceedance[1]
- MW To Be Sampled Pursuant To This Plan

Key Soil Samples

- In Place Sample with a Soil RL Exceedance[2]
- In Place Sample with a Combined TPH-D and TPH-HO Soil Concentration > 2,000 mg/kg
- Proposed Soil Sampling Location

Notes:
[1] The MW24S exceedance is associated with arsenic, and the MW25S exceedance is associated with TPH-D and TPH-HO combined.
[2] The DP04 exceedance is associated with arsenic, the DP06 and SVP-2SO exceedances are associated with TPH-G and total naphthalenes, and the MW24S exceedance is associated with total dioxins/furans.

0 50 100 200 300 Feet

PIONEER TECHNOLOGIES CORPORATION

Locations of Key Exceedances and Proposed Sampling
SAP/QAPP for Point of Compliance Groundwater Monitoring
East Bay Redevelopment Site

Figure 1

Document Path: G:\Projects\Port of Olympia\East Bay\GIS\Maps\Maps 2014\Point of Compliance Groundwater Monitoring Plan\Figure_1_Key_Soil_MW.mxd: Author: SM; Date Saved: 6/4/2014

Tables

Table 1: Summary of Sampling and Analysis Activities

Event Type	GWM Frequency	Field Activity	Number Per Event	Applicable Locations / Notes	Analyses
Drilling-related Fieldwork	Not Applicable	Install and Develop New MWs	2	MW26, MW27	Not applicable
		Decommission MW24S	1	MW24S	Not applicable
		Primary Soil Samples	2	DP57, DP58	NWTPH-HCID, NWTPH-Dx, VPH, EPH, BTEX, and PAHs
		Field Quality Control Samples	1	One trip blank	VPH and BTEX
First Quarterly GWM Event	Quarterly	Depth to Water and LNAPL Measurements	16	MW02R, MW07, MW08, MW09, MW10, MW12, MW13, MW14, MW15, MW18, MW20, MW21S, MW22S, MW25S, MW26, MW27	Not applicable
		Primary Groundwater Samples	4	MW12, MW18, MW26, MW27	Total arsenic, dissolved arsenic (filtered by the lab), NWTPH-HCID, and NWTPH-Dx (with silica gel cleanup)
		Field Quality Control Samples	1	One field duplicate	Same as primary samples
Second through Fourth Quarterly GWM Events	Quarterly	Depth to Water and LNAPL Measurements	16	MW02R, MW07, MW08, MW09, MW10, MW12, MW13, MW14, MW15, MW18, MW20, MW21S, MW22S, MW25S, MW26, MW27	Not applicable
		Primary Groundwater Samples	4	MW12, MW18, MW26, MW27	Total arsenic, dissolved arsenic (filtered by the lab), and NWTPH-Dx (with silica gel cleanup)
		Field Quality Control Samples	1	One field duplicate	Same as primary samples
Future GWM Events	To Be Determined	Depth to Water and LNAPL Measurements	16	MW02R, MW07, MW08, MW09, MW10, MW12, MW13, MW14, MW15, MW18, MW20, MW21S, MW22S, MW25S, MW26, MW27	Not applicable
		Primary Groundwater Samples	4	MW12, MW18, MW26, MW27	Total arsenic, dissolved arsenic (filtered by the lab), and NWTPH-Dx (with silica gel cleanup)
		Field Quality Control Samples	1	One field duplicate	Same as primary samples

Table 2: Sample Containers, Preservation, and Holding Times

Media	Constituent(s)	Analytical Method	Sample Container	Preservation	Additional Laboratory Preparation	Extraction Holding Time (days)	Analysis Holding Time (days)
Soil	To be determined by NWTPH-HCID (e.g., TPH-D and TPH-HO)	Ecology Method NWTPH-HCID followed by Ecology Method NWTPH-Dx	One 8-ounce amber glass jar	Cool to 4 ℃ +/- 2 ℃	N/A	14	40
	VPH fractions	Ecology Method NWVPH	Two pre-tared 40-mL VOA vials	Cool to 4 ℃ +/- 2 ℃; methanol preservative	N/A	N/A	14
	EPH fractions	Ecology Method NWEPH	One 8-ounce amber glass jar	Cool to 4 ℃ +/- 2 ℃	N/A	14	40
	BTEX	USEPA Method SW846-8260 or SW846-8021	Two pre-tared 40-mL VOA vials	Cool to 4 ℃ +/- 2 ℃; methanol preservative	N/A	N/A	14
	PAHs (naphthalenes and cPAHs)	USEPA Method SW846-8270	One 8-ounce amber glass jar	Cool to 4 ℃ +/- 2 ℃	N/A	14	40
Groundwater	Total arsenic	USEPA Method 200.8	One 125-mL HDPE bottle	Cool to 4 ℃ +/- 2 ℃	N/A	N/A	180
	Dissolved arsenic	USEPA Method 200.8	One 125-mL HDPE bottle	Cool to 4 ℃ +/- 2 ℃	Filter sample with a 0.45-micron filter	N/A	180
	To be determined by NWTPH-HCID (e.g., TPH-D and TPH-HO)	Ecology Method NWTPH-HCID followed by Ecology Method NWTPH-Dx	One 1-liter amber glass jar	Cool to 4 ℃ +/- 2 ℃; HCl preservative	Silica gel cleanup	14	40

Notes:

°C: Degrees celsius

HCl: Hydrochloric acid

HDPE: High-density polyethylene

mL: Milliliter

N/A: Not applicable

VOA: Volatile organic analysis

Table 3: Laboratory Control Limits

Media	Analytical Method	LCS	MS/MSD		Surrogates
		%R	%R	RPD	%R
Soil	Ecology Method NWTPH-Dx	50 – 150	50 – 150	< 50%	50 - 150
	Ecology Method NWVPH	70 – 130	70 – 130	< 25%	60 - 140
	Ecology Method NWEPH	70 – 130	70 – 130	< 50%	60 - 140
	USEPA Method SW846-8260 or SW846-8021	70 – 130	70 – 130	< 20%	70 - 130
	USEPA Method SW846-8270	30 – 140	30 – 140	< 50%	18 - 137
Groundwater	USEPA Method 200.8	85 – 115	70 – 130	< 20%	Not applicable
	Ecology Method NWTPH-Dx	50 – 150	50 – 150	< 50%	50 - 150

Notes:

LCS: Laboratory Control Sample (also known as blank spike)

MS/MSD: Matrix Spike/Matrix Spike Duplicate

%R: Percent Recovery

RPD: Relative Percent Difference

Table 4: Target Reporting Limits

Category	Analytical Method	Constituent	Target Reporting Limit [1]	Current Screening Level [2]
Soil constituents that may be used to establish site-specific soil and groundwater cleanup levels for TPH-D and TPH-HO	Ecology Method NWTPH-Dx	TPH-D	25 mg/kg	2,000 mg/kg [3]
		TPH-HO	100 mg/kg	
	USEPA Method SW846-8260 or SW846-8021	Benzene	0.005 mg/kg	0.22 mg/kg
		Toluene	0.005 mg/kg	240 mg/kg
		Ethylbenzene	0.005 mg/kg	43 mg/kg
		Total xylenes	0.010 mg/kg	23 mg/kg
	USEPA Method SW846-8270	Total naphthalenes	0.15 mg/kg	160 mg/kg
		Total cPAHs	0.076 mg/kg [4]	0.095 mg/kg
Groundwater constituents included in ongoing GWM	USEPA Method 200.8	Total arsenic	1.0 ug/L	Not applicable [5]
		Dissolved arsenic	1.0 ug/L	5.0 ug/L
	Ecology Method NWTPH-Dx	TPH-D	100 ug/L	500 ug/L [3]
		TPH-HO	500 ug/L	

Notes:

[1] It may not always be possible to achieve target reporting limits for reasons such as matrix interferences, necessary dilution prior to analysis, etc.

[2] The soil screening levels are from the 2009 interim action work plan associated with the infrastructure corridor (PIONEER 2009). The groundwater screening levels are the surface water screening levels from the 2011 empirical evaluation of the soil-to-surface water via groundwater pathway (PIONEER 2011).

[3] The concentrations of TPH-D and TPH-HO are currently being combined per Ecology direction (Ecology 2013a, 2013b). However, NWTPH-HCID analyses will be conducted pursuant to this SAP/QAPP to inform the nature of petroleum products present at the Site so that it can be determined if TPH-D and TPH-HO should be combined or separated.

[4] The target reporting limit is 0.05 mg/kg for each PAH constituent. The target reporting limit shown is a total cPAHs target reporting limit by applying the toxicity equivalency factors in WAC 173-340-708(8) for the seven cPAH constituents.

[5] Compliance with groundwater screening levels for metals is being evaluated using dissolved concentrations (PIONEER 2011).

Attachment 1

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Task Name: _____ Site Location: _____

Requested By / Date: _____ Work Deadline: _____

SERVICES REQUESTED	COMPLETED
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☐ Review Docs: _____	☐ YES ☐ NO	☐ Health & Safety Meeting	☐ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☐ Coordinate Access: _____	☐ YES ☐ NO	☐ Draw Site Map _____	☐ YES ☐ NO
☐ Coordinate Sub / Equip: _____	☐ YES ☐ NO	☐ Cuttings / Purge Water Characterization & Disposal	
☐ Purchase / Rent Equip: _____	☐ YES ☐ NO	☐ Potential HW _____	☐ YES ☐ NO
☐ Client/Agency Coordination: _____	☐ YES ☐ NO	☐ Non-Haz _____	☐ YES ☐ NO
☐ Calibrate Equipment: _____	☐ YES ☐ NO	☐ Background _____	☐ YES ☐ NO

_____

_____

SAMPLING REQUIREMENTS

☐ Field Testing: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

☐ Site Map ☐ Camera ☐ Survey Equip / GPS ☐ Vehicle

☐ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☐ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☐ Sample Kit / Cooler / COC / Ice _____

☐ IDW: ☐ Drums _____ ☐ 5-gal buckets _____

☐ Other: _____

☐ Other: _____

PIONEER
DAILY FIELD REPORT

Date:_____ Site Location: _____ Site Arrival Time: _____ Site Departure Time :_____

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

NOTES ON WORK COMPLETED

SIGNATURE:_____ DATE:_____

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID		Drilling Co.	
Project/Site Name		Lisc. Driller	
Field Professional		Drilling Method	
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretatior
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

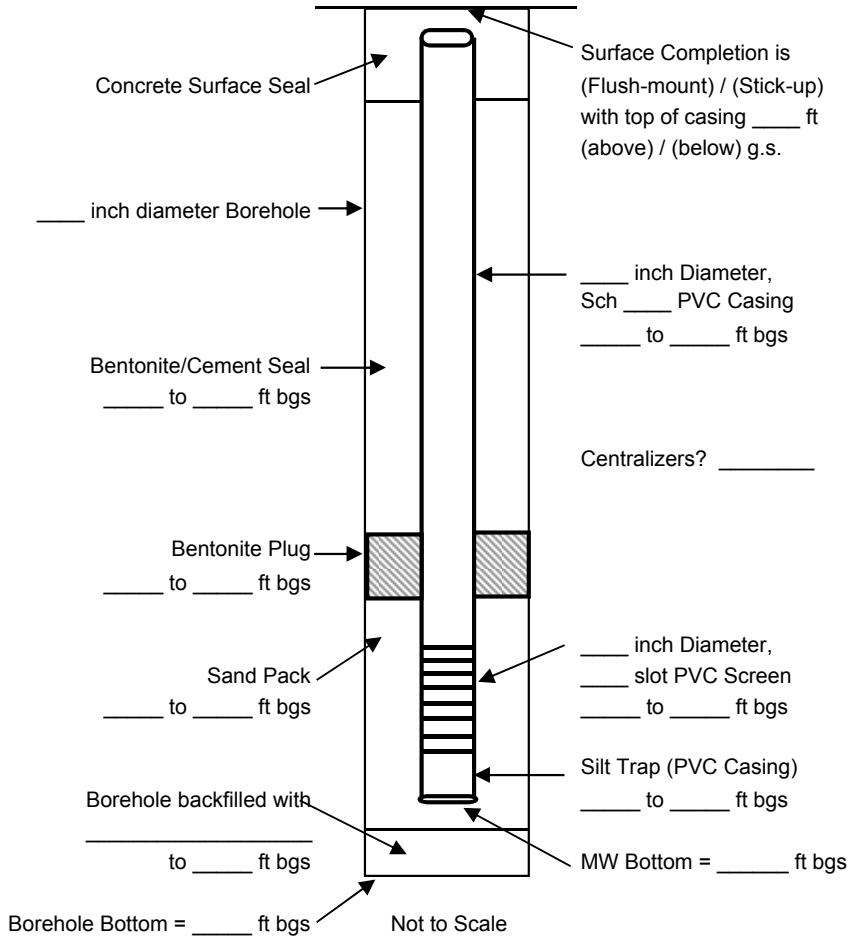
Groundwater Encountered (e.g., time, depth, quantity, casing position):

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
MW INSTALLATION FORM

MW ID _____ Installation Start Date/Time _____ Installation Stop Date/Time _____

CONSTRUCTION DETAILS



MATERIALS USED

____	Sacks of _____ Sand
____	Sacks of _____ Cement
____	Sacks of Bentonite Pellets
____	Sacks of Powdered Bentonite
____	Sacks of Grout
____	Feet of _____ -inch dia PVC Casing
____	Feet of _____ -inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- ☐ Well Cap
- ☐ Locking Steel Cover (Stick-up)
- ☐ Bollards (Stick-up)
- ☐ Lock
- ☐ Agency Well Tag No. _____
- ☐ Top of Casing Ref Pt. = _____

WELL DEVELOPMENT

	Following Well Construction	Following Well Development
Depth To Water (ft below TOC)		
Total Well Depth (ft below TOC)		

Development Start Date/Time _____ Development Stop Date/Time _____

Development Method _____ Development Water Discharged to _____

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed _____

Additional Remarks

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
GROUNDWATER MONITORING FORM

Stabilization:	
SWL < 0.33 ft	Turb ± 10%
pH ± 0.1	DO ± 0.3 mg/L
SC, Temp ± 3%	ORP ± 10 mV

SITE NAME: _____ **FIELD TECHNICIAN(S):** _____ **DATE:** _____

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (^{o}C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments

SEPTEMBER 2016
DATA GAP INVESTIGATION WORK PLAN REGARDING METHANE IN SOIL GAS

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Memo

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To: Steve Teel, LHG (Ecology)

From: Chris Waldron, P.E.

Cc: Rachael Jamison (Port of Olympia), Brian Topalski (LOTT Clean Water Alliance), and Jay Burney (City of Olympia)

Date: September 27, 2016

Subject: Data Gap Work Plan for Evaluating Methane in Soil Gas at the East Bay Redevelopment Site
Agreed Order DE7830, Ecology Facility/Site No. 5785176

Dear Mr. Teel:

On behalf of the Port of Olympia (Port), PIONEER Technologies Corporation (PIONEER) has prepared for your review this work plan (Work Plan) to determine whether or not methane poses a safety concern[1] at the East Bay Redevelopment Site (Site). The approximately 15acre Site is located in Olympia, Washington, on the southeast corner of the Port peninsula adjacent to East Bay of Budd Inlet. This Model Toxics Control Act (MTCA) Site is currently being addressed under Agreed Order DE7830.

Background

Methane is a colorless, odorless, naturally-occurring and man-made gas[2] and is generally not toxic to humans (other than as an asphyxiant). However, methane is flammable and can be explosive under certain conditions which can result in significant safety concerns for overlying buildings and confined spaces. Historically, methane has been a concern at oil and gas fields and sanitary landfills. However, methanogenesis (i.e., the formation of methane by microbes known as methanogens) has also been observed in some anoxic environments where organic matter is present (e.g., swamps/bogs, organic fill, et cetera). Methane is potentially a concern at the Site because:

1. The Site is built on fill material.
2. Significant quantities of wood debris have been observed in some areas of the Site.
3. Anoxic conditions potentially exist at the Site in subsurface soil overlying shallow groundwater which is typically present from two to eight feet below ground surface (bgs).

These conditions suggest that it is possible that methane could

Methane Gas Generation is Typically Positively Pressurized and Transport Differs from Typical Chlorinated-Vapor Intrusion Sites (e.g., Dry Cleaners)

Methane that is generated in the subsurface is typically positively pressurized which means that methane migration is predominantly driven by pressure driven flow, advection, and diffusion. This is different than typical vapor intrusion sites (e.g., dry cleaners) where movement of volatile organic compounds (VOCs) , such as tetrachloroethylene, is driven by advection and diffusion. Consequently, one of the lines of evidence used in screening potential methane sites is whether or not positive pressure (with respect to atmospheric pressure) is present in the subsurface. Positive pressure indicates that methane gas (or other gas) is potentially being generated in the subsurface.

In addition, the concentrations of typical concern for methane are in the percent (volume/volume) versus parts per billion range for some VOCs. Consequently, the methods used to evaluate sites for methane are not a sensitive nor do they have to be as precise as typical vapor intrusion sites.

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[1] Methane is flammable and/or explosive if the correct mixture of methane and oxygen is present with an ignition source.

[2] Under typical ambient temperature and pressure.

be produced at the Site and potentially pose a safety concern for current/future buildings and confined spaces at the Site.

Description of Sampling and Analysis

This work plan follows the American Society for Testing and Materials (ASTM) Three Tiered Approach for evaluating multiple lines of evidence to determine whether or not methane is a concern and warrants a remedial response at a site(ASTM 2016). The Three Tiered Approach is summarized below:

- **Tier 1 –** Consists of a site evaluation using existing data. Information is compiled and reviewed to determine the source of any methane that is present, vadose zone conditions (e.g., depth-to-groundwater/soil type), size of impacted area, locations of buildings, confined spaces, and any other relevant lines of evidence needed to provide an initial assessment of the potential hazard. If the Tier 1 assessment indicates that methane is a potential concern at a site, then the site proceeds to Tier 2. If the Tier 1 assessment indicates that methane is not a potential concern at a site then the site does not proceed to Tier 2 and exits the evaluation process.
- **Tier 2 –** Consists of field work that is intended to address data gaps in the information obtained during the Tier 1 assessment. For example, there may be limited methane data available from Tier 1 because few locations were sampled for methane or there was limited spatial coverage of methane sampling. The field work performed during Tier 2 is intended to address those data gaps and provide other lines of evidence so that a comprehensive/site-specific assessment of methane can be performed. Another line of evidence that is typically collected during a Tier 2 assessment is the differential pressure measurements between the subsurface and ambient air.
- **Tier 3 –** Special case evaluation. The need and scope of the Tier 3 evaluation is determined on a site-by-site basis.

Tier 1 Evaluation Results

A Tier 1 assessment has been conducted for the Site. As noted in the Background section of this memo, methane is a potential concern at the Site because: (1) the Site is built on fill material, (2) significant quantities of wood debris have been observed in some areas of the Site, and (3) there are areas of the Site with anoxic conditions in subsurface soil overlying shallow groundwater which is typically present from two to eight feet bgs. These conditions suggest that it is possible that methane could be produced at the Site and may pose a safety concern for current/future buildings and confined spaces at the Site. In addition, methane samples were collected from two soil vapor probes in 2013 and the results indicate that methane may be present at some locations of the Site (see Figure 1). Consequently, this Site has proceeded to Tier 2.

Tier 2 Sampling and Analysis Plan for Methane

Sample Locations

To determine whether or not methane poses a safety concern at the Site, twenty-one (21) subsurface soil gas samples and one (1) indoor air sample are proposed for the Tier 2 assessment. The proposed sampling locations are presented in Figure 2 and were determined as follows:

- Initial sample locations were plotted using a 100 foot grid to establish initial sampling coverage which is consistent with California Department of Toxic Substances Control (CADTSC) Advisory on Methane Assessment and Common Remedies at School Sites (CADTSC 2005).

These initial sample locations from the 100 foot grid were then adjusted as follows:

- Sample locations in some areas were relocated based on the percentage of wood debris in the area (a higher percentage of wood debris may indicate a higher probability of detecting methane).
- Sample locations in some areas were relocated based on the depth-to-groundwater. The goal was to collect samples from locations where the depth-to-groundwater was at least five feet bgs; however, in some cases obtaining optimal spatial coverage overrode the depth-to-groundwater goal.
- Sample locations that were in roads, 1982 fill, and existing building footprints were removed.
- One sample location was added in the 1982 fill to confirm that methane is not in the fill (methane is not expected in the 1982 fill because there is very little organic matter in the fill material) per a request from Ecology.
- One sample location was added in the parking lot located immediately north of the Hands on Children's Museum per a request from Ecology.
- One indoor air sample location was added in the restroom facility located at the Port Plaza which is located immediately south of the Hands on Children's Museum per a request from Ecology.

Sample Collection, Analyses, and Data Quality Objectives

Subsurface soil gas samples, indoor air samples, depth-to-groundwater, and other lines of evidence will be collected during the Tier 2 assessment. The subsurface soil gas and indoor air samples will be collected as follows[3,4]:

Subsurface Soil Gas Sample Collection

- Prior to collecting methane samples, the depth-to-groundwater will be determined at each sample location by advancing a rod with a 2.5" split spoon to determine actual depth-to-groundwater at the location.
    - If the depth-to-groundwater is > 2', a temporary soil vapor probe (SVP) will be installed using Geoprobe 1.5" Post Run Tubing [PRT] system (see Figure 3 and Figure 4). Each temporary SVP will be installed by a Washington licensed driller. The driller will clean the PRT tip threads and seat daily (or more frequently if needed), and will change the PRT O-ring daily. Rods equipped with a PRT point holder and expandable drive point will be driven to a depth where the top of the drive point is five feet bgs or approximately six inches above the water table at locations where the depth-to-groundwater is less than five feet bgs. Before the rods are pulled back, rigid-walled, ¼-inch-diameter dedicated Poly (or similar) tubing and a PRT adapter will be inserted down the rod bore and rotated to form a vacuum tight connection at the point holder. This will result in continuous tubing from the sample level to the surface. The above

[3] A utility locate will be performed prior to performing subsurface activities.

[4] Samples will be collected on a rising tide, if possible. These conditions are expected to maximize the pressure of methane in the subsurface as the rising tide will cause the water table to rise, which will force air/gas in the subsurface upward and force it to occupy a smaller area in the vadose zone.

ground (i.e., sampling end) of the Poly tubing will be equipped with a one-way fitting to prevent ambient air from entering the tubing. The ground surface surrounding the SVP will be sealed with bentonite to minimize gas exchange with the ambient air.

- Once soil gas soil samples have been collected, the driller will decommission all SVP borings by backfilling the boreholes with bentonite chips and hydrating the bentonite chips.

- If the depth-to-groundwater is < 2', a temporary soil vapor flux chamber will be installed using a 5-gallon plastic bucket equipped with dedicated Poly tubing. The flux chamber will be installed six inches above the depth-to-groundwater and the circumference of the chamber will be packed with native soil (see Figure 5).

- A Landtech GEM 2000 Gas Analyzer and Extraction Monitor (GEM 2000) will be connected to the above ground (i.e., sampling end) of the Poly tubing (either from the SVP or flux chamber). Methane, differential pressure, oxygen, and carbon dioxide will be collected at each sampling location using the GEM 2000. Hydrogen sulfide will be measured at each location using a BW Gas Alert Extreme H2S - Model GAXT-H-2 (BW H2S). This handheld device has a detection limit of one ppm.
  - SVP Locations: Samples will be collected using the GEM 2000 immediately[5] after the SVP has been installed and will be collected over a five minute period depending on the time it takes the methane, oxygen, and differential pressure readings to stabilize (typically this is 10 to 30 seconds [CADRRR 2014]).

Determining the Equilibration Time Used for SVP Sampling

The first SVP sample will be collected from Parcel 7 at the location where 42% methane was previously detected in soil gas (see Figure 1). At this location, multiple measurements will be collected using the GEM 2000 and BW H2S from the SVP in order to assess whether or not equilibration time has a significant impact on the results. Consequently, GEM 2000 samples and BW H2S samples will be collected at this location over a one hour-period as follows:

1. Immediately after Installation of the SVP
2. 30 Minutes after Installation of the SVP
3. 60 Minutes after Installation of the SVP

The data/information obtained from this sampling will be used to determine the equilibration time that will be used for all subsequent soil gas samples collected from SVPs at the Site.

**In addition to the above, a Summa canister sample will be collected from this location at after all GEM 2000 samples have been collected.

[5] As noted in the callout on this page, the equilibration time before sampling will be 0 minutes (i.e., immediately after completion of the SVP), 30 minutes, or 60 minutes, depending on the stabilization results obtained from the test performed at the first SVP that is installed at the site. If acceptable results are obtained with 0 minutes of equilibration, then this result will be used for all other SVP locations. If more time is required to obtain acceptable results (e.g., 30 minutes or 60 minutes), then all subsequent SVP samples will be collected after the SVP has equilibrated for the indicated time (i.e., 30 minutes or 60 minutes).

- At select SVP locations (minimum of two and maximum of four locations), Summa canisters will be used to collect samples for offsite laboratory analysis. The Summa canisters will be used to evaluate the precision and accuracy of the GEM 2000. It is anticipated that the Summa canister samples will be collected from the locations with the highest methane concentrations as determined by the GEM 2000. The samples will be collected using a 1-liter Summa canister and a laboratory-supplied regulator set for a flow rate between 100-200 milliliters per minute. Sampling will stop when the remaining canister vacuum gauge is approximately three to five inches of mercury. The final canister vacuum will be recorded on the chain-of-custody.
    - The Geoprobe PRT system will be left in the ground for at least one hour prior to collecting the Summa canister samples only to allow the subsurface system to reach equilibrium after potential disturbance due to advancing the Geoprobe PRT.
    - The Summa canisters samples will be analyzed for methane, carbon dioxide, oxygen, and nitrogen using ASTM D-1946.
        - Table 1 presents the target reporting limits and screening levels.
        - Table 2 presents the appropriate sample containers and holding times for the soil gas samples. Sample containers will be provided by the analytical laboratory and each canister will be individually certified clean by the laboratory to the target reporting limits. Prior to field mobilization, the initial canister vacuums measured by the laboratory will be verified to ensure a vacuum of approximately 30-inches of mercury. Canisters with an initial vacuum of less than 25 inches of mercury will be returned to the laboratory for a replacement canister. It is anticipated that the analysis will be performed by Eurofins Air Toxics, Inc. (Air Toxics), which is an Ecology accredited laboratory. It is expected at a minimum that Air Toxics will perform and report the following laboratory quality control analyses once per batch of soil gas samples: method blank, and laboratory control sample. It is also expected that the laboratory will perform and report results of surrogate recovery for every sample, as applicable.
        - Table 3 presents the expectations for laboratory control limits.
        - Table 4 presents the anticipated deviations from the original Sampling and Analysis/Quality Assurance Project Plan (SAP/QAPP). The original SAP/QAPP for this Site was prepared by GeoEngineers in 2008 (GeoEngineers 2008).

- Flux Chamber Locations: Samples will be collected using the GEM 2000 one hour[6] after the Flux Chamber has been installed. Samples will be collected over a five minute period depending on the time

[6] As noted in the callout on the follow page, the equilibration time before sampling will be one hour, two hours, three hours, or four hours, depending on the stabilization results obtained from the test performed at the first Flux Chamber that is installed at the site. If acceptable results

it takes the methane, oxygen, and differential pressure readings to stabilize (typically this is 10 to 30 seconds [CADRRR 2014]). Hydrogen sulfide will be measured at each location using the BW H2S. This handheld device has a detection limit of one ppm.

Determining the Equilibration Time Used for Flux Chamber Sampling

The first Flux Chamber sample will be collected over a four hour period in order to assess whether or not equilibration time has a significant impact on the results. Consequently, GEM 2000 samples and BW H2S samples will be collected at this location over a four hour-period as follows:

- One hour after installation of the Flux Chamber
- Two hours after installation of the Flux Chamber
- Three hours after installation of the Flux Chamber
- Four hours after installation of the Flux Chamber

The data/information obtained from this sampling will be used to determine the equilibration time that will be used for all subsequent collected from Flux Chamber samples at the Site.

- Stabilization will be determined as follows:

Constituent	Stabilization Criteria
Methane	+/-20%
Oygen	+/-20%
Carbon Dioxide	Not Used for Stabilization Critieria
Pressure Differenital	+/-20%
Hydrogen Sulfide	+/-20%

Indoor Air Sample Collection

Indoor air samples will be collected from zero to six inches above the ground surface throughout the perimeter of the building using the BW Gas Alert Max XT II – Model D6558 with CH4 only. This handheld device has a methane detection limit of one ppm. In addition, any locations with floor penetrations (e.g., utility pipes) or cracks will be sampled for methane. Each room on the ground floor of the building will be sampled and the results will be recorded in field notes on a room by room basis.

are obtained with 1 hour of equilibration, then this result will be used for all other Flux Chamber locations. If more time is required to obtain acceptable results (e.g., two hours, three hours, or four hours), then all subsequent SVP samples will be collected after the SVP has equilibrated for the indicated time (i.e., two hours, three hours, or four hours).

Data Management, Analysis, and Reporting

Data Management and Analysis

The data recorded in completion of this work will include field screening data and analytical laboratory data. All data will be compiled, organized, and assessed for usability by comparing the results (e.g., detection limits) to the data quality objectives. The data will be analyzed and the need for further action will be determined by comparing the results to the following ASTM criteria (ASTM 2016):

Suggested Default Decision Matrix for Methane in Soil Gas and Indoor Air (ASTM 2016)

Shallow Soil Gas Concentration ↓	Indoor Air Concentration →			
	No Measurements Available	**Methane Concentration < 0.01%**	**Methane Concentration 0.01% to < 1.25%**	**Methane Concentration > 1.25%**
Methane Concentration <1.25% to 5%	No Further Action	No Further Action	No Further Action	Immediately notify authorities, recommend that owner/operator evaluate building.
Methane Concentration > 5% to 30%	No further action unless Pressure Differential > 500 Pascals	No further action unless Pressure Differential > 500 Pascals	No further action unless Pressure Differential > 500 Pascals	
Methane Concentration > 30%	Collect indoor air data	Evaluate on a case-by-case basis	Evaluate on a case-by-case basis	

Reporting

A brief technical memorandum will be submitted to Ecology after the data have been received and analyzed and will include the following:

1. Narrative text.
2. Tables/Figures presenting/summarizing sampling locations and sampling results (e.g., methane concentrations and differential pressure results).
3. Field sampling records, analytical laboratory reports, and photo documentation.

The report narrative will identify and describe any deviations from or modifications to the Work Plan. It will include an assessment of whether or not methane poses a safety concern at the Site based on ATSM criteria (ASTM 2016).

Schedule

Following review and approval of this Work Plan by Ecology, PIONEER will collect samples September 28 through September 30, 2016.

References

ASTM 2016. Standard Guide for Evaluating Potential Hazard as a Result of Methane in the Vadose Zone. Designation E2993-16.

CADRRR 2014. California Department of Resources Recycling and Recovery 2014. Landfill Gas Sampling Procedures for Subsurface Landfill Gas Monitoring Wells. July 14, 2014.

CADTSC 2005. California Department of Toxic Substances Control. Advisory on Methane Assessment and Common Remedies at School Sites. School Property Evaluation and Cleanup Division of Department of Toxic Substances Control. June 16, 2005.

GeoEngineers and PIONEER. 2008. Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia. October 22, 2008.

Enclosures

Figure 1	Current Conditions
Figure 2	Proposed Sample Locations
Figure 3	Soil Gas Sampling - PRT System Operation
Figure 4	Soil Vapor Probe Sampling Train
Figure 5	Flux Chamber Sampling Train
Table 1	Target Reporting Limits and Screening Levels
Table 2	Sample Containers, Preservation, and Holding Times
Table 3	Laboratory Control Limits
Table 4	Sampling Deviations from the Sampling and Analysis Plan/Quality Assurance Project Plan
Attachment A	PIONEER's Field Forms

FIGURES





Legend

- Site Boundary
- Parcel Boundaries
- Proposed Parcel Subdivisions
- 1982 Fill
- Groundwater Depth Contours (ft bgs)

Thickness of Wood in Borings

- No Wood
- <= 20% Thickness of Wood in Boring
- 20 - 40% Thickness of Wood in Boring
- >= 40% Thickness of Wood in Boring

Previous Sample Locations

- Ambient Air
- Soil Gas

Notes:
U: non-detect

0 50 100 200 300 Feet

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Current Conditions
Data Gap Work Plan for Evaluating Methane in Soil Gas
East Bay Redevelopment Site

Figure 1

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Washington State



Legend

- Site Boundary
- Parcel Boundaries
- Proposed Parcel Subdivisions
- 1982 Fill
- Groundwater Depth Contours (ft bgs)

Proposed Sample Locations

- Indoor Air (Methane)
- Soil Gas[1] and Differential Pressure

Thickness of Wood in Borings

- No Wood
- <= 20% Thickness of Wood in Boring
- 20 - 40% Thickness of Wood in Boring
- >= 40% Thickness of Wood in Boring

Notes:
[1]Methane, oxygen, carbon dioxide, and differential pressure will be measured at each location.

0 50 100 200 300 Feet

PIONEER TECHNOLOGIES CORPORATION

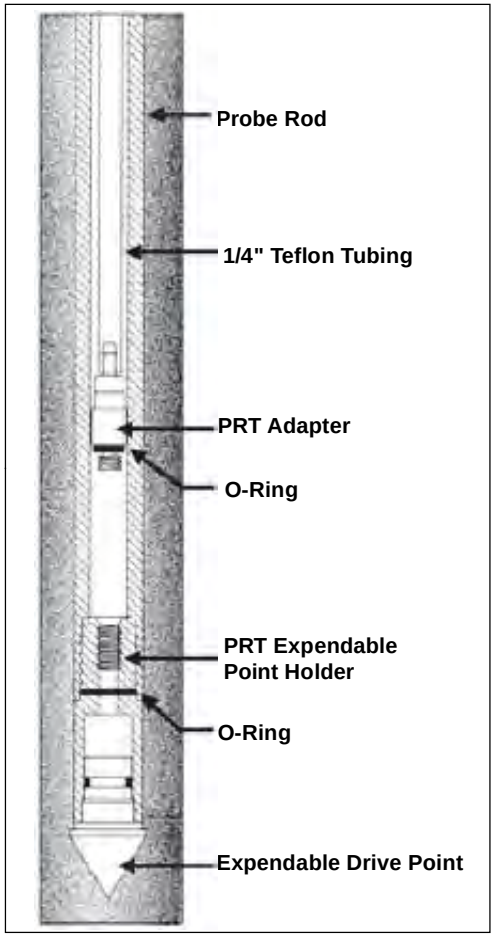
Proposed Sample Locations
Data Gap Work Plan for Evaluating Methane in Soil Gas
East Bay Redevelopment Site

Figure 2

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A. Cross-Section of Probe Rods



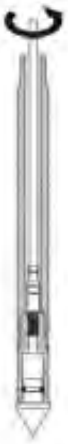
B. PRT Sampling System

Drive Rods



Rods equipped with a PRT point holder and expendable point are driven to depth.

Insert Tubing, Rotate to Connect



Before the rods are pulled back, gas sampling tubing and a PRT adapter are inserted down the rod bore and connected to the point holder.

Sample Soil Gas Through Tube



The rods are now pulled back (retracted) and soil gas is sampled through the tubing. Sample does not contact the rod bore.

Notes:

- Figure not drawn to scale
- Figure source: Geoprobe Systems

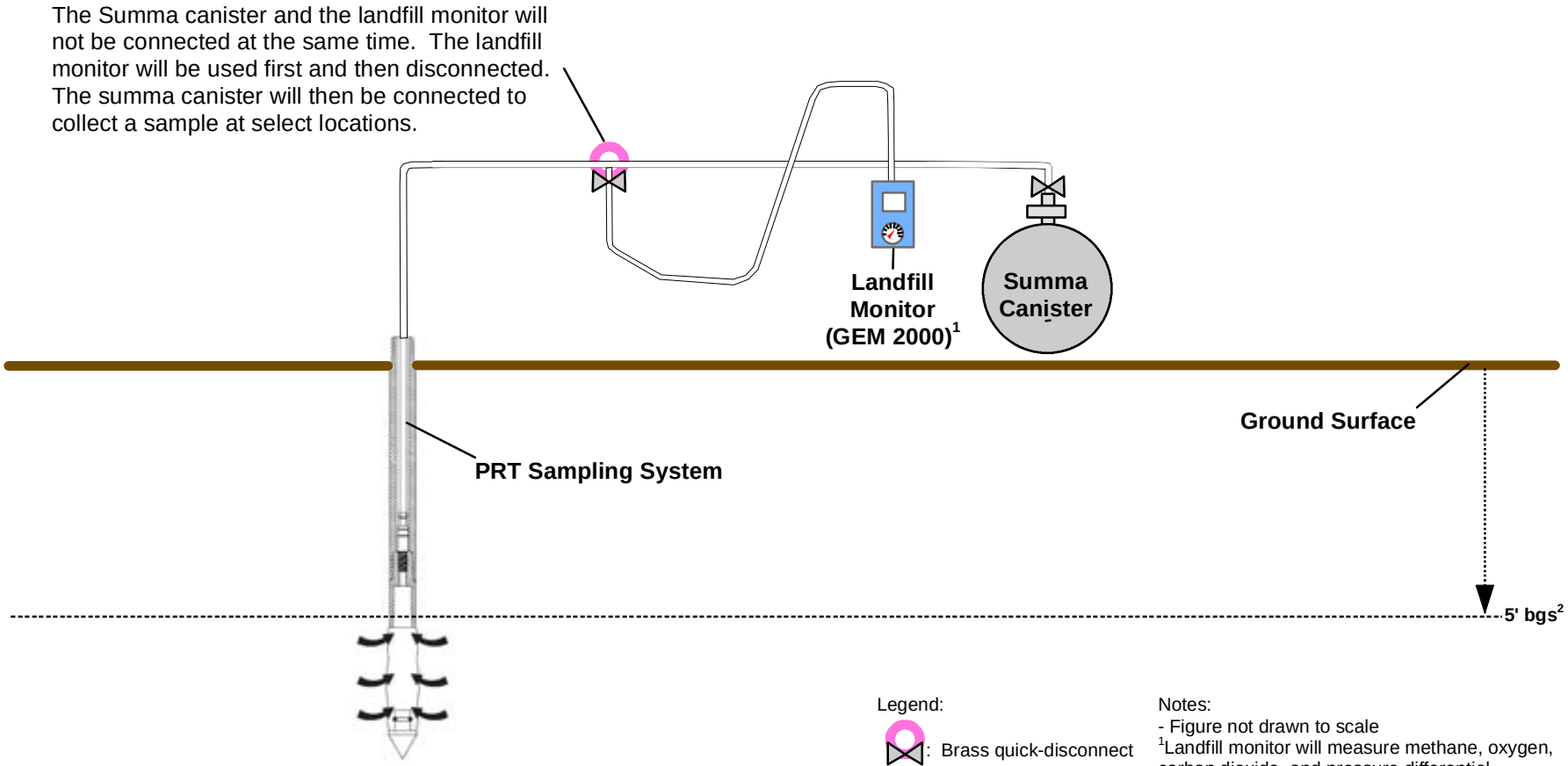
PRT: Post Run Tubing

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Soil Gas Sampling - PRT System Operation
Data Gap Work Plan for Evaluating Methane in Soil Gas
East Bay Redevelopment Site

Figure 3

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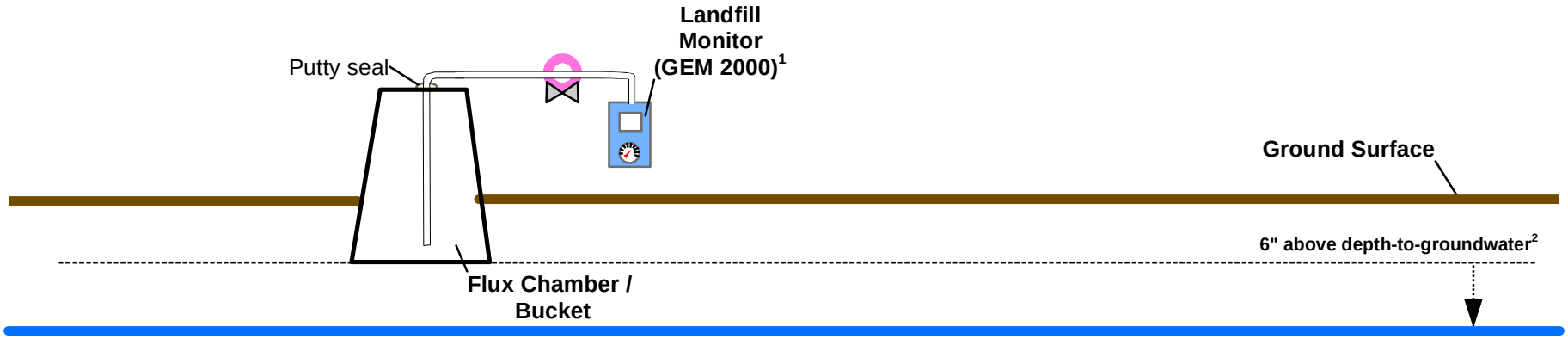


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Soil Vapor Probe Sampling Train
Data Gap Work Plan for Evaluating Methane in Soil Gas
East Bay Redevelopment Site

Figure 4

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Legend:

: Brass quick-disconnect

: Teflon Tubing

Notes:
- Figure not drawn to scale
[1]Landfill monitor will measure methane, oxygen, carbon dioxide, and pressure differential.
[2]For locations where depth-to-groundwater is less than or equal to 2 feet bgs.

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Flux Chamber Sampling Train
Data Gap Work Plan for Evaluating Methane in Soil Gas
East Bay Redevelopment Site

Figure 5

TABLES

Table 1: Target Reporting Limits and Screening Levels

Constituent	Soil Gas, Indoor Air, and Ambient Air		
	Analytical Method	Soil Gas, Indoor Air, and Ambient Air Target Reporting Limits (volume/volume)	Soil Gas Screening Level (volume/volume)
Methane	ASTM D1946	0.0001%	4.4%
Oxygen	ASTM D1946	0.1 %	N/A
Carbon Dioxide	ASTM D1946	0.01 %	N/A
Nitrogen	ASTM D1946	0.1 %	N/A

Notes:

N/A : not applicable

There are not screening levels available for oxygen, carbon dioxide, and nitrogen. These analytes are non-toxic.

Methane is a colorless, odorless, naturally-occurring and man-made gas and is generally not toxic to humans (other than as an asphyxiant). However, methane is flammable and can be explosive under certain conditions. Therefore, the screening level for methane is based on the lower explosive limit of methane which is 4.4% (volume/volume).

Table 2: Sample Containers, Preservation, and Holding Times

Constituent	Media	Analytical Method	Sample Container	Preservative	Extraction Holding Time (days)	Analysis Holding Time (days)
Methane Oxygen Carbon Dioxide Nitrogen	Soil Gas, Indoor Air, and Ambient Air	ASTM D1946	1-liter evacuated SUMMA® canister, individually certified clean by the laboratory, equipped with a Swagelok 1/4-inch stainless steel bellows valve, brass cap, particulate filter, and vacuum gauge. Regulator shall be adjusted for a flow rate between 100-200 milliliters per minute.	None	N/A	30

Table 3: Laboratory Control Limits

Constituent	Media	Analytical Method	LCS (%R)	Acceptance Criteria		Surrogates (%R)
				ICV/LCS (%R)	Precision Limits (Max RPD)	
Methane Oxygen Carbon Dioxide Nitrogen	Soil Gas, Indoor Air, and Ambient Air	ASTM D1946	85-115	85-115	≤ 25	85-115

Notes:

Information provided by Eurofin Air Toxics, Inc.

ICV: initial calibration verification

LCS: laboratory control sample (also known as blank spike)

%R: percent recovery

RPD: relative percent difference

Table 4: Sampling Deviations from the Sampling and Analysis Plan/Quality Assurance Project Plan

Section	Deviation	Rationale/Explanation
2.0	Investigation derived waste will be handled differently.	It is anticipated based on previous sampling events that an insignificant volume of decontamination water will be generated and therefore will be discharged on site. It is anticipated based on previous sampling events that an insignificant volumed of unused soil cores will be generated. These soils will be placed on-site.
4.0	Work will be executed by PIONEER rather than GeoEngineers.	The Port of Olympia selected PIONEER to perform this work.
5.2	A different GPS unit will be used.	PIONEER has a different GPS unit (which is more accurate than the unit specified in the SAP/QAPP).
8.0	Sample nomenclature will be revised.	To improve data usability during subsequent data evaluations.
Table 4	Different target reporting limits will be used.	Reporting limits for the analytical methods and anticipated laboratories are presented in Table 1.

Notes:

GPS: Global Positioning System

ATTACHMENT A

PIONEER'S FIELD FORMS

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Site Name: _____ Site Location: _____

Requested By / Date: _____ Work Deadline: _____

SERVICES REQUESTED	COMPLETED
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☐ Review Docs: _____	☐ YES ☐ NO	☐ Health & Safety Meeting	☐ YES ☐ NO
☐ Agency NOI / ☐ Utility Locate / ☐Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☐ Coordinate Access: _____	☐ YES ☐ NO	☐ Draw Site Map _____	☐ YES ☐ NO
☐ Coordinate Sub / Equip: _____	☐ YES ☐ NO	☐ Cuttings / Purge Water Characterization & Disposal	
☐ Purchase / Rent Equip: _____	☐ YES ☐ NO	☐ Potential HW _____	☐ YES ☐ NO
☐ Client/Agency Coordination: _____	☐ YES ☐ NO	☐ Non-Haz _____	☐ YES ☐ NO
☐ Calibrate Equipment: _____	☐ YES ☐ NO	☐ Background _____	☐ YES ☐ NO

_____

_____

SAMPLING REQUIREMENTS

☐ Field Testing: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

☐ Site Map ☐ Camera ☐ Survey Equip / GPS ☐ Vehicle

☐ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☐ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☐ Sample Kit / Cooler / COC / Ice _____

☐ IDW: ☐ Drums _____ ☐ 5-gal buckets _____

☐ Other: _____

☐ Other: _____

PIONEER
DAILY FIELD REPORT

Date:_____ Site Location: _____ Site Arrival Time: _____ Site Departure Time :_____

WEATHER	Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	70-85	85 Up
WIND	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON SITE

NAME	ASSOCIATION	TIME ON SITE AND OFF SITE

NOTES ON WORK COMPLETED

SIGNATURE:_____ DATE:_____

Attachment A-1

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID		Drilling Co.	
Project/Site Name		Lisc. Driller	
Field Professional		Drilling Method	
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

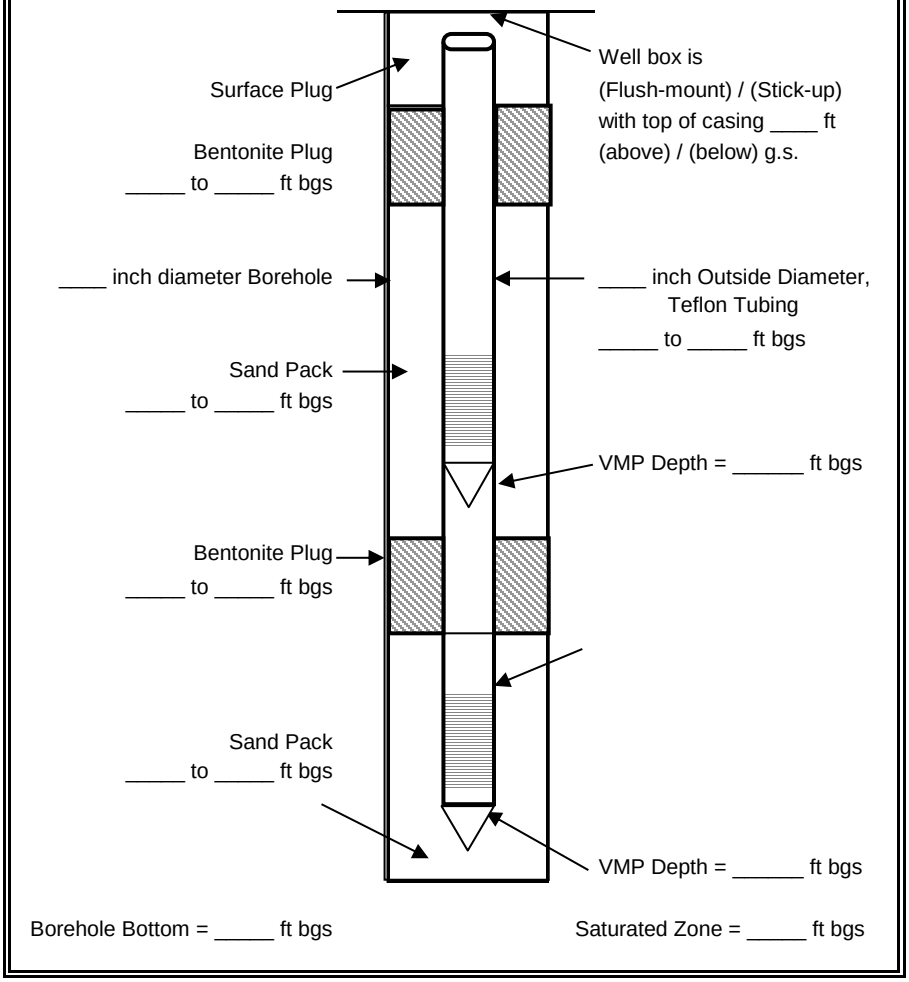
Groundwater Encountered (e.g., time, depth, quantity, casing position):

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
SOIL VAPOR PROBE INSTALLATION FORM

SVP ID _____ Installation Start Date/Time _____ Installation Stop Date/Time _____

CONSTRUCTION DETAILS



MATERIALS USED

_____	Sacks of _____ Sand
_____	Sacks of _____ Cement
_____	Sacks of Bentonite Pellets
_____	Sacks of Powdered Bentonite
_____	Sacks of Grout
_____	Feet of _____ -inch dia Tubing
_____	Feet of _____ -inch dia PVC Screen

SVP PROTECTION AND IDENTIFICATION

- ☐ Well Box
- ☐ Locking Steel Cover (Stick-up)
- ☐ Bollards (Stick-up)
- ☐ Lock
- ☐ Agency Well Tag No. _____
- ☐ Top of Casing Ref Pt. = _____

SVP=Soil Vapor Probe
VMP = Vapor Monitoring Point
Not to Scale

Attachment B-1

Field Log: Methane Sampling

Site Name: _____ **Instrument:** _____

Date: _____ **Sampler Name:** _____

Weather: _____ **Comments:** _____

Barometric Pressure (Pa): _____

Samp_No	Location	Time	Pressure (Pascals)	Temp (^{o}F)	CH4 (%)	CO (%)	O_2 (%)	H_2S (%)	Field Observations

Appendix I

RI Field Notes Not Included in Other Appendices

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1. Pre-AO Soil Sampling
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6. Data Gap Investigation Regarding the Soil-to-Indoor Air Pathway
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FIELD NOTES FROM THE PRE-AGREED ORDER REMEDIAL INVESTIGATION SAMPLING ARE NOT AVAILABLE

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PHASE I RI SOIL SAMPLING

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PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: PHASE 1 RI — Site Location: PORT OF OLYMPIA - EAST BAY

Requested By / Date: TDB / 10/28/08 — Work Deadline: SCHEDULED 11/4/08

SERVICES REQUESTED — **COMPLETED**

(1) ADVANCE BORINGS AND COLLECT SOIL SAMPLES EVERY 2' FROM	☒ YES	☐ NO
DP38, DP40, DP36, DP33, DP27, DP30, DP32, AND DP34 PER SAP TABLE 1	☐ YES	☐ NO
(2) HOLDING ~~A~~ ONE SAMPLE FROM EACH 2' INTERVAL FOR POSSIBLE ANALYSIS	☒ YES	☐ NO
(3) SUBMIT INITIAL SAMPLES PER SAP TABLE 1	☒ YES	☐ NO
(4) BTEX ~~BY~~ COLLECTED BY 5035	☒ YES	☐ NO
(5) SCREENING = VISUAL, ODOR, SHEEN, PID	☒ YES	☐ NO
(6) QC = BTEX TRIP BLANKS ONLY	☒ YES	☐ NO
(7) TAKE REPRESENTATIVE PHOTOS	☒ YES	☐ NO
(8) ~~KEN~~ KEVIN GPS & BORINGS - THURSDAY	☐ YES	☐ NO
	☐ YES	☐ NO
	☐ YES	☐ NO
	☐ YES	☐ NO

ADDITIONAL STANDARD INSTRUCTIONS

	COMPLETED		COMPLETED
☒ Review Docs: GOE ENGINEERS SAP/QAPP; PTC HASP	☒ YES ☐ NO	☒ Health & Safety Meeting	☒ YES ☐ NO
☒ Agency NOI (ESN) / Utility Locate / Concrete Coring	☒ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☒ Coordinate Access: AL KULP 587-6099	☒ YES ☐ NO	☐ Draw Site Map _____	☐ YES ☐ NO
☒ Coordinate Sub / Equip: ESN	☒ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☒ Purchase / Rent Equip: PID, GPS, VAN	☒ YES ☐ NO	☐ Potential HW _____	☐ YES ☐ NO
☒ Client/Agency Coordination: TEEL, SMASKI	☒ YES ☐ NO	☒ Non-Haz IDW STOCKPILE OR GROUND	☒ YES ☐ NO
☒ Calibrate Equipment: PID	☒ YES ☐ NO	☐ Background _____	☐ YES ☐ NO

COORDINATE ICLS W/ LAB - DONE

DGW WATER ON GROUND
SOIL TO IDW PILE STOCKPILE (MINIMAL VOLUME) ~ 5 gal

SAMPLING REQUIREMENTS

☒ Field Testing: SHEEN, SCREEN, PID

☒ Lab Testing: TPH-D = HCID by NWTPH-DX, TPH-G by NWTPH-G, BTEX by 8260B, RCRA 8 metals, PAHs by 8270 SIM — Laboratory: ANATEK - PORT PETROVE DIRECTORY

☒ Lab Testing: DIOXINS by 1613 or 8290 — Laboratory: PACE - MINNEAPOLIS

☒ Lab Testing: TOC AND EPH — Laboratory: ANATEK &/OR SUB

FIELD SUPPLIES NEEDED

☒ Site Map ☒ Camera ☒ Survey Equip (GPS) ☒ Vehicle	☒ Water Level Indicator / Interface Probe
☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)	☐ Water Quality Meter _____ ☐ Field Test Kits _____
☒ Drilling Equip (PID, references, knife, baggies, tape)	☒ Sample Kit / Cooler / COC / Ice _____
☒ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)	☒ IDW: ☒ Drums ESN bring ☐ 5-gal buckets _____
☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)	☐ Other: _____
☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)	☐ Other: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 11/4/08 Site Location: Port of Olympia East Bay Site Arrival Time: 0730 Site Departure Time: 1630

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	X Drizzle	~~X~~ Rain	Snow
To 32	32-50 X	50-70	70-85	85 Up
Calm	Med. X	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
TROY BUSSEY	PTC	See above
MARTY ~~of ESN~~ HAHN	ESN	0730 - 1545
JASON of JFK CONCRETE	JFK concrete	0730 - 0945
KEVIN GALLAGHER	PTC	0915 - See above

NOTES ON WORK COMPLETED

#10; #4

COORD. MTG SAW ~~&~~ HE'S WITH ESN ; GOT JFK ORIENTED ON 6 CUTS

SET-UP ON DP37 → SEE BORING LOG; TOOK PHOTO; USED SIEVES (#1 ~~#4~~) TAKE WEIGHT OF GRAVEL

SET-UP ON DP33 @ 0830 → TOOK PHOTO; STARTED COLLECTING SIDE-BY SIDE SOILS FOR SAMPLE VOLUME

SET-UP ON DP40 @ 1030

SET-UP ON DP36 @ 1140 → TOOK PHOTO

SET-UP ON DP38 @ 1240 → ~~TOOK PHOTO~~

GRAVELLY FILL IS ~~MAKING~~ HAMPERING RECOVERIES AND SAMPLE VOLUMES ~~MAKE ESTIMATES~~

ALSO DIFFICULT TO DISTINGUISH BETWEEN GRAY TO BROWN GRAVELLY SAND FILL AND SANDY GRAVEL FILL (LUMP TOGETHER?), ONLY CLEAR DISTINCTION IS DARKER, CLEANER SAND/GRAVEL

DP30 @ 1345 → TOOK PHOTO

DP27 @ 1430 → PHOTO → DIDN'T NEED ~~2nd~~ boring due to grain size & recovery

DP34 @ 1515 → COULDN'T DO 2nd boring due to concrete

ADVANCED ALL BORINGS AS PLANNED

ADDED ONE EXTRA ~~ANALYSIS~~ SAMPLE FOR ANALYSIS
↳ DP33 7-8 SW/GP ONLY LOCATION W/ DARK SAND FILL

IN SUMMARY, NO OBVIOUS VISUAL, ODOR, SHEEN, OR PID EVIDENCE OF IMPACT IN ANY BORINGS

TWO SIDE BY SIDE SOILS COLLECTED FROM ALL BORINGS (EXCEPT DP32 and DP34 (1st) (last))

MOST OF SHANNON ENCOUNTERED FILL WAS MUCH MORE GRAVELLY THAN DESCRIBED BY GEOLOGISTS

SIGNATURE: [signature] DATE: 11/4/08

1

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP3 2
Project/Site Name: PORT OF OLYMPIA - EAST BAY
Field Professional: TROY BUSSEY
Start Date/Time: 11/4/08 0815
Stop Date/Time: 11/4/08 0845
Drilling Co.: GSW
Lisc. Driller: MARTY HAUN
Drilling Method: DP
Drill Rig: TRUCK MOUNT
Drill Bit: N/A

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	4' MACRO CORE W/ LINER	N/A / /	60	See descriptions	GRAY AND BLACK SILTY GRAVEL WITH FINE SAND, LOOSE, MOIST. (BROWN SILT AND SAND)	1	2	0	Y 0900
	4	8		/ /	50		SAME AS ABOVE WITH MORE MEDIUM SAND, MEDIUM DENSE	4	5	0	Y 0905
	8	10		/ /	75		SAME AS ABOVE W/ GW @ ~9'	8	9	0	Y 0910
				/ /			NO VISUAL, ODOR, OR SHEEN CUES IN ANY INTERVAL				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	4"		DARK BROWN SANDY SILT LOAM [TOPSOIL]
4"	10'	GM	GRAY, BROWN (FINES) AND BLACK SILTY GRAVEL WITH FINE AND MEDIUM SAND, LOOSE TO MEDIUM DENSE, MOIST TO WET (BELOW GW) [GRAVEL FILL]

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): GW @ ~9'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

2

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID	DP33	Drilling Co.	ESN
Project/Site Name	POO – EAST BAY	Lisc. Driller	MARTY HANN
Field Professional	TB	Drilling Method	DP
Start Date/Time	11/4/08 0930	Drill Rig	TRUCK MOUNT
Stop Date/Time	11/4/08 1000	Drill Bit	N/A

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	4' macro core w/ liner	N/A	60	See desc. pg.	4"-3': GRAY SILTY GRAVEL WITH OCCASSIONAL FINE SAND, MEDIUM DENSE, DRY TO MOIST (Brown silt and Sand)	1	2	ϕ	Y 0950
							3'-4': BROWN SILTY MEDIUM SAND WITH FREQUENT WHITEISH GRAY OR BLACK GRAVELS, MEDIUM DENSE, MOIST	3	4	ϕ	Y 0955
	4	8			60		4'-7': SAME AS 3-4' ABOVE	5	6	ϕ	Y 1000
							7'-8' DARK BROWN TO BLACK SILTY COARSE SAND TO FINE GRAVEL, LOOSE, MOIST TO WET, WITH SOME WOOD DEBRIS	7	8	ϕ	Y 1005
							NO VISUAL CUES, ODOR, OR SHEEN IN ANY INTERVAL →				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	4"		DARK BROWN SANDY SILT LOAM [TOPSOIL]
4"	3'	GM/GW	GRAY TO BROWN (FINES) SILTY GRAVEL WITH OCCASSIONAL FINE SAND, MEDIUM DENSE, DRY TO MOIST [LIGHT GRAVEL FILL]
3'	7'	SM/SW	BROWN SILTY MEDIUM SAND WITH FREQUENT WHITEISH GRAY OR BLACK GRAVELS, MED. DENSE, MOIST [LIGHT SAND FILL]
7'	8'	SM/SP	DARK BROWN TO BLACK SILTY COARSE SAND AND FINE GRAVEL, LOOSE, MOIST TO WET, WITH SOME WOOD DEBRIS [DARK SAND FILL]

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): GW @ ~7'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

3

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID	DP40	Drilling Co.	ESN
Project/Site Name	RO - EAST BAY	Lisc. Driller	MARTY HAWN
Field Professional	TJB	Drilling Method	DP
Start Date/Time	11/4/08 1030	Drill Rig	TRUCK-MOUNT
Stop Date/Time	11/4/08 1115	Drill Bit	N/A

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	4' MACRO CORE w/ LINER	N/A	75	SEE DESCRIPTION	GRAY SILTY GRAVEL WITH FINE AND MEDIUM SAND, LOOSE TO MEDIUM DENSE, DRY TO MOIST (BROWN SILT AND SAND)	1	2	0	Y 1110
								3	4	0	Y 1115
	4	8			75		4'-5': SAME AS ABOVE 5'-8': BROWN SILTY FINE AND MEDIUM SAND WITH OCCASSIONAL GRAY OR BLACK COARSE GRAVEL, LOOSE TO MEDIUM DENSE, MOIST TO WET (below 7.5')	5	6	0	Y 1120
								7	8	0	Y 1125
						NO	DARK SAND FILL ENCOUNTERED!				
							NO VISUAL, ODOR, OR SHEEN IN ANY INTERVALS				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		ASPHALT WITH ~~LIT~~ MINIMAL BASE COURSE
2"	5'	GM	GRAY TO BROWN (FINES) SILTY GRAVEL WITH FINE AND MEDIUM SAND, LOOSE TO MEDIUM DENSE, DRY TO MOIST [LIGHT GRAVEL FILL]
5'	8'	SM/SW	BROWN SILTY FINE AND MEDIUM SAND WITH OCCASSIONAL GRAY OR BLACK COARSE GRAVEL, LOOSE TO MEDIUM DENSE, MOIST TO WET [LIGHT SAND FILL]

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): GW @ ~ 7.5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

4

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	DP36	Drilling Co.	ESN
Project/Site Name	P.O - EAST BAY	Lisc. Driller	MARTY HAHN
Field Professional	TB	Drilling Method	DP
Start Date/Time	11/4/08 1140	Drill Rig	TRUCK-MOUNT
Stop Date/Time	11/4/08 1210	Drill Bit	N/A

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	4' MACRO CORE W/ LINER	N/A	75	SEE DESCRIPTION	GRAY SILTY GRAVEL WITH FINE TO MEDIUM SAND, LOOSE TO MEDIUM DENSE, DRY TO MOIST (MOSTLY DRY) (brown silt and sand)	1	2	0	Y 1150
								3	4	0	Y 1200
	4	8			60		SAME AS ABOVE	5	6	0	Y 1210
								7	8	0	Y 1220
	8	10			75		SAME AS ABOVE, EXCEPT WET BELOW 9'	8	9	0	Y 1230
							NO VISUAL CUES, ODOR, OR STAINING IN ANY INTERVAL				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		ASPHALT WITH MINIMAL BASECOURSE
2"	10'	GM	GRAY TO BROWN (FINES) SILTY GRAVEL WITH FINE TO MEDIUM SAND, LOOSE TO MEDIUM DENSE, DRY TO WET [LIGHT GRAVEL FILL]

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): GW @ ~ 9'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

5

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID	DP38	Drilling Co.	ESN
Project/Site Name	ROD - EAST BAY	Lisc. Driller	MARTY DAWN
Field Professional	MB	Drilling Method	DP
Start Date/Time	11/4/08 1240	Drill Rig	TRUCK-MOUNT
Stop Date/Time	11/4/08 1310	Drill Bit	N/A

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	4' MACRO CORE w/ LINER	N/A	50	SEE DESCRIPT.	GRAY ~~TO DARK BROWN~~ SILTY GRAVEL WITH FINE TO MEDIUM SAND, MEDIUM DENSE, DRY TO ~~WET~~ MOIST, 3"-long solid wood chunk in 2nd sample (3.5'-4' interval) (dark brown silt and sand)	1	2	0	~~Y~~ 1250
								3	4	0	Y 1300
	4	8			50		4'-5': SAME AS ABOVE				
							5'-6': DARK GRAY CLAYEY FINE SAND WITH SILT, MEDIUM DENSE, MOIST TO WET, WITH SOME BARK SIZED WOOD DEBRIS	5	6	0	Y 1310
							6-8': REDDISH BROWN FINE SHREDDED WOOD DEBRIS → COARSE SAWDUST	6	7	0	Y 1320
	8	10			25/100 (1st boring) / 100 (2nd boring)		8'-9': SAME AS 6-8'				
							9'-10': BROWN GRAVELLY FINE SAND, MEDIUM DENSE, MOIST TO WET	9	10	0	Y 1330
							NO VISUAL CUES, ODOR, OR SHEEN IN ANY INTERVAL →				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	3"		LOOSE COARSE GRAVEL / DECOMPOSING ASPHALT
~~3"~~ 3"	5'	GM	GRAY TO DK BROWN (STAINS) SILTY GRAVEL WITH FINE TO MEDIUM SAND, MEDIUM DENSE, DRY TO WET, WITH WOOD ~~DEBRIS~~ CONSTRUCTION DEBRIS OR PILING? [LIGHT GRAVEL FILL]
5'	6'	SC/SM	DARK ~~GRAY~~ CLAYEY ~~SAND~~ FINE SAND WITH SILT, MEDIUM DENSE, MOIST TO WET, WITH WOOD DEBRIS [DARK SAND FILL?]
6'	9'		REDDISH BROWN FINE SHREDDED WOOD DEBRIS [COARSE SAWDUST]
9'	10'	SP	BROWN GRAVELLY FINE SAND, MEDIUM DENSE, MOIST TO WET [DARK SAND FILL?]

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): GW @ ~ 3'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

6

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID	DP30	Drilling Co.	FSN
Project/Site Name	POD - EAST BAY	Lisc. Driller	MARTY MANN
Field Professional	TB	Drilling Method	DP
Start Date/Time	11/4/09 1345	Drill Rig	TRUCK - MOUNT
Stop Date/Time	11/4/09 1410	Drill Bit	N/A

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	4' MACRO CORE W/ LINER	N/A	40	SEE CLOSEUP	GRAY SILTY FINE SAND WITH OCCASSIONAL COARSE GRAVEL, MOIST	1	2	Φ	Y 1350
								3	4	Φ	Y 1400
	4	8			100		SAME AS ABOVE TO 7', EXCEPT WET BELOW 5'	4	5	Φ	Y 1410
							7-7.5': GRAY TO BLACK CLAYEY SILT WITH SOME FINE SAND, MEDIUM STIFF, MOIST	7	7.5	Φ	Y 1420
							7.5-8': REDDISH BROWN FINE SHREDDED WOOD DEBRIS → SAME AS DP38				
							NO VISUAL CUES, ODOR, OR SHEEN IN ANY INTERVAL				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		ASPHALT WITH MINIMAL BASECOURSE
2"	7'	SM	GRAY SILTY FINE SAND WITH OCCASSIONAL COARSE GRAVEL, MOIST TO WET {LIGHT SAND FILL?}
7'	7.5'	~~ML~~	GRAY TO BLACK CLAYEY SILT WITH SOME FINE SAND, MEDIUM STIFF, MOIST {DISTURBED SILT? NATIVE?}
7.5'	8'		REDDISH BROWN FINE SHREDDED WOOD DEBRIS {COARSE SAWDUST}

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): GW @ 5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

7

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP27
Project/Site Name: BD FAST BAY
Field Professional: TB
Start Date/Time: 11/4/08 1430
Stop Date/Time: 11/4/08 1500
Drilling Co.: ESN
Lisc. Driller: MARTY HAHN
Drilling Method: DP
Drill Rig: TRUCK-MOUNT
Drill Bit: N/A

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	4' MACRO CORE W LINER	N/A	75	SEE DESCRIPT	0 TO 2.5': BROWN TO GRAY SANDY GRAVEL, MEDIUM DENSE, DRY TO MOIST	0	1	0	Y 1440
							2.5'-4': GRAY CLAYEY FINE SAND WITH SILT, MEDIUM DENSE, MOIST	3	4	0	Y 1450
	4	8			90		4'-5': GRAYISH BROWN CLAYEY SILT WITH SOME FINE SAND, MEDIUM STIFF, MOIST	4	5	0	Y 1500
							5'-7.5': GRAY FINE SAND (WELL SORTED), WITH SOME SHELLS PRESENT, WET	6	7	0	Y 1570
							7.5'-8': REDDISH BROWN FINE STRUCTURED WOOD DEBRIS → SAME AS DP38				
							NO VISUAL CUES, ODOR, OR SHEEN IN ANY INTERVAL →				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		ASPHALT WITH MINIMAL BASE COURSE
2"	2.5'	GP	BROWN TO GRAY SANDY GRAVEL, MEDIUM DENSE, DRY TO MOIST [LIGHT GRAVEL FILL]
2.5'	4'	SC/SM	GRAY CLAYEY FINE SAND WITH SILT, MEDIUM DENSE, MOIST [LIGHT SAND FILL?]
4'	5'	ML	GRAYISH BROWN CLAYEY SILT WITH SOME FINE SAND, MEDIUM STIFF, MOIST [DISTURBED NATIVE SILT?]
5'	7.5'	SP	GRAY FINE SAND (WELL SORTED), WITH SOME SHELLS PRESENT, WET [DISTURBED NATIVE SAND?]
7.5'	8'		REDDISH BROWN FINE STRUCTURED WOOD DEBRIS [COARSE SAWDUST]

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): GW @ ~5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

8

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID	DP34	Drilling Co.	ESN
Project/Site Name	PDO - EAST BAY	Lisc. Driller	MARTY HAWN
Field Professional	TB	Drilling Method	DP
Start Date/Time	11/4/08 1515	Drill Rig	TRUCK-MOUNT
Stop Date/Time	11/4/08 1540	Drill Bit	N/A

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	4" MACRO CORE w/ LINER	N/A	60	See descript	BROWN TO GRAY GRAVELLY SAND WITH SILT, MEDIUM DENSE, DRY TO MOIST	1	3	0	Y 1530
	4	8			50		SAME AS ABOVE TO 7.5'	4	6	0	Y 1540
							7.5'-8': REDDISH BROWN FINE SHREDDED WOOD DEBRIS - SAME AS DP38				
								7.5	9.5	0	Y 1550
	8	10			100		~~SAME~~ 8-9.5' IS SAME AS 7.5'-8'				
							9.5'-10' REDDISH BROWN WOOD (BARK SIZED)				
							NO VISUAL CUES, ODOR, OR SHEEN IN ANY INTERVAL →				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	6"		CONCRETE
6"	7.5'	SW/SM	BROWN TO GRAY GRAVELLY SAND WITH SILT, MEDIUM DENSE, DRY TO MOIST [LIGHT SAND FILL]
7.5'	9.5'		REDDISH BROWN FINE SHREDDED WOOD DEBRIS [COARSE SAWDUST]
9.5'	10'		REDDISH BROWN ~~WOOD DEBRIS~~ BARK-SIZED WOOD DEBRIS

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): GW @ ~ 6'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PHASE 2 RI SOIL SAMPLING

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PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: PHASE 2 RI · DRILLING Site Location: PORT OF OLY - EAST BAY

Requested By / Date: DDB 6/4/09 Work ~~Deadline~~ Schedule: 6/10 - 6/16/09

SERVICES REQUESTED	COMPLETED
(1) ADVANCE & SAMPLE 14 BORINGS PER SAP (CONTAINERIZE EVERY 2') TABLE 1 (As Revised)	☒ YES ☐ NO
(2) ~~AS REQ'D~~ COMPLETE HASP PAPERWORK	☒ YES ☐ NO
(3) INSTALL MW21S → MW25S PER TABLE 2	☒ YES ☐ NO
(4) DEVELOP MW21S → MW25S UNTIL LOW TURBIDITY	☒ YES ☐ NO
(5) DECOMISSION MW05	☒ YES ☐ NO
	☐ YES ☐ NO
TPH-G/BTEX BY 5035	☒ YES ☐ NO
SCREENING = VISUAL, ODOR, SHEEN, PID	☒ YES ☐ NO
HOLD ALL CONTAINERIZED SAMPLES FOR POSSIBLE ANALYSIS	☒ YES ☐ NO
~~QC = TPH-G/BTEX DUP BLANKS ONLY~~ NOT FOR GROUND SAMPLES	☐ YES ☒ NO
NOTE ANY MOVEMENTS TO SURVEY LOCATIONS	☒ YES ☐ NO
TAKE REPRESENTATIVE PHOTOS	☒ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED	
☒ Review Docs: BEOE SAP/QAPP; PTC HASP	☐ YES	☐ NO	☒ Health & Safety Meeting	☒ YES	☐ NO
☒ Agency NOI (ESN) / Utility Locate (UDS) / Concrete Coring (JHL)	☒ YES	☐ NO	☐ Call PM from Site	☐ YES	☐ NO
☐ Coordinate Access: NT → Done by Stantec	☐ YES	☐ NO	☐ Draw Site Map	☐ YES	☐ NO
☒ Coordinate Sub / Equip: ESN	☒ YES	☐ NO	☒ Cuttings / Purge Water Characterization & Disposal		
☒ Purchase / Rent Equip: PID, VAN	☒ YES	☐ NO	☐ Potential HW	☐ YES	☐ NO
☒ Client/Agency Coordination: TEEL, SNYDERSKI	☒ YES	☐ NO	☒ Non-Haz ~~PBS~~ Decon → Ground; Cuttings → Stockpile; Development water → TBD	☒ YES	☐ NO
☒ Calibrate Equipment: PID.	☒ YES	☐ NO	☐ Background	☐ YES	☐ NO

REVISIONS INCLUDE MOVED ~~23S~~, MW23S & 24S AND DIFFERENT TARGET RLS

LOCKS RLS & EOD WITH GS

SAMPLING REQUIREMENTS

☒ Field Testing: SHEEN, PID

☒ Lab Testing: BTEX & NWTPH-G, NWTPH-Dx, PAHs, 3 metals, PCBs Laboratory: DAL

☒ Lab Testing: Dioxins/Furans 8290 Laboratory: PACE

☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

☒ Site Map ☒ Camera ☐ Survey Equip / GPS ☒ Vehicle

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☒ Drilling Equip (PID, references, knife, baggies, tape)

☒ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☒ Sample Kit / Cooler / COC / Ice 90 4-oz jars (3 per location) & 6-ounce (3 per location) → 4-oz + handle

☒ IDW: ☒ Drums ESN ☐ 5-gal buckets _____

☒ Other: Walking wheel

☐ Other: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 6/10/09 Site Location: PORT OF OLY - EAST BAY Site Arrival Time: SEE BELOW Site Departure Time: SEE BELOW

WEATHER
TEMPERATURE
WIND

Clear Sun 6/10	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70 6/10	70-85	85 Up
Calm	Med. 6/10	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
TROY BUSSEY	PTC	6/10, 6/12
ISAAC ROBERTS	↓	6/10
MELODY FOOR	↓	6/10, 6/12
DAN HANOVER	ESN	6/10
ROGER GRACE	↓	6/12
BRIAN BOYD	↓	6/12

NOTES ON WORK COMPLETED

6/10/09 ON-SITE @ 0800 · CONDUCTED H&S TAILGATE MTG ⇒ SEE FORM
SET-UP ON ~~DP35~~ DP26 ; D+D BIOP-BY-SIDE BORINGS UNLESS OTHERWISE NOTED
TOOK PHOTO ALL BORINGS IN SURVEYED LOCATION UNLESS OTHERWISE NOTED

SETUP ON DP35 ⇒ MOVED 2' NE FROM SURVEYED LOCATION ; TOOK PICTURE
SETUP ON DP31 ⇒ MOVED 2' SE " " " ; TOOK PHOTO
SETUP ON DP28 ⇒ TOOK PICTURE
SETUP ON DP29 ⇒ ~~MOVED~~ MOVED 4' NW ; TOOK PICTURE
SETUP ON DP42 ⇒ TOOK PICTURE
SETUP ON DP39
SETUP ON DP41 ⇒ TOOK PICTURE
SETUP ON DP37 ⇒ TOOK PICTURE
PACKED SAMPLES FOR RELIVERY

NOTE: FOR FUTURE:
PAHs DETECTED IN STATION INTERVALS MAY BE CARRYOVER FROM ASPHALT

OFF-SITE @ 1515 ALL LOCATIONS HAD SIDE-BY-SIDE DP, THEN ~~ABSENT~~ HSA FOR MW

6/12/09 ON-SITE @ 0700 ⇒ D+D ~~AIR~~ DUST MONITORING SETUP
CONDUCTED H&S TAILGATE MEETING ⇒ SEE FORM
SETUP ON MW21S ⇒ MOVED 4' NE FROM SURVEYED LOCATION ; TOOK PICTURE
SETUP ON MW23S ⇒ MOVED 15' SE OF ORIGINAL LOCATION & ~10' NE FROM RELOCATED POSITION ; TOOK PHOTO
SETUP ON MW24S ⇒ NO MOVEMENT FROM SURVEYED POSITION (OR RELOCATED LOCATION ½ WAY BETWEEN MOVES ~ MW10) ; TOOK PHOTO
DIFFICULT TIME ADVANCING HSA FOR MW24S due to COBBLES (~~BOULDERS~~?)
REFUSAL TWO TIMES @ ~4' ; MOVED ~6' NW THEN ADVANCED
SETUP ON MW25S ⇒ ~~MOVED~~ ~~SUBSURFACE POWER~~
SETUP ON MW22S ⇒ MOVED ~10' NE DUE TO SUBSURFACE POWER ; TOOK PHOTO
BACK TO MW24S FOR 3RD ATTEMPT ⇒ EVENTUALLY GOT IN COMPLETED
RETRIEVED ~~DUST~~ DUST MONITORS @ ~ 1430 ; PACKED FOR SHIPMENT
COLLECTED ~~SOIL~~ GRAB SOIL SAMPLE FROM IA STOCKPILE #1 (ZONE IVA) @ 1530 SAMPLE ID: ZONE IVA - 061209
↳ SOIL IN STOCKPILE GENERATED FROM ABOVE GROUND SOIL UNDER 2 LOADING DOCKS
STOCKPILE WAS ESTIMATED BY FRED SAS ~ 300 CY ; DIMENSIONS: 38'X50'X8' HIGH
↳ COLLECTED SAMPLE FROM WEST SIDE ; ~0.5-1' below surface
WAIST HEIGHT ; ½ WAY DOWN SIDE
≤ 500 CY SAMPLE FREQUENCY
OFF-SITE @ 1630

SIGNATURE: [signature] DATE: 6/12/09

COMPLETED ALL WORK (EXCEPT WELL DEVELOPMENT ; MW25S DECOMMISSIONING) AS PLANNED OR NOTED IN NOTES

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 6/16/09 Site Location: Port of NY - Bass Bay Site Arrival Time: 0715 Site Departure Time: 1545

WEATHER
TEMPERATURE
WIND

Clear Sun	X Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	X 70-85	85 Up
Calm	X Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
TROY BUSSEY	PTC	
MALIK HAVIN	ESN	
BRIAN	↓	

NOTES ON WORK COMPLETED

ARRIVED ON-SITE @ 0715
CONDUCTED H&S TAILGATE MTG → SEE FORM
DEVELOPED IN WELLS: MW21S, MW23S, MW24S, MW22S, MW25S
MADE NOTES RE: WATER LEVELS, VOLUMES REMOVED & TURBIDITY ON FORMS → SEE FORM
BRIAN FROM ESN ARRIVED @ 0945
DECOMMISSIONED MWDS BY FILLING W/ BENTONITE
ESN OFF-SITE @ 1230

SIGNATURE: Troy Bussey DATE: 6/16/09

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID ~~MW-35~~ DP26
Project/Site Name POL FORT BAY
Field Professional TB
Start Date/Time 6/10/10 0840
Stop Date/Time 0945
Drilling Co. KEN
Lisc. Driller DAN HARDING
Drilling Method DP
Drill Rig DP
Drill Bit N/A

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	60		2 JARS + COMP	1	2	0	0900 4
				/ /							
	4	8		/ /	75			3	4	0	0905 4
				/ /							
	8	12		/ /	90			~~4~~ 4 ~~5~~			
				/ /				5	6	0	0910 4
				/ /							
				/ /				7	8	0	0915 4
				/ /							
				/ /				8	9	0	0920 4
				/ /							
				/ /							
				/ /							
			GW @ ~ 5'								
				/ /							
		ND	VISUAL/ODOR,		SHEEN,		~~OR DID~~ DETECTED IN ANY INTERVAL				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2		BROWN TO GRAY SILTY FINE TO COARSE GRAVEL WITH LITTLE OF SAND SIZES, LOOSE, DRY
2	5		BROWN SILTY FINE SAND WITH FINE TO COARSE GRAVELS, LOOSE, DRY TO MOIST
5	7		LT BROWN FINE SAND, WITH CLAY LOOSE TO MED DENSE, WET
7	9		DK GRAY TO BLACK FINE SAND WITH CLAY SHELL PIECES, MED DENSE, WET
9	12		TAN TO ORANGE TO BLACK WOOD CHUNKS, MOIST TO WET, LOOSE TO

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
~5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP28
Project/Site Name:
Field Professional:
Start Date/Time: 1110
Stop Date/Time: 1135
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	70		2 GWS → 1115	1	2	0	4
				/ /				3.5	5		
				/ /			1120	~~3.5~~	~~5~~	0.4	4
				/ /							
	4	8		/ /	100		1125	~~4~~	~~5~~	~~0.2~~	~~4~~
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
			ND	VISUAL, ODOR OR SHEEN IN ANY INTERVAL							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		Asphalt
2"	3.5'		LT GRAY to BROWN SANDY GRAVEL WITH SILT LOOSE TO MED DENSE, DRY TO MOIST
3.5	6'		LT GRAY TO DK GRAY SILTY FINE SAND ~~DK~~ WITH GRAVEL, SHELLS 5-6', MOIST TO WET
6'	8'		BROWNISH ORANGE SANDUST, ~~WET~~ MED DENSE, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~ 5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP29
Project/Site Name:
Field Professional:
Start Date/Time: 1140
Stop Date/Time: 1235
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	To	PID (ppm)	Sent to Lab?
	0	4		/ /	90		1150	1	2	6	Y
				/ /							
				/ /			1155	3	4	0.2	Y
				/ /							
	4	8		/ /	75		1200	5.5	6.5	0	Y
				/ /							
				/ /			1205	7	8	1.4	Y
	8	12		/ /	75						
				/ /			2 JARS → 1210	8.5	9.5	0.4	Y
				/ /							
	12	16		/ /	90		1215	13	14	0.7	Y
				/ /							
				/ /							
				/ /							

→ ADD NORTH DP

SLIGHT PETROLEUM ODOR IN 13-14' INTERVAL
SLIGHT/SHEEN ASSOC. W/ GW IN 12-16' CORE → NO OTHER VISUAL, ODOR, OR SHEEN

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	6"		CONCRETE SLAB
6"	2.5		GRAY TO BROWN SANDY FINE TO COARSE GRAVEL WITH SILT, MED DENSE DRY
2.5	5.5		DK GRAY SILTY FINE SAND WITH OCCASIONAL LEAN CLAY, MED DENSE, MOIST
5.5	7	CH	DK GRAY SILTY FINE LEAN CLAY, MED STIFF, MOIST TO WET
7	8		ORANGISH BROWN SANDY SILT MOD DEBRIS, MOIST TO WET
8	9.5		BROWN GRAVELLY SANDY FINE TO COARSE GRAVEL WITH LEAN CLAY LOOSE WET
9.5	14.5		ORANGISH BROWN TO TAN SANDY SIZED TO CHUNK-SIZE WOOD DEBRIS, MED DENSE, WET
14.5	16		DARK GRAY GRAVELLY FINE TO MED SAND, MED DENSE, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
~ 6'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP31
Project/Site Name:
Field Professional:
Start Date/Time: 1035
Stop Date/Time: 1105
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	90		1040	1	2	0	Y
				/ /							
				/ /			1050	3	4	0	Y
				/ /							
	4	8		/ /	100		1100	4.5	5.5	0	Y
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
			NO	VISUAL, ODOR, OR			SHEEN IN ANY INTERVAL				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		Asphalt
2"	2'		BROWN SANDY GRAVEL TO COARSE GRAVEL WITH SILT, LOOSE TO MED DENSE, DRY
2'	7'		DARK GRAY TO BROWN SILTY FINE SAND WITH LIGHT, OCCASSIONAL GRAVEL OR ~~[illegible]~~, SHEENS 5-7', MEDIUM DENSE, MOIST TO WET
7'	10'		DARK GRAY SANDY LEAN CLAY, SOFT TO MED STIFF, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
~5.5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP35
Project/Site Name:
Field Professional:
Start Date/Time: 0950
Stop Date/Time: 1030
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	100		1000	1	2	0	Y
				/ /							
				/ /			1020	3	4	0	Y
				/ /							
	4	8		/ /	90		1030	5	6	0	Y
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							
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				/ /							
				/ /							
				/ /							
				/ /							
		ND	VISUAL, ODOR, OR SHEEN IN ANY INTERVAL								

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	3		TAN TO BLACK SANDY FINE TO COARSE GRAVEL WITH SILT, MED DENSE, DRY
3	6		TAN TO GRAY ~~STIFF~~ GRAVELLY FINE TO COARSE SAND WITH SILT ~~FINE TO COARSE GRAVEL~~, LOOSE TO MEDIUM DENSE, DRY TO MOIST
6	6.5		DK BROWN SILTY LEAN CLAY, SOFT, MOIST
6.5	8		BROWN SANDY FINE TO COARSE GRAVEL WITH SILT, LOOSE TO MED DENSE WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
~ 6.5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP37
Project/Site Name:
Field Professional:
Start Date/Time: 1445
Stop Date/Time: 1530
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	80		1450	0.5	2	0	Y
				/ /							
				/ /			1500	~~2~~	3.5	2	Y
				/ /							
	4	8		/ /	80		1510	6	7.5	0.7	Y
				/ /							
				/ /			1520	~~9~~ 8	~~11~~ 10	0.4	Y
				/ /							
	8	12		/ /	60						
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
		ND	VISUAL, ODOR, STAIN + NO ANY ANOMALY								

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		Asphalt
2"	2'		LT GRAY SANDY FINE TO COARSE GRAVEL wt SILT, LOOSE TO MED DENSE, DRY
2	3.5	CH	GRAY PLASTIC CLAY, STIFF, OCCASSIONAL GRAVEL, MOIST
3.5	9	CL	DK GRAY ~~CLAYEY FINE SAND~~ SILTY LEAN CLAY, OCCASSIONAL GRAVELS ; WOOD DEBRIS, MOIST TO WET
9	12		GRAY TO BROWN SILTY FINE SAND, WITH WOODY DEBRIS, OCCASSIONAL GRAVEL, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	DP39	Drilling Co.	
Project/Site Name		Lisc. Driller	
Field Professional		Drilling Method	
Start Date/Time	1330	Drill Rig	
Stop Date/Time	1400	Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	60		1340	0.5	2	0.6	N
				/ /							
				/ /			1360 1345	3	5	1.2	Y
				/ /							
	4	6		/ /	60						
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
			NO VISUAL, ODOR, OR SHEEN IN ANY MATERIAL								

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	3.4		GRASS & TOPSOIL
3.4	1.5		GRAY TO LT BROWN SANDY FINE TO COARSE GRAVEL WITH SILT, LOOSE TO MED DENSE, DRY
1.5'	5'		BROWN TO DARK BROWN, SLIGHTLY SILTY MEDIUM TO COARSE SAND, WITH FINE GRAVEL, MED DENSE, MOIST TO WET
5	8		WEATHERED BROWN WOOD CHUNKS, DRY WET TO DRY

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~ 2.5' → BORING IS ~ 20' W OF PONDED WATER & GW ~ 2'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.): HIGHER IN ELEVATION, SO GW DEPTH LIKELY REFLECTIVE OF PONDED WATER

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP41
Project/Site Name:
Field Professional:
Start Date/Time: 1410
Stop Date/Time: 1440
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	75		@ 1420	1	2	0	Y
				/ /							
				/ /			2 jars → 1425	3	4	1.9	Y
				/ /							
	4	8		/ /	75		1430	5	6	0	Y
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
			NO UNUSUAL ODOR OR SHEEN DETECTIONS								

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	8		LIGHT GRAY TO BROWN SAND, FINE TO COARSE GRAVEL WITH SILT, LOOSE TO MEDIUM DENSE, DRY
~~8~~	~~8~~		~~BROWN~~

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~7'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP42
Project/Site Name:
Field Professional:
Start Date/Time: 1250
Stop Date/Time: 1375
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	90		1300	1	2	0	Y
				/ /							
				/ /			1305	3	4	0	Y
				/ /							
	4	8		/ /	50		2 JAR → 1310	5	6	0.3	Y
				/ /							
				/ /			1315	7	8	0.5	Y
				/ /							
	8	12		/ /	50						
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
	—		NO VISUAL, ODOR, OR SHEEN DETECTED								

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2.5'		GRAY TO BROWN SANDY GRAVEL WITH SILT, LOOSE TO MED DENSE, DRY
2.5	4.5'		LT GRAY TO ~~BROWN~~ LT BROWN SILTY FINE SAND, OCCASIONAL FINE GRAVEL, LOOSE TO MED DENSE, MOIST
4.5	7		DK BROWN SILTY FINE TO COARSE SAND W/ GRAVEL & WOOD DEBRIS, MED DENSE, WET
7	12		ORANGE TO BROWN WOOD CHUNKS W/ COARSE GRAVEL AND LITTLE SILT, MED DENSE, WET & STAINED WOOD DEBRIS

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~6'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: MW21S
Project/Site Name: EAST BAY
Field Professional: JB
Start Date/Time: 6/12/09 0740
Stop Date/Time: 825
Drilling Co.: ESN
Lisc. Driller: NOEL KNAPP
Drilling Method: DP/HSA
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	90		20ES → 0800	0.5	1.5	0	Y
				/ /							
				/ /			0810	2.5	4	0	Y
				/ /							
	4	7		/ /	100		0820	4.5	6	0	Y
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
			NO VISUAL, ODOR, OR SHEEN DETECTED								

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		ASPHALT
2"	18"		BROWN TO GRAY SANDY FINE TO COARSE GRAVEL WITH SILT, LOOSE TO MEDIUM DENSE, DRY
18"	2'		BROWN WOOD DEBRIS
2'	2.5'	CL	DK GRAY SILTY CLAY, HIGH PLASTICITY, MED STIFF MOIST
2.5	7		GRAY SILTY FINE TO MED SAND, WITH GRAVEL AND STONES, MOIST TO WET (LEAN CLAY)

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

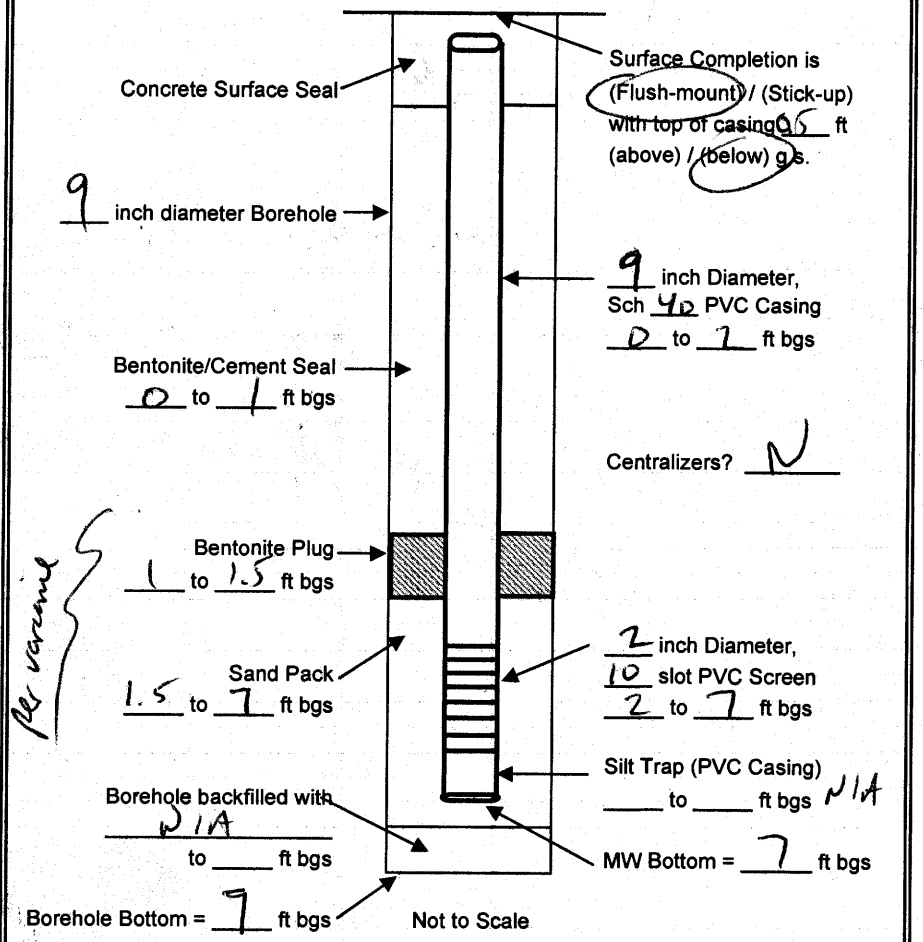
Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 3'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW215 Installation Start Date/Time 06/12/09 0025 Installation Stop Date/Time 6/12 0915

CONSTRUCTION DETAILS



MATERIALS USED

- 4 Sacks of 10/20 SILICA Sand
- ___ Sacks of ___ Cement
- 1 Sacks of Bentonite Pellets
- ___ Sacks of Powdered Bentonite
- ___ Sacks of Grout
- 5 Feet of 2 -inch dia PVC Casing
- 5 Feet of 2 -inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [x] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [x] Agency Well Tag No. BAF 399
- [ ] Top of Casing Ref Pt. = N SIDE

WELL DEVELOPMENT

	Following Well Construction	Following Well Development (immediately)
Depth To Water (ft below TOC)	4.15 6/16 0730	5.01
Total Well Depth (ft below TOC)	6.64 " "	6.64

Development Start Date/Time 6/16/09 0730 Development Stop Date/Time 6/16 0840

Development Method ~~DEVELOPMENT~~ PUMP Development Water Discharged to BAKER TANK

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 50 gal

Additional Remarks SIGNIFICANT REDUCTION IN TURBIDITY; TURBIDITY IS ELEVATED DUE TO COLOR AND HAS STABILIZED

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	MW225	Drilling Co.	
Project/Site Name		Lisc. Driller	
Field Professional		Drilling Method	
Start Date/Time	6/12/09 1420	Drill Rig	
Stop Date/Time	6/12/09 1420	Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	50		20MS → 1425	0.5	2	0	Y
				/ /							
				/ /			1430	2	4	0	Y
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
			NO ~~STAIN~~ ODOR				VISUAL OR SHEEN DETECTION				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	4"		GRASS; TOPSOIL
4"	4		BROWN TO GRAY SANDY FINE TO COARSE GRAVEL, WITH SILT, LOOSE TO MEDIUM DENSE MOIST TO WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

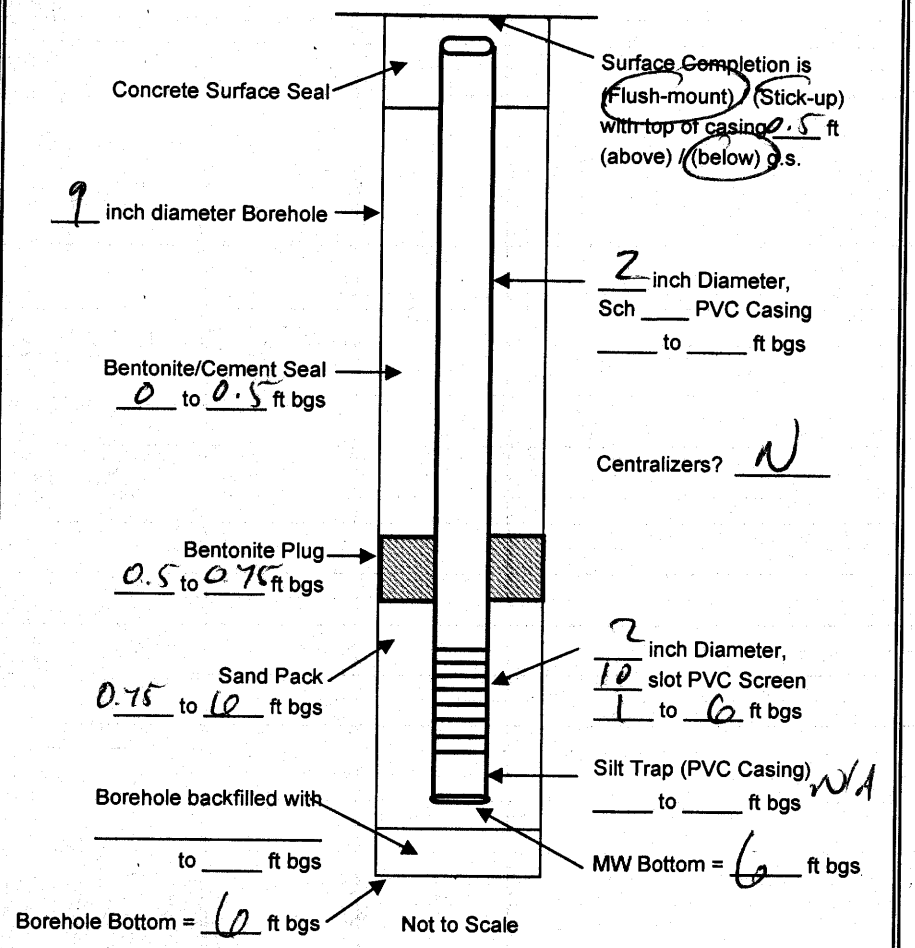
Groundwater Encountered (e.g., time, depth, quantity, casing position):
WET @ ~1'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW22S Installation Start Date/Time 6/12/09 1430 Installation Stop Date/Time 1500

CONSTRUCTION DETAILS



MATERIALS USED

- 4 Sacks of 10/20 Sand
- ___ Sacks of ___ Cement
- 4 Sacks of Bentonite Pellets
- ___ Sacks of Powdered Bentonite
- ___ Sacks of Grout
- 5 Feet of 2 -inch dia PVC Casing
- 5 Feet of 2 -inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [X] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [X] Agency Well Tag No. BBK 337
- [ ] Top of Casing Ref Pt. = ___

WELL DEVELOPMENT

	Following Well Construction		Following Well Development (Immediately)	
Depth To Water (ft below TOC)	6/16	0.61	6/16	5.43
Total Well Depth (ft below TOC)	6/16	5.78	6/16	5.80

Development Start Date/Time 1100 6/16 Development Stop Date/Time 6/16 1240

Development Method OVERPUMP Development Water Discharged to BAKER TANK

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 50

Additional Remarks TURBIDITY IMPROVED SIGNIFICANTLY; RELATIVELY LOW TURBIDITY @ END

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: MW-23S
Project/Site Name:
Field Professional:
Start Date/Time: 0940
Stop Date/Time: 1020
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	60		0950	1.5	3	0	Y
				/ /							
				/ /							
				/ /							
	4	8		/ /	33		1010	5	6	0.1	Y
				/ /							
				/ /							
				/ /							
	8	12		/ /	50		1005	9	10.5	0	Y
				/ /							
				/ /	33						
	12	14		/ /	33 33						
				/ /							
				/ /							
				/ /							
			NO	VISUAL, ODOR, OR SHEEN DETECTED							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		Asphalt
2"	1.5		Gray to brown sandy fine to coarse gravel, with silt, loose, dry
1.5	6	Clt	gray to chocolate brown silty clay, soft to medium stiff, moist
6	9		tan to organic brown wood chunks, and sawdust sized wood, wet, (w/ <1' layer of gray clay soft, wet)
9	12.5		DK Brown silty fine to medium sand mixed with sawdust sized wood, loose, wet
12.5	14		TAN TO ORANGE WOOD CHUNKS WITH SOME gray clay, soft wet

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

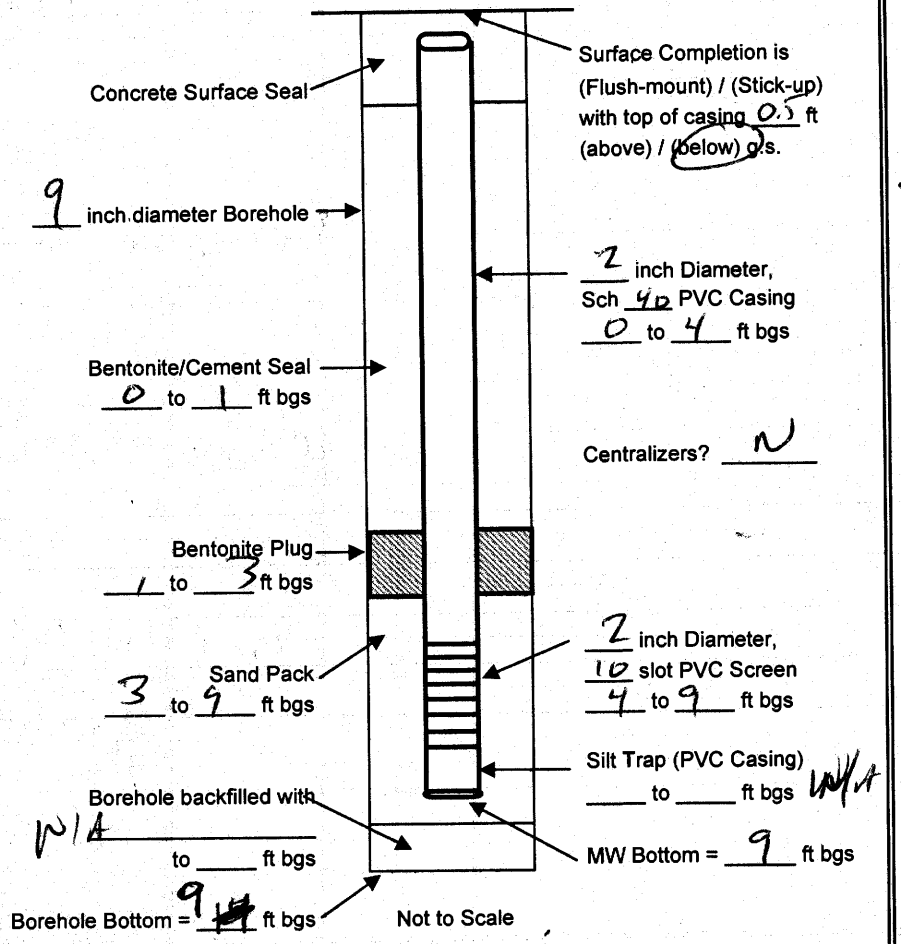
Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 6'9"

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):
DIDN'T COLLECT AS MANY INTERVALS AS ORIGINALLY PLANNED DUE TO LARGE AMOUNT OF COARSE WOOD DEBRIS AND POOR RECOVERY

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW23S Installation Start Date/Time 6/12 1020 Installation Stop Date/Time 1420

CONSTRUCTION DETAILS



MATERIALS USED

- 5 Sacks of 10/20 Sand
- ____ Sacks of ____ Cement
- 1 Sacks of Bentonite Pellets
- ____ Sacks of Powdered Bentonite
- ____ Sacks of Grout
- 5 Feet of 2 -inch dia PVC Casing
- 5 Feet of 2 -inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [X] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [X] Agency Well Tag No. BAF400
- [X] Top of Casing Ref Pt. = N SIDE

WELL DEVELOPMENT

	Following Well Construction 6/16/09	Following Well Development Immediately
Depth To Water (ft below TOC)	(6/12 ~4.5' below TOC) 4.10	7.25
Total Well Depth (ft below TOC)	6/16 8.51	8.51

Development Start Date/Time 0950 6/16/09 Development Stop Date/Time 6/16 1020

Development Method Oil/Pump Development Water Discharged to BAFB TANK

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 4-5

Additional Remarks MW Purged Dry; Turbidity Decreased Slow Recovery, But Still Some Turbidity Remained

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: MW24S
Project/Site Name:
Field Professional:
Start Date/Time: 6/12/09 1130
Stop Date/Time: 1215
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	70						
				/ /							
				/ /			1140	1	2.5	0	(Y)
				/ /							
				/ /			1150	3	4.5	0	(Y)
	4	8		/ /	60						
				/ /			1200	6.5	8	0	(Y)
				/ /							
				/ /			1210	9	10	0.4	(Y)
				/ /							
	8	10		/ /	75						
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /			→ DIFFICULT TO TELL IF DECOMPOSING WOOD				
	SLIGHT SHEEN & ODOR?:						POSSIBLE BLACK STAINING IN 6.5-8				
	NO OTHER VISUAL, ODOR, OR SHEEN DETECTIONS										

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	~~6~~ 6.5		GRAY TO BROWN SANDY FINE TO COARSE GRAVEL, MEDIUM DENSE, DRY TO WET
6.5	8		BLACK LAYER OF SANDY DECOMPOSING WOOD FROM 6.5-8
8	~~10~~ 9		SAME AS EARLIER, WET
9	10	CL	DK BROWN TO BLACK SILTY LEAN CLAY, W/ WOOD DEBRIS, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

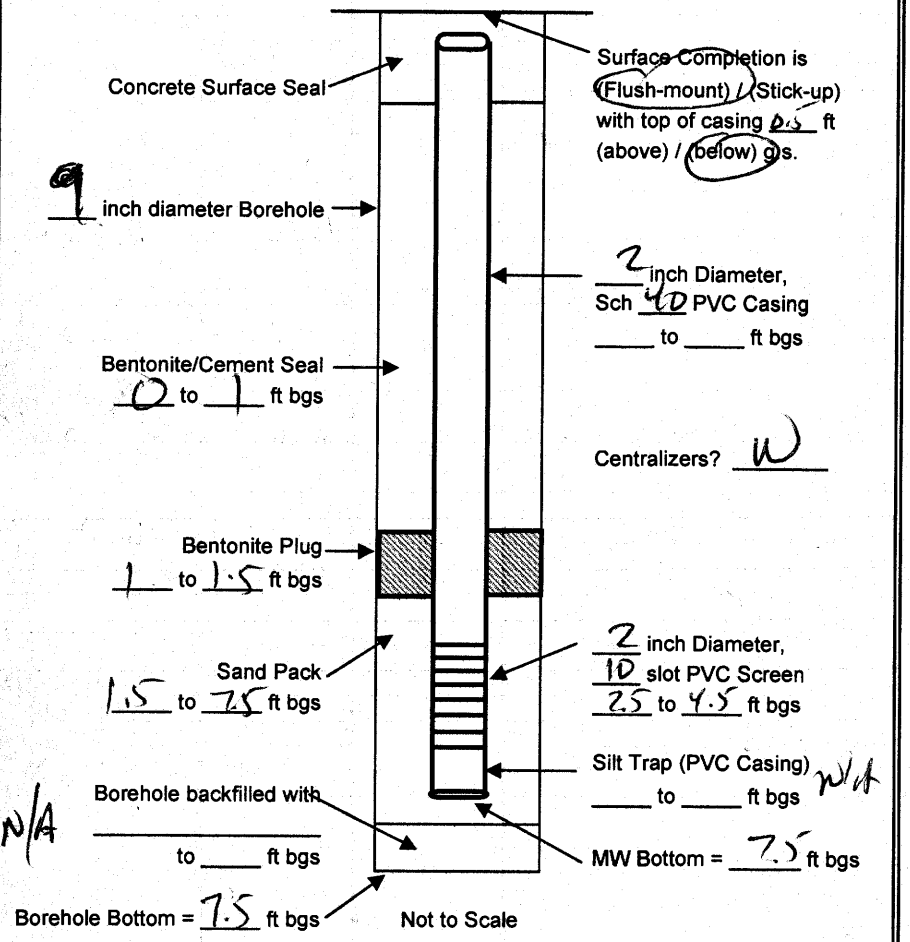
Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~4.5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW215 Installation Start Date/Time 6/2/09 1215 Installation Stop Date/Time 1240 → temporary stop due to retrieval 1440 – 1500

CONSTRUCTION DETAILS



MATERIALS USED

4	Sacks of	10/20	Sand
	Sacks of		Cement
1	Sacks of Bentonite Pellets		
	Sacks of Powdered Bentonite		
	Sacks of Grout		
5	Feet of	2	-inch dia PVC Casing
5	Feet of	2	-inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [x] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [x] Agency Well Tag No. BAF 249
- [x] Top of Casing Ref Pt. = W Side

WELL DEVELOPMENT

	Following Well Construction		Following Well Development
Depth To Water (ft below TOC)	6/16	3.69	3.75
Total Well Depth (ft below TOC)	6/16	7.20	7.25

Development Start Date/Time 1030 Development Stop Date/Time 1055

Development Method DV Pumping Development Water Discharged to BAKER TANK

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 40

Additional Remarks SLIGHT SHEEN ON INITIAL WATER PURGED; TURBIDITY IMPROVED SIGNIFICANTLY SO THAT WATER IS SUFFICIENTLY CLEAR

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: MW-55
Project/Site Name:
Field Professional:
Start Date/Time: 1245
Stop Date/Time: 1330
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	60		1300	1	2.5	0	Y
				/ /							
				/ /			20 lbs → 1310	3.5	5	0.1	Y
				/ /							
				/ /			Primary compressed → 1320	6.5	7.5	0.8	Y
	4	8		/ /	50		w/ 3" stained zone @ ~7' + some soil on ends				
				/ /			1330	10.5 2nd Core →	12	0.1	Y
				/ /							
				/ /			1340	12.5	14	0.2	Y
	8	12		/ /	75						
				/ /							
	12	14		/ /	100						
				/ /							
							VISUAL, SLIGHT odor & SLIGHT SHEEN w/ 7.5' MATERIAL & GW				
							→ NO other visual, odor or sheen evidence				12.5-14
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2.5		GRAY to LT BROWN SANDY FINE TO COARSE GRAVEL, LITTLE SILT, MED DENSE, DRY
2.5	10		DARK GRAY CLAYEY GRAVEL WITH SAND, SOME WOOD CHUNKS, THIN 3" LAYER OF BLACK STAINED SANDY CLAY @ ~7.5', MED DENSE, MOIST TO WET
10	14		DARK BROWN GRAVELLY FINE TO MED SAND, MED DENSE, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

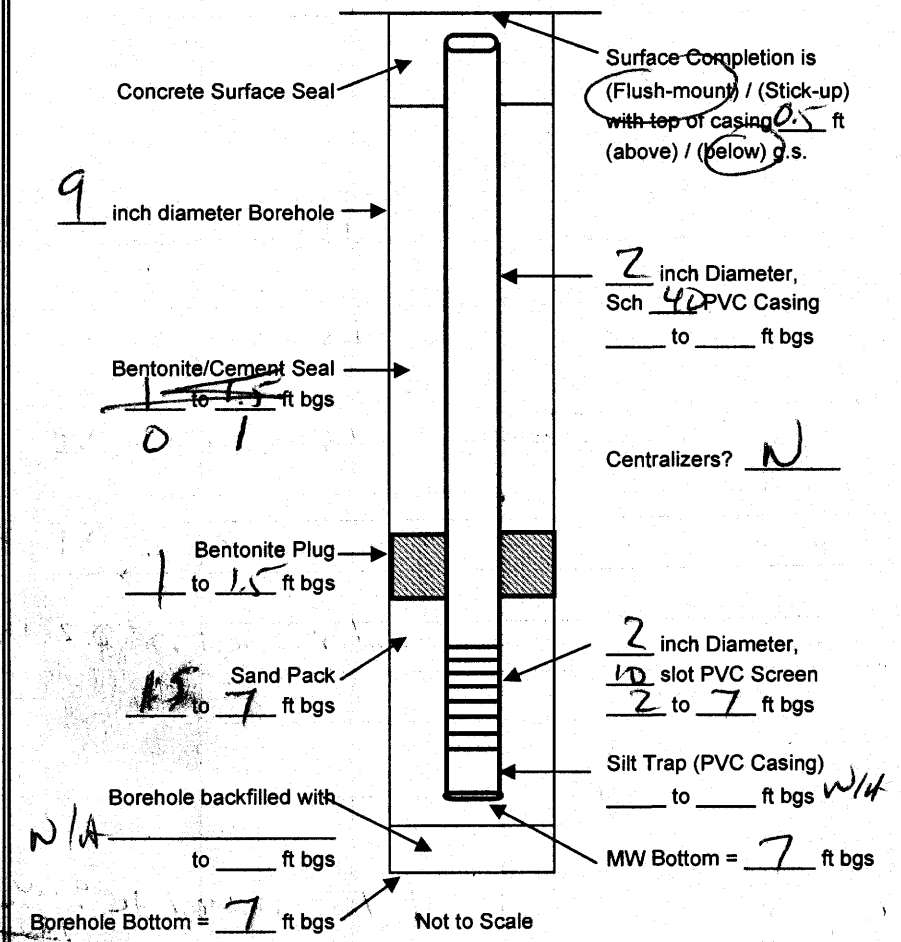
Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~3.5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW25S Installation Start Date/Time 6/12 1330 Installation Stop Date/Time _____

CONSTRUCTION DETAILS



MATERIALS USED

- 4 Sacks of 10/20 Sand
- _____ Sacks of _____ Cement
- 1 Sacks of Bentonite Pellets
- _____ Sacks of Powdered Bentonite
- _____ Sacks of Grout
- _____ Feet of _____ -inch dia PVC Casing
- _____ Feet of _____ -inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [x] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [x] Agency Well Tag No. BBK 331
- [x] Top of Casing Ref Pt. = N S Line

WELL DEVELOPMENT

	Following Well Construction	Following Well Development (2 Hours)
Depth To Water (ft below TOC)	6/16 0.78	6/16 0.80
Total Well Depth (ft below TOC)	6/16 6.29	6/16 6.24

Development Start Date/Time 6/16 1245 Development Stop Date/Time 6/16 1330

Development Method Overpumping Development Water Discharged to Baker Tanks

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 5

Additional Remarks MW Pumped Dry @ ~5 gallons

Field Notes from the Parcel 4/5 Pre-Interim Action Soil Sampling Investigation are Not Available

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DATA GAP INVESTIGATION REGARDING THE SITE BOUNDARY DETERMINATION AND P-1 ANOMALY

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PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: Port of Olympia East Bay Data Gap Site Location: East Bay

Requested By / Date: TDB 09/12/11 Work Scheduled: TBD

SERVICES REQUESTED	COMPLETED
1) Conduct H&S tailgate meeting & complete form	☐ YES ☐ NO
2) Advance and log soil borings DP46 to DP56 (see Table 1, Figure 1, Figure 2)	☐ YES ☐ NO
3) Containerize and select intervals for analysis per Table 1	☐ YES ☐ NO
4) Attempt to remove P-1 anomaly (see Table 1 and Figure 1) if it can be done safely and without damaging infrastructure	☐ YES ☐ NO
5) If removed, haul P-1 anomaly and any associated impacted soil to Weyerhaeuser Regional Landfill for disposal	☐ YES ☐ NO
6) If removed, collect confirmation soil samples from P-1 anomaly excavation (see Table 1)	☐ YES ☐ NO
7) GPS locate all sample locations	☐ YES ☐ NO
8) Take representative photos	☐ YES ☐ NO
9) Communicate target reporting limit expectations to labs	☐ YES ☐ NO
Jack Merrigan 360-259-3577 Bill Helbig 528-8022	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☒ Review Docs: Data Gap WP; PTC HASP	☐ YES ☐ NO	☒ Health & Safety Meeting	☐ YES ☐ NO
☒ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☒ Call PM from Site	☐ YES ☐ NO
☒ Coordinate Access: Port (Alex or Bill Helbig)	☐ YES ☐ NO	☐ Draw Site Map _____	☐ YES ☐ NO
☒ Coordinate Subs: ESN, excavation, disposal	☐ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☐ Purchase / Rent Equip: _____	☐ YES ☐ NO	☐ Potential HW _____	☐ YES ☐ NO
☒ Client/Agency Coordination: Port, City, & Ecology	☐ YES ☐ NO	☐ Non-Haz _____	☐ YES ☐ NO
☐ Calibrate Equipment: _____	☐ YES ☐ NO	☐ Background _____	☐ YES ☐ NO

Discuss concrete coring/repair options/requirements with ESN, Port, and City. Have ESN handle Ecology NOI. Utility locate: (1) Call Before U Dig: 800-553-4344 and (2) coordinate new utilities with Port (Bill Helbig 528-8022) and City. Have Port (and City?) on-site for P-1 anomaly excavation attempt. See Table 2 for IDW handling.

SAMPLING REQUIREMENTS

☐ Field Testing: _____

☒ Lab Testing: PAHs by 8270, TPH-D and TPH-HO by NWTPH-Dx, PCBs by 8082 Laboratory: Anatek - Moscow

☒ Lab Testing: Dioxins/furans by 8290 Laboratory: PACE-Minneapolis

☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

fill decon

☒ Site Map ☒ Camera ☒ Survey Equip / GPS ☐ Vehicle

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☒ Drilling Equip (PID, references, knife, baggies, tape)

☒ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string,PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☐ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☒ Sample Kit / Cooler / COC / Ice Anatek and PACE

☒ IDW: ☐ Drums _____ ☒ 5-gal buckets _____

☒ Other: traffic management plan/signs

☐ Other: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 10/18/11 Site Location: East Bay Redev Site Arrival Time: 7:45 Site Departure Time :

WEATHER
TEMPERATURE
WIND

(Clear Sun)	Overcast	Drizzle	Rain	Snow
To 32	32-50	(50-70)	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

206-523-4045

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Melody Feten	PTC	
Troy Bussey	PTC	
Marty	~~PTC~~ ESN	
Mark	~~PTC~~ ESN	

NOTES ON WORK COMPLETED

followed work plan for DP53 took sample 8:45 7-7.5
8:50 8-9
followed work plan for DP54 took sample 9:25 7-7.5
9:30 8-9
followed work plan for DP55 took sample 9:45 7-7.5
9:50 8-9
followed work plan for DP48 took samples 1050 ~~4.5-6~~ 3-3.5
~~10-15~~ 1100 5-7
1110 11-12
followed work plan for DP49 took samples 4.5-6 1140
1150 10.5-12
1200 14-15
DP50 - see boring log No native lithology was found so no sample was taken
followed work plan for DP56 took samples 1350 1-3
1355 7-8
DP51 - see boring log no native so. I was found so no sample taken 1400 13-14
followed work plan for DP52 took samples 1525 1-3.5
1535 7-10
followed work plan for DP46 ↳ took samples 1545 12-13.5
1605 1-2
*switched the site ID of DP46 + 47 1610 2-3
1615 9-11
followed work plan for DP47 took samples 1630 1-2
1635 6-8
1645 13-14

SIGNATURE: Melody Feten DATE: 10/18/11

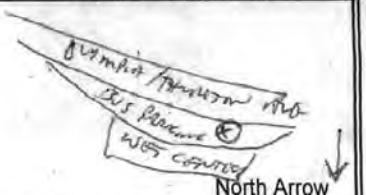
PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

(1)

GENERAL INFORMATION

Boring/MW ID	DP53	Drilling Co.	ESN
Project/Site Name	EAST BAY DATA GAP	Lisc. Driller	MARTY H
Field Professional	TB	Drilling Method	DIRECT-PUSH
Start Date/Time	10/18/11 0805	Drill Rig	TRUCK MOUNT
Stop Date/Time	0840	Drill Bit	NIA

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP.	N/A	80%	NO				N/A	
				1 1			SEE BELOW				
	4	8		1 1	90%	4-7.5'		7	7.5		YES
				1 1							
	8	12		1 1	90%			8	9		YES
				1 1							
	12	15		1 1	80%						
				1 1							
				1 1							
	SAMPLE SELECTION: (1) SELECTED SAME INTERVAL AS DP30 (7-7.5') BECAUSE SIMILAR LITHOLOGY @ 7-7.5'; 7.5-8'										
				(2) I SELECTED INTERVAL IMMEDIATELY BENEATH WOOD DEBRIS							
				DON'T THINK ANY OF SOIL OTHER THAN PERHAPS 14.5' IS NATIVE							
				1 1							
8	14.5		GRAY TO DARK GRAY				SILTY FINE SAND WITH SHELLS AND SOME STEMS OF				
				DARK BROWN			ALMOST DECOMPOSED FINE WOOD DEBRIS, WET @ 11'				
14.5	15		LT GRAY TO LIGHT BROWN				SILTY CLAY, SOFT TO STIFF, MOIST				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

NO VISUAL OR OLFACTORY EVIDENCE OF IMPACT

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		BLACK ASPHALT
2"	18"		GRAY SANDY GRAVEL, DRY {BASE COURSE}
15'	3.5		GRAY TO BROWN SANDY GRAVEL WITH CLAY, DRY TO MOIST {PRE-1987 FILL}
3.5	7		GRAY TO DARK GRAY SILTY FINE SAND WITH SOME STEMS, MOIST TO WET {NATIVE OR DREDGED MATERIAL}
7	7.5		GRAY SILTY CLAY, SOFT, MOIST TO WET
7.5	8		BROWN TO BLACK WOOD DEBRIS SAWDUST SIZED TO BARK SIZED OR LARGER, MOIST

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

(8) SEE ABOVE ~~GRAY TO DARK GRAY~~

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 3'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

(2)

GENERAL INFORMATION

Boring/MW ID: DP54
Project/Site Name: EAST BAY
Field Professional: TB
Start Date/Time: 10/18/11 0900
Stop Date/Time: ↓ 0930
Drilling Co.: ESN
Lisc. Driller: MARTY H
Drilling Method: DP
Drill Rig: TRUCK-mount
Drill Bit: N/A

LOCATION SKETCH

NW corner of parcel

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP	N/A	70%	N	0-2" TOPSOIL			N/A	
				/ /			SEE BELOW				
	4	8		/ /	100%	Y→5'		7	7.5	1	Y
				/ /							
	8	12		/ /	100%			8	9		Y
				/ /							
	12	15	↓	↓ /	50%						
				/ /							
				/ /							
				/ /			· SAMP. INTERVALS SELECTED FOR SAMPLING				
				/ /			AS DP53				
				/ /			· DON'T THINK ANY OF MATERIAL IS NATIVE				
				/ /			DUE TO WOOD DEBRIS. THEREFORE, FOCUSED				
				/ /			ON DEPTH INTERVALS NEAR DP30 EXCEEDANCE (7-7.5')				
				/ /							
				/ /			NO VISUAL OR OLFACTORY EVIDENCE OF IMPACT				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

0-2' TOPSOIL / GRAVEL

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
2'	5'		GRAY TO BROWN GRAVELLY FINE TO MEDIUM SAND WITH SILT, DRY TO MOIST [?PRE-1982 FILL]
5'	7'		LT GRAY TO DARK GRAY SILTY FINE TO MEDIUM SAND WITH OCCASSIONAL COARSE GRAVEL AND SHELL FRGMT
7'	7.5'		GRAY SILTY CLAY, SOFT, MOIST TO WET
7.5'	8'		BROWN TO BLACK WOOD DEBRIS, BARK-SIZED, MOIST
8'	15'		GRAY TO DARK GRAY FINE TO MEDIUM SAND WITH OCCASSIONAL FINE GRAVELS AND DECOMPOSING WOOD STEM @ ~11' AND ½" to 1" thick WOOD chunks @ ~12' & 14'

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	DP55	Drilling Co.	ESN
Project/Site Name	EAST BAY DRAINAGE	Lisc. Driller	MARTY H
Field Professional	AB	Drilling Method	DP
Start Date/Time	10/18/11 0935	Drill Rig	TRUCK-MOUNT
Stop Date/Time	↓ 0955	Drill Bit	N/A

LOCATION SKETCH



North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP 2" Ø 4' long sleeves	N/A	75%	N	0-2" asphalt			N/A	
	4	8			100%	4 @ 4.5'		7	7.5		(4)
	8	12			100%		BROWN SAND 3ST-SIZED TO BASIC-SIZED WOOD DEBRIS @ 11-12', MOIST TO WET	8	9		
	12	15			100%						
						ND	VISUAL OR OLFACTORY EVIDENCE OF IMPACT				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
2"	1'		GRAY TO BROWN SANDY GRAVEL WITH SILT {BASE COURSE/GRAVEL FILL}
1'	4.5'		GRAY GRAVELLY FINE TO MEDIUM SAND WITH SILT, MOIST {PRE-1887 FILL}
4.5'	7'		LT GRAY TO DARK GRAY SILTY FINE TO MEDIUM SAND WITH SHELLS, WET
7	7.5'		GRAY SILTY LEAN CLAY, SOFT, MOIST TO WET
7.5	8'		BROWN TO BLACK WOOD DEBRIS, LAMINATED TO BASIC SIZED, MOIST
8'			GRAY TO DARK GRAY FINE TO MEDIUM SAND WITH ~~CLASSIFIED~~ SHELLS AND OCCASSIONAL GRAVEL

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 4.5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

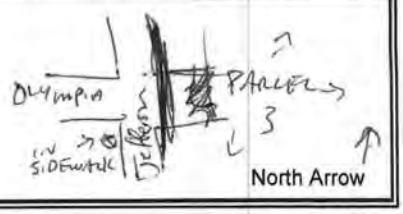
BROWN SAND 3ST-SIZED TO BASIC-SIZED WOOD DEBRIS 11-12' MOIST TO WET

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP4B
Project/Site Name: EAST BAY DATA GAP
Field Professional: TB
Start Date/Time: 10/18/11 1020
Stop Date/Time: 11 1110
Drilling Co.: ESN
Lisc. Driller: MARTY H
Drilling Method: DP
Drill Rig: TRUCK-MOUNT
Drill Bit: N/A

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP 4', 2" ϕ sleeve	N/A	60%		0-3" SIDEWALK	3	35	n/a	Y
				/ /			SEE BELOW				
	4	8		/ /	60%	4 ⇒ 4.5		5	7		Y
				/ /							
	8	12		/ /	100%			11	12		Y
				/ /							
	12	15		/ /	100%						
				/ /							
				/ /			SAMPLE SELECTION:				
				/ /		(1)	ZONE NEAR 2' WHERE DP37 SILTY SAND NOTED IN CLAY				
				/ /		(2)	~~OTHER~~ PICKED TWO OTHER LITHOLOGIES ENCOUNTERED (ONE SAMPLE FROM ~~THE~~ EACH OF THE 4 SAND 4 LEAN CLAY				
				/ /							
		ND	VISUAL	NF / OLFACTORY			EVIDENCE OF IMPACT				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
3"	2.5'		GRAY TO BROWN SILTY FINE TO MEDIUM GRAVEL WITH FINE SAND, DRY [BASE COURSE]
2.5'	3		GRAY SILTY FINE TO MEDIUM SAND, WET
3	3.75'		GRAY TO BROWN SILTY LEAN CLAY (SOFT TO MEDIUM STIFF), WITH WOOD DEBRIS CHUNKS, MOIST
3.75'	11		GRAY TO BROWN SILTY FINE TO MEDIUM SAND WITH ~~SHELL~~ OCCASIONAL SHELLS; FINE TO COARSE GRAVEL, WET
11	12		GRAY SILTY LEAN CLAY, SOFT, MOIST
12	15		GRAY ~~SILTY~~ GRAVELLY FINE TO MEDIUM SAND WITH SILT, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~ 4.5'

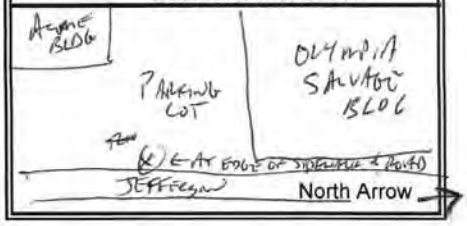
Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID	DP-49	Drilling Co.	ESN
Project/Site Name	FORT BAY DOCK GAP	Lisc. Driller	MARTY H
Field Professional	DB	Drilling Method	DP
Start Date/Time	10/18/11 1120	Drill Rig	TRUCK-MOUNT
Stop Date/Time	↓	Drill Bit	N/A

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP	N/A	40%	4 → 3.5'	0-3' LOOSE SILT/GRAVEL			N/A	
			↓	/ /			SEE BELOW				
	4	8		/ /	80%		↓	4.5	6		4
				/ /							
	8	12		/ /	100%			10.5	12		4
				/ /				14	15		4
	12	15		/ /	100%						
				/ /							
				/ /							
				/ /			SAMPLE SELECTION:				
				/ /	(1)		4.5-6' SAMPLED SAME IN DEPTH & LITHOLOGY AS DP38 OVERBURDEN				
				/ /	(2)		SAMPLED ON EITHER SIDE OF WOOD DEBRIS				
				/ /	(3)		POOR RECOVERY FROM 0-4' AND AN OF SLEEVE WAS GRAVEL → SO NO SHALLOW SAMPLE & SAMPLED 14-15' INSTEAD				
				/ /							
				/ /							
		ND	VISUAL	AND OLFACTORY	EVIDENCE OF IMPACTS						

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
3"	4.5'		WHITISH GRAY TO BROWN SANDY GRAVEL WITH SILT, DRY TO WET LOOSE
4.5'	6'		DARK GRAY CLAYEY FINE SAND WITH OCCASSIONAL WOOD DEBRIS, WET
6'	9'/10'		DARK BROWN SHREDDED WOOD DEBRIS WITH OCCASSIONAL GRAY CLAYEY FINE SAND, MOIST TO WET
10'	15		GRAY GRAVELLY FINE TO MEDIUM SAND WITH BROWNISH FINES, MOIST TO WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 3.5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

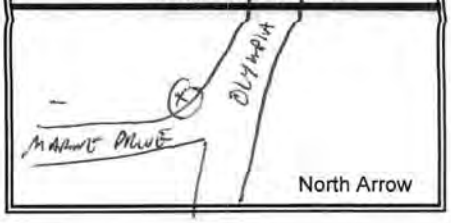
PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

4

GENERAL INFORMATION

Boring/MW ID	DP5D	Drilling Co.	ESN
Project/Site Name	EAST BAY DRAIN GAP	Lisc. Driller	MARTY H
Field Professional	TB	Drilling Method	DP
Start Date/Time	10/18/11 1220	Drill Rig	TRUCK-MOUNT
Stop Date/Time	" 1315	Drill Bit	N/A

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP	N/A	100%	75% N	0-4" BARK & TOPSOIL				
				" "		25%					
	4	8		" "	80%	N					
				" "		50%					
	8	12		" "	25%	4	10'				
				" "							
	12	15		" "	60%/60%	4					
				" "							
				" "							
				" "							
				" "							
				" "			RATIONALE FOR NOT SAMPLING → TOOL PICTURE				
				" "			1) WITH EXCEPTION OF SMALL WOOD LAYER (WHICH COULD BE INTERMIXED NEAR BOTTOM OF 1982 FILL), NO INDICATION OF NATIVE MATERIAL OR CLAY OR SILTY				
				" "			2) NO PRE-1982 FILL ENCOUNTERED				
				" "			3) GRAVEL BELOW 11' WAS EVEN MORE PROBLEMATIC THAN 4)				
				" "			4) NO SOIL <10 mm IN EITHER SLEEVE TO SAMPLE				
				" "			DID 2nd SIDE-BY-SIDE BORING TO VERIFY LITHOLOGY				
				" "			NO VISUAL OR ODOR EVIDENCE OF IMPACT				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	4"		BARK & TOPSOIL
4"	11'		GRAY TO BROWN (FINE) SILTY GRAVEL WITH FINE AND MEDIUM SAND, LOOSE TO MEDIUM DENSE, MOIST TO WET [1982 FILL] DAMP @ ~10'
11'	15'		CLEAN FINE TO MEDIUM GRAVEL AND COARSE SAND WITH FEW FINES, 1" Layer of WOOD @ ~12' & ~15', WET [1982 FILL]
			PIEZO W/ WOOD STUCK UP AT AN ANGLE? 12' IN ONE BORING & 15' IN OTHER BORING

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

(

Groundwater Encountered (e.g., time, depth, quantity, casing position):

~~GRAB~~ GW @ 10'

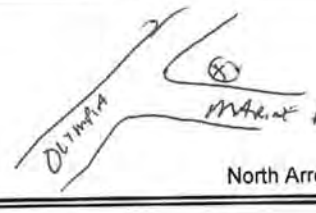
Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DPS6
Project/Site Name: EAST BAY DRY GAS
Field Professional: TB
Start Date/Time: 10/13/11 1330
Stop Date/Time: ↓ 1350
Drilling Co.: ESN
Lisc. Driller: MARTY H
Drilling Method: DP
Drill Rig: TRUCK MOUNT
Drill Bit: N/A

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP	N/A	75	N		1	3		
				" "							
	4	8		" "	75			7	8		
				" "							
	8	12		" "	100	9'					
				" "							
	12	15		" "	60%			13	14		
				" "							
				" "							
				" "							
				" "							
				" "							
				" "							
				" "							
				" "							
				" "							
				" "			NO VISUAL OR ODOR EVIDENCE OF IMPACT				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	6"		GRASS ROOTS AND BROWN LOAMY TOPSOIL
6"	5.5'		BROWN TO LIGHT SANDY GRAVEL ~~GRAVELLY SAND~~ WITH SILT, DRY TO MOIST (DOESN'T LOOK THE SAME AS 1982 GRAVEL OR SEEM AS NOT AS MANY GRAVELS OR AS LIGHT AS DP50, DP40 and other locations but difficult to tell for sure)
5.5'	~~8~~ 13'		BROWNISH GRAY SILTY FINE SAND, GRADING SLIGHTLY COARSER WITH DEPTH, MOIST TO WET, INCREASING SHELLS AT DEPTH
~~8~~	~~15~~		~~INTERBEDDED OF LIGHT GRAY SILTY FINE SAND~~
13	15		MIXTURE OF GRAY SILTY FINE SAND AND GRAY LEAN SILTY CLAY WITH WOOD DEBRIS SEAMS, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 9'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

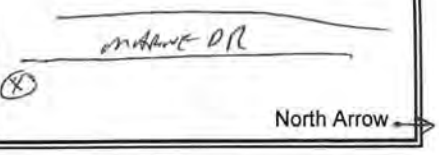
PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM



GENERAL INFORMATION

Boring/MW ID	DP51	Drilling Co.	ESN
Project/Site Name	~~EAST BAY~~ ~~BASA GAP~~	Lisc. Driller	MARTY H
Field Professional	TB	Drilling Method	DP
Start Date/Time	10/18/11 1410	Drill Rig	TRUCK-MOUNT
Stop Date/Time	↓ 1500	Drill Bit	N/A

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP	N/A	50/60	N					
				/ /							
	4	8		/ /	60/60	N					
				/ /							
	8	12		/ /	50	~~N~~ 9'					
				/ /							
	12	15		/ /	5%/50%						
				/ /							
		~~DRY~~		1 1							
		• ONLY RECOVERY ON 1ST BORING					WITH COUPLE PIECES				
				OF COARSE GRAVEL							
		• DRILLER INDICATED SIGNIFICANT					• NO SAMPLES COLLECTED				
		GRAVEL 12-15'					SINCE 1982 FILL				
		• DID REMAIN SLOPPY SIDE BORING					EXTENDED TO 15'				
		TO CONFIRM LITHOLOGY					• TOOK PICTURE OF LITHOLOGY				
				/ /			• NO VISUAL OR ODOR EVIDENCE OF IMPACT				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	6"		BLACK AND BROWN LOAMY TOPSOIL
6"	15'		LT GRAY TO BROWN (FINES) SILTY GRAVEL WITH FINE TO MEDIUM SAND, DRY TO (NOT BROWN GW)

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

GW @ ~~10~~ 9'

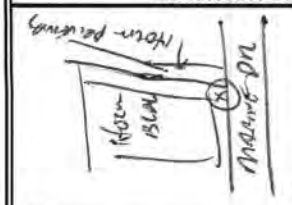
Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID	DP52	Drilling Co.	ESN
Project/Site Name	EAST BAY DRY GAS	Lisc. Driller	MARTY H
Field Professional	KB	Drilling Method	DP
Start Date/Time	10/19/11 1515	Drill Rig	TRUCK-mount
Stop Date/Time	↓ 1535	Drill Bit	NA

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP	N/A	80%	N		1	3.5	N/A	Y
	4	8			50			7	10		Y
	8	12			60						
	12	15			100			12	13.5		Y
							SAMPLE SELECTION:				
							(1) COLLECTED SAMPLE AT SIMILAR INTERVAL AS DP26 & MW1 (				
							(2) COLLECTED TOP & BOTTOM OF NEXT LITHOLOGIC UNIT (ABOVE LOOSE DEBRIS)				
							NO VISUAL OR ODOR EVIDENCE OF IMPACT				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	6"		GRASS ROOTS AND BROWN LOAMY TOPSOIL
6"	6'		GRAY TO BROWN (FINES) SILTY FINE TO COARSE GRAVEL, DRY TO MOIST
6'	13.5'		MIXTURE OF BROWN GRAVELLY SAND AND BROWN SANDY LEAN CLAY (NO DISTINCT LITHOLOGY), MOIST TO WET
13.5'	15'		REDDISH BROWN BARK-SIZED WOOD DEBRIS, DECOMPOSING, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

GW @ 8'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

SHOWN AS DP47 ON FIGURE → SWITCHED NAMES

GENERAL INFORMATION

Boring/MW ID	DP46	Drilling Co.	EGW
Project/Site Name	EAST BAY DRYCLEANER	Lisc. Driller	MARTY H
Field Professional	TB	Drilling Method	DP
Start Date/Time	12/6/11 1550	Drill Rig	TRUCK-MOUNT
Stop Date/Time	↓ 1610	Drill Bit	WL

LOCATION SKETCH



North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP	N/A	90			1	2	N/A	Y
			↓	/ /				2	3	↓	Y
	4	8		/ /	90						
				/ /							
	8	12		/ /	100			9	11		Y
				/ /							
	12	15		/ /	90						
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /			SAMPLE SELECTION				
				/ /			(1) SAMPLED 2 INTERVALS ABOVE PREVIOUS EVIDENCE				
				/ /			(3) SAMPLED NEAR BOTTOM OF FINE SAND INTERVAL, ABOVE WOOD DEBRIS				
				/ /							
				/ /			NO USUAL OR MORE EVIDENCE OF IMPACT				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	6"		ASPHALT AND GRAVELLY BASE COURSE, DRY
6"	2'		DARK GRAY SILTY FINE SAND WITH OCCASSIONAL GRAVEL, MEDIUM DENSE, DRY TO MOIST
2'	3'		DARK GRAY SANDY CLAY, STIFF, MOIST
3'	13'		DARK GRAY SILTY FINE SAND, WITH SHELLS AND OCCASSIONAL FINE TO MEDIUM GRAVEL, MOIST TO WET
13'	15'		REDDISH BROWN WOOD DEBRIS, BARK SIZED WITH SOME GRAY SILT CLAY, MOIST TO LOOS

AND SOME ROOTLIKE STUFF

SILTY CLAY SEAMS

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

GW @ 6'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

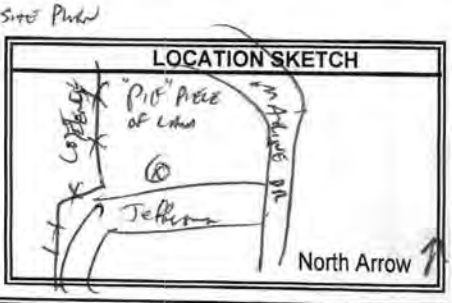
PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

SWITCHED LOCATIONS ON MAP → THIS IS LOCATION W/ DP46 ON SITE PLAN

GENERAL INFORMATION

Boring/MW ID	DP47	Drilling Co.	ESN
Project/Site Name	EAST BAY DROP BAR	Lisc. Driller	MARTY H
Field Professional	MB	Drilling Method	DP
Start Date/Time	10/13/11 1025	Drill Rig	TRUCK-MOUNT
Stop Date/Time	↓	Drill Bit	

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4	DP	N/A	75			1	2	N/A	
	4	8			90			6	8		
	8	12			90						
	12	15			100%			13	14		
							SAMPLE SELECTION:				
							(1) INTERVALS SIMILAR TO MW20 : MW21S EXCLUDED				
							(2) WHICH ADDRESS 1ST TWO INTERVALS				
							(2) SAMPLE FROM BOTTOM INTERVAL				
						NO	VISUAL OR ODOR EVIDENCE OF IMPACT				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	3"		ASPHALT AND GRAVEL BASE COURSE
3"	5'		GRAY TO BROWN SILTY GRAVEL WITH SAND AND OCCASSIONAL CLAY AND WOOD DEBRIS, DRY TO MOIST
5'	12.5'		DARK GRAY SILTY FINE SAND WITH SHELLS WITH CLAY SEAMS, MOIST TO WET
12.5'	15'		DARK BROWN SILTY LEAN CLAY WITH ~~FINE WOOD~~ FINELY SHREDDED WOOD DEBRIS, MOIST

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

GW @ 6'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: Port of Olympia East Bay Data Gap Site Location: East Bay

Requested By / Date: TDB 02/09/2012 Work Scheduled: 02/09/2012

SERVICES REQUESTED — **COMPLETED**

1) Conduct H&S tailgate meeting & complete form	☒ YES ☐ NO
2) Attempt to remove P-1 anomaly (see Table 1 and Figure 1) if it can be done safely and without damaging infrastructure	☒ YES ☐ NO
3) Pump out groundwater from excavation during removal	☒ YES ☐ NO
4) If removed, collect confirmation soil samples from P-1 anomaly excavation (see Table 1) and stockpiled soil	☒ YES ☐ NO
5) If removed, haul P-1 anomaly and any associated impacted soil to Weyerhaeuser Regional Landfill for disposal	☒ YES ☐ NO
6) GPS locate all sample locations	☒ YES ☐ NO
7) Put barricade around excavation	☒ YES ☐ NO
8) Allow groundwater removed from excavation to settle and discharge to LOTT (Steve 753-8739), sample if needed per Ken Butti	☒ YES ☐ NO
9) Take representative photos	☒ YES ☐ NO
10) Communicate target reporting limit expectations to labs	☒ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS

	COMPLETED		COMPLETED
☒ Review Docs: Data Gap WP; PTC HASP	☒ YES ☐ NO	☒ Health & Safety Meeting	☒ YES ☐ NO
☒ Agency NOI / Utility Locate / Concrete Coring	☒ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☒ Coordinate Access: Port (Jack Merrigan)	☒ YES ☐ NO	☐ Draw Site Map _____	☐ YES ☐ NO
☒ Coordinate Subs: Stemen Environmental	☒ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☐ Purchase / Rent Equip: _____	☐ YES ☐ NO	☐ Potential HW _____	☐ YES ☐ NO
☒ Client/Agency Coordination: Port, City, & Ecology	☒ YES ☐ NO	☒ Non-Haz _____	☒ YES ☐ NO
☐ Calibrate Equipment: _____	☐ YES ☐ NO	☐ Background _____	☐ YES ☐ NO

People on-site Melody Feden, Troy Bussey, Paul Stemen, Steve Teel, Alex Smith, Jack Merrigan, and Ken Witt

SAMPLING REQUIREMENTS

☐ Field Testing: _____

☒ Lab Testing: PAHs by 8270, TPH-D and TPH-HO by NWTPH-Dx, PCBs by 8082 Laboratory: Anatek - Moscow

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

☐ Site Map ☒ Camera ☒ Survey Equip / GPS ☐ Vehicle

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☒ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string,PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☐ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☒ Sample Kit / Cooler / COC / Ice Anatek

☒ IDW: ☐ Drums _____ ☒ 5-gal buckets _____

☐ Other: _____

☐ Other: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 2/9 - 2/21 Site Location: East Bay Reder Site Arrival Time: 8:00 Site Departure Time :

WEATHER	Clear Sun	(Overcast)	(Drizzle)	(Rain)	Snow
TEMPERATURE	To 32	(32-50)	50-70	70-85	85 Up
WIND	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Melody Feden	PTC	
Troy Bussey	PTC	
Paul Stemen	Stemen	
Doug Pettapierce	Stemen	
Kevin Witt	City of Oly	
Steve Teel	DOE	
Jack Murrigan	Port of Oly	

NOTES ON WORK COMPLETED

2/9/2012 8:00 Set up around excavation
9.00 began excavation, quickly found P-1 anomoly it was attached to and surrounded by large chunks of concrete There was a noticable sheen on soil and ground water. Ground water was encountered at 3' bgs. After concrete was broken up the anomoly was remeved do not know what it is.
Because of sheen decided to dispose of Stockpile.
10:45 sampled Stockpile 5 point compos.ite
12:00 pumped the water out, ~~the~~ scooped the bottom and cleaned up sides. Pumped water again and took the following samples:

@ 1400 P-1-W_02092012_2.5
1415 P-1-S_02092012_3
1430 P-1-E_02092012_2.5
1445 P-1_N_02092012_3
1500 P-1-B_02092012_7

Bottom sample was taken after pumping and scooping some scoops into the stockpile then sampling.
Ken Butti said that no water sampling needed just add absorbent pads to water then discharge. 4:00 left site after securing hole
2/10/12 Returned to site after night of heavy rain to hole filled with water with product on top. Used absorbant pads & pumped & filled alternately. Pumped all water & filled hole. (see photos for material)

SIGNATURE:_____ DATE:_____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date:_____ Site Location: _____ Site Arrival Time: _____ Site Departure Time :_____

WEATHER	Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	70-85	85 Up
WIND	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

NOTES ON WORK COMPLETED

2/16 After several days of allowing absorbant pads to soak up the sheen on top of the water being stored in the baker tank, water was discharged to LOTT from a man hole in the sidewalk ~~where~~ at the intersection of Olympia Avenue and Jefferson. One load of the stockpile was hauled to the Weyerhauser landfill in Longview.

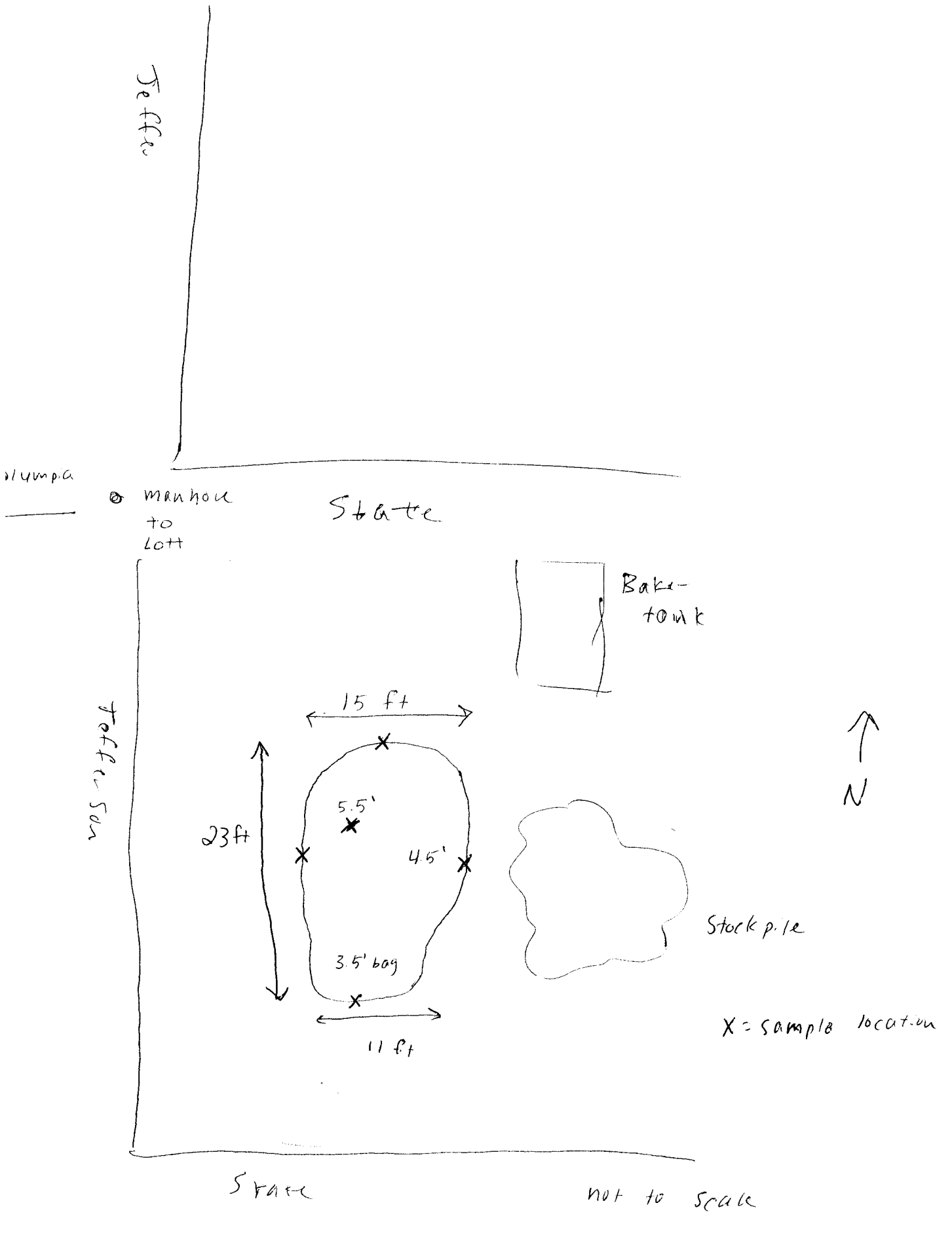
2/17 Remaining stockpile and anomaly were hauled off-site

2/20 all ~~water~~ remaining water was discharged

2/21 ~~Tank out~~ Baker tank used to store water was cleaned

See sketch of excavation on back

SIGNATURE: Melody Sun DATE: 2/21/2012


Jefferson
Olympia
manhole to Lott
State
Bake-tank
15 ft
23ft
5.5'
4.5'
3.5' bag
11 ft
Stockpile
N
X = sample location
State
not to scale

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DATA GAP INVESTIGATION REGARDING THE SOIL-TO-INDOOR AIR PATHWAY

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do AA + EB AT SAME

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

eg. upwind (with AA sample)

Project/Task Name: East Bay RI Data Gap (Soil-to-Indoor Air) Site Location: East Bay, Olympia

Requested By / Date: TDB / 05/05/13 Work Scheduled: 5/7/13 (& 5/8/13 if necessary)

SERVICES REQUESTED	COMPLETED
1. Prior to mob, (a) gather SVP installation, leak test, purging, and sampling equipment (see work plan), (b) verify all canisters > 25" Hg, and (c) prepare wind rose	☑ YES ☐ NO
2. Verify rain criterion in work plan is satisfied before beginning work. If has rained or is raining, call Troy to discuss before canceling driller since weather has been warm and dry	☑ YES ☐ NO
3. Ensure all applicable HASP forms are completed	☑ YES ☐ NO
4. Drill SVPs per work plan and allow to equilibrate for 60 minutes (ideally drill 2nd SVP while 1st SVP equilibrates)	☑ YES ☐ NO
5. Leak test (both static & helium tracer), purge, and sample soil gas in SVP-1 and SVP-2 per work plan	☑ YES ☐ NO
6. Field QC samples for soil gas = 1 duplicate and 1 equipment blank (see work plan)	☑ YES ☐ NO
7. Collect 1 upwind ambient air sample as synoptically as possible with one of SVP soil gas samples	☑ YES ☐ NO
8. After soil gas sampling is complete, drill soil boring offset ~ 2 feet from each SVP and sample soil per work plan	☑ YES ☐ NO
9. GPS actual boring locations for soil gas, ambient air, and soil samples	☑ YES ☐ NO
10. ESN to decommission all soil borings at the end of the job	☑ YES ☐ NO
11. Complete daily field notes, take representative photos, and note deviations from Work Plan	☑ YES ☐ NO
12. Use PIONEER Sample ID nomenclature for all samples	☑ YES ☐ NO
13. After shipping samples, communicate reporting limit and PIONEER EDD expectations to labs	☑ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☒ Review Docs: Work Plan	☑ YES ☐ NO	☒ Daily Health & Safety Meeting	☐ YES ☐ NO
☒ Agency NOI / Utility Locate / Concrete Coring	☑ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☒ Coordinate Access: Jack Merrigan/Mortensen	☑ YES ☐ NO	☐ Draw Site Map	☐ YES ☐ NO
☒ Coordinate w/ Sub: ESN	☑ YES ☐ NO	☒ Cuttings / Decon Water	
☒ Obtain Equip: SG sampling supplies	☑ YES ☐ NO	☐ Drum	☐ YES ☐ NO
☒ Client/Agency Coordination: Port/Ecology	☒ YES ☐ NO	☐ Sample	☐ YES ☐ NO
☒ Calibrate Equipment: Helium meters as necessary	☑ YES ☐ NO	☒ Discharge near boring	☐ YES ☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: 2 soil for TPH-G by NWTPH-G and site-specific list by SW846-8260B — Laboratory: Anatek-Moscow (Std TAT)

☒ Lab Testing: 4 SG (2 primary + 2 field QC) and 1 AA for site-specific list by TO-15 — Laboratory: Air Toxics (Std TAT)

☒ Lab Testing: Analyze all 4 SG and 1 AA samples for other analytes by ASTM D1946 — Laboratory: Air Toxics (Std TAT)

FIELD SUPPLIES NEEDED

☒ Site Map ☒ Camera ☒ Survey Equip / GPS ☒ Vehicle

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☒ Drilling Equip (PID, references, knife, baggies, tape)

☒ Soil Equip (SS bowls, spoon, shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☐ Water Level Indicator / Interface Probe

☐ Water Quality Meter ☐ Field Test Kits

☒ Sample Kits / Cooler / COC / Ice

☐ IDW: ☐ Drums ☐ 5-gal buckets

☒ Other: variety of SG sampling equipment

☐ Other:

PIONEER
DAILY FIELD REPORT

Date: 5/7/2013 Site Location: EB REDEV. SITE Site Arrival Time: 7:00 Site Departure Time :

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	7-10mph Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

360 524 7473

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
STACY MUNSON	PTC	7:15
CHRISTOPHER MALCOLM	PTC	7:15
MARTY	ESN	7:00

NOTES ON WORK COMPLETED

7:15 - met driller, Jack + Barry (PORT) on-SITE
7:30 - Tailgate Safety meeting
7:45 - begin set up for PRT system at SVP 2

SVP-2
- 33728 / 33655 Summa canisters
↳ Primary ↳ DUP

SG-DUP - SG-SVP2-SG-050713-(01) SG-SVP-2SG-050713-(01)
SG 1° - SG-SVP2-SG-050713 SG-SVP-2SG-050713
SO - SO-SVP2-SO-050713 SO-SVP-2SO-050713

EQUIL PRT START : 8:13 am SAMPLE START : 9:13 am

8:15 - encountered GW at 5.5'
∴ move location SEast ; TB say to measure where GW is then have to be above 6" - If 3.5' <, then call Tony

8:40 - shut in test performed ; PASSED
8:40 - moved location S/SE to checked for GW Depth
∴ GW at 2'-3'.

8:45 - move location closer to OG spot
∴ GW AT 4'

9:10 - move to close NE of OG spot
∴ GW AT 4'

∴ Decide to sample close to OG spot
- packed PRT TO 3' ; pull to 2.5'

TK TB - Ed/Kel to SE about 4' w/ GW depth and backed up above capillary fringe.
Would if location of fringe
∴ packed to 3-2.5'

SIGNATURE: DATE:



SO - 3-5

10:15

- set up SVP-1
- test at new GW is ~4.5', not loc
- Fill material ↑ capillary fringe
- test at GW - Depth: 4.5' @ at loc.

∴ Sample at OL spot, 3.75 - 3.25

SG-SVP1SG-050713

SG-SVP-1SG-050713-(01)

SO-SVP-1SG-~~050713~~ 3-5

Sample #'s

SG-SVP-1SG-050713-~~3.75~~ 3.25 - 3.75

~~SG-SVP-1SG-050713-3.25-3.75-(01)~~

SO-SVP-1SO-050713-3-5

SG-SVP-2SG-050713-2.5-3.0

SG-SVP-2SG-050713-2.5-3.0-(01)

SO-SVP-2SO-050713-4-6

PIONEER
DAILY FIELD REPORT

Date: 5/7/2013 Site Location: _____ Site Arrival Time: _____ Site Departure Time: _____

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

NOTES ON WORK COMPLETED

11:45 - SVP-2 sampling

LOCATION	CAN #	Initial Vac (Hg)	Passed Shut In Test?	LEAK TEST?	Soil Purged?	Sample Time	STOP Time	Final Vacuum PSI
SVP-2	33728	29.0	Y	Y	Y	12:13	12:25	4.0
SVP-2 DUP	33655	30.0	Y	Y	Y	12:13	12:25	4.0
SVP 1	36506	30.0	Y	Y	Y	1:04	1:10	4.0
AA 1	2100	30.0	N/A	N/A	N/A	1:50	1:57	4.0
EB 1	34638	30.0	N/A	N/A	N/A	1:50	1:58	4.0

LOCATION	Elapsed Time (min)	Shroud ppm	Sample Port Conc (ppm)	
SVP-2	5 min	105000	0	
~~SVP-2~~	~~10~~	~~108000~~	~~0~~	
SVP-2	10	108000	0	small study ↓ in Vac press
~~SVP-2~~	~~12 min~~	~~107000~~	~~150~~	~~150~~
SVP-2	15 min	104000	250	
SVP-1	3 min	115000	50	
SVP-1	5 min	126000	275	
SVP-1	7 min	124000	600	
SVP-1	9 min	122600	925	
SVP-1	10 min	121000	1100	

1:30 - SVP1 SO sample collected 5-5' 80% recovery

1:45 - SVP2 SO sample collected 4-6' 100% recovery

SIGNATURE: _____ DATE: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	SUP-1	Drilling Co.	ESN
Project/Site Name	[illegible]	Lisc. Driller	
Field Professional	GM/SS	Drilling Method	DP
Start Date/Time	10/5/15	Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	1		/ /	80%		NO RECOVERY				
	1	2		/ /			GREY SAND w. GRAVEL				
	2	5.5		/ /			GREY SAND w. LITTLE CLAY				
	5.5	6.0		/ /			~~WOOD~~ BROWN WOOD				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
~4.5

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	SUP-2	Drilling Co.	ESN
Project/Site Name	EB	Lisc. Driller	
Field Professional		Drilling Method	DP
Start Date/Time	1145 hr 5/7/13	Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	1		/ /	100		GREY SAND + GRAVEL				
	1	3		/ /			DARK BROWN SAND w. WOOD				
	3	4		/ /			BROWN SAND WITH GRAVEL				
	4	5		/ /			DARK BROWN SAND w. SOME WOOD				
	5	6		/ /			BROWN-GREY SAND w. GRAVEL				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /			Driller noted STRONG ODOR AT 4-6' end				
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
~4'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

DATA GAP INVESTIGATION REGARDING POC GWM (SEPTEMBER 2014 DRILLING/SOIL SAMPLING)

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PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Task Name: East Bay POC GWM Drilling-Related Fieldwork Site Location: East Bay, Olympia

Requested By / Date: TDB / 9/17/14 Work Scheduled: 9/22/14 – 9/23/14

SERVICES REQUESTED	COMPLETED
1. Office/field prep tasks: (a) ensure all applicable pre-mob HASP forms are completed, (b) gather tide info, (c) conduct tailgate & document, (d) communicate decon & site control expectations, (e) implement traffic control plan	☑ YES ☐ NO
2. Log and install MW26 and MW27 per work plan	☑ YES ☐ NO
3. Log DP57 & DP58; collect 2 soil samples from DP57 & 1 from DP58; 5035 for VPH/BTEX; 1 trip blank (see WP)	☑ YES ☐ NO
4. GPS actual boring locations for DP57 and DP58	☑ YES ☐ NO
5. Oversee ESN decommissioning of MW24S	☑ YES ☐ NO
6. Develop MW26 and MW27 to meet turbidity standard in Work Plan	☑ YES ☐ NO
7. Ensure all existing MWs are accessible & uncovered; coordinate with ESM as necessary re: survey	☐ YES ☐ NO
8. Waste Mgmt: (a) Use 16-gal and/or partially full 55-gal drums, (b) ensure ESN brings drums & dolly, (c) label drums, (d) store in secure location, (e) ensure Port has containment for liquid drums, (f) no samples needed for Stericycle based on past data, (g) coordinate with Stericycle as necessary for pickup	☑ YES ☐ NO
9. Complete daily field notes, take representative photos, and note deviations from Work Plan	☑ YES ☐ NO
10. Use PIONEER Sample ID nomenclature for all samples per Work Plan	☑ YES ☐ NO
11. After shipping samples, communicate to lab re: (a) NWTPH-HCID before , (b) target RLs, (c) PIONEER EDD	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED
☒ Review Docs: Work Plan, HASP	☑ YES ☐ NO		☒ Daily Health & Safety Meeting	☑ YES ☐ NO
☒ Agency NOI / Utility Locate / Concrete Coring	☑ YES ☐ NO		☐ Call PM from Site	☐ YES ☐ NO
☒ Coordinate Access: Jack Merrigan	☒ YES ☐ NO		☐ Draw Site Map _____	☐ YES ☐ NO
☒ Coordinate w/ Sub: ESN re; combo rig & IDW	☑ YES ☐ NO		☒ Cuttings / Decon Water	
☒ Rent Equip: Traffic control, turbidity meter	☑ YES ☐ NO		☒ Drum Non-haz	☑ YES ☐ NO
☒ Client/Agency Coordination: Port/Ecology	☒ YES ☐ NO		☐ Sample _____	☐ YES ☐ NO
☒ Calibrate Equipment: Turbidity meter	☑ YES ☐ NO		☐ Discharge near boring _____	☐ YES ☐ NO

SAMPLING REQUIREMENTS

☒ Field Testing: Turbidity of development water per Work Plan

☒ Lab Testing: 3 soil for NWTPH-HCID (then NWTPH-Dx), VPH, EPH, BTEX, and PAHs Laboratory: Anatek-Moscow (Std TAT)

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

OTHER FIELD SUPPLIES NEEDED

☒ Site Map ☒ Camera ☒ Survey Equip / GPS ☒ Van

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☒ Drilling Equip (PID, references, knife, baggies, tape) ← TB →

☒ Soil Equip (SS bowls, spoon, shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☒ Sample Kits / Cooler / COC / Ice

☒ IDW: ☒ Drums _____ ☐ 5-gal buckets _____

☐ Other: _____

☐ Other: _____

Ask Kym is about drums + carry.

PIONEER
DAILY FIELD REPORT

Date: 9/22/2014 Site Location: EAST BAY Site Arrival Time: 7:30 Site Departure Time :

WEATHER
TEMPERATURE
WIND

Clear Sun	~~Overcast~~	Drizzle	Rain	Snow
To 32.	32-50	~~50-70~~	70-85	85 Up
~~Calm~~	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
TROY BUSSEY	PTC	7:30 - 4:00
SHELLA SWAIN	PTC	7:30 - 4:00
Trevor peterson	ESN	8:~~15~~ - 3:00
Brian Bower	ESN	~~7:00~~ 8:~~00~~ - ~~3~~:00

NOTES ON WORK COMPLETED

7:30 Set up Traffic signs
8:15 Safety Tailgate

~~8~~:40 Begin drilling MW26
9:30 Drilling refusal w/ hollow-stem aug
- ESN driller return to ESN to obtain supplies

10:30 Finished MW26 → w/ 4 in direct-push (still 2-in well)

10:55 Begin hollow-auger for MW27

11:30 End MW27

12~~:15~~ Begin Drilling for DP58 + developing MW26

12:30 Sample collection SO-DP-58-092214-6-8

* Deviated from 4-6 → Petroleum staining from 6-8 and large piece of wood from 4-5 feet.

~~1:15~~ 12:45 Begin drilling for DP57 *
1:00 Decommission MW-24S
1:15 Sample collection SO-DP-57-092214-~~12-14~~ 3-5
* Deviation: No visible contamination from 1-3. 3-5 ft bgs much darker. High # of wood?

1:30 Sample collection SO-DP-57-092214-12-14
* collected @ section most consistent w/ native soil.

2:00 Begun developing MW27, very clear

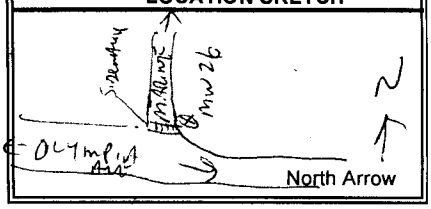
SIGNATURE: DATE: 9/22/14

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID	MW-26	Drilling Co.	FSN
Project/Site Name	EAST BAY PDL (GWM)	Lisc. Driller	BRIAN / TREVOR
Field Professional	TTB / SS	Drilling Method	DP for Simple / ~~HSA for MW~~
Start Date/Time	9/22/14 8:30	Drill Rig	TRUCK mount
Stop Date/Time	↓ 10:15	Drill Bit	DP for Simple

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
0840	0	5	DP	N/A	60%	NO GW	See below	N/A		N/A	N
			↓	/ /			↓	↓	↓	↓	↓
				/ /							
0841	5	10		/ /	50%	MOIST TO WET @ 9'					
				/ /							
				/ /							
0850	10	15		/ /	10%	MOIST TO WET					
				/ /							
				/ /							
				/ /			GIVEN DTW AND LOW TIDE STILL OVER				
				/ /			2.5 hours away, decided to				
				/ /			HSA to 16' ; set screen from 6-16'				
				/ /							
				/ /			HSA 0 - ~~16'~~ 15' from 0855 to 0930				
				/ /			HSA couldn't make it past 15' due to GRAVEL CONTENT				
1005	STARTED 4"		DP CASING + DONE @			10:15	↓				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		BLACK ASPHALT
2"	6"		BASE COURSE / BROWN W/ ASPHALT
6"	15'		BROWN TO GRAY SANDY COARSE GRAVEL WITH SILTS, DRY TO WET (@ 9.5') [1988 GEO FILL
			• GW CONTACT @ ~ 9.5' bgs
			• LAYERS generally gray, ~~fine~~ fine moist fine sands & silts generally brown

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):
N/A

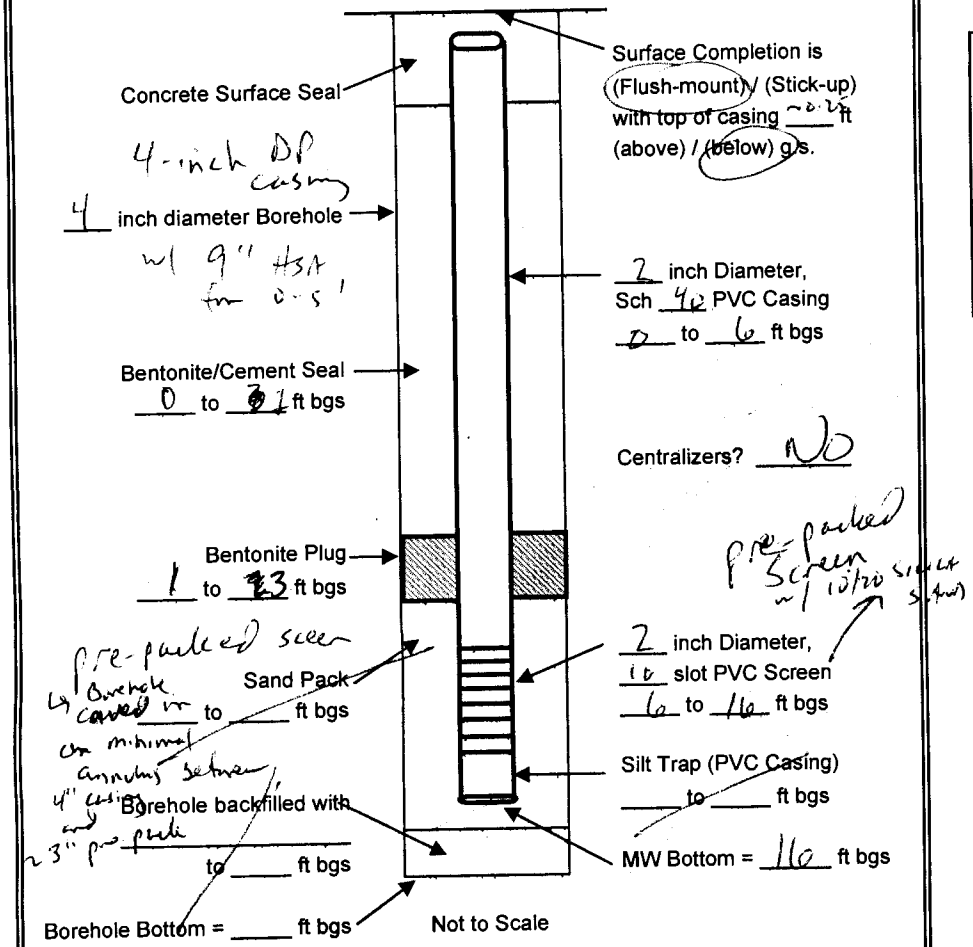
Groundwater Encountered (e.g., time, depth, quantity, casing position):
MEASURED GW Depth @ 0855 ~ 9.5' bgs, Low tide @ 1130

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW-26 Installation Start Date/Time 9/22/14 1015 Installation Stop Date/Time 9/22/14 1045

CONSTRUCTION DETAILS



MATERIALS USED

- 0 Sacks of _____ Sand
- 1 Sacks of pre-mixed concrete ~~Cement~~
- 1 Sacks of Bentonite Pellets
- ~~Sacks of Powdered Bentonite~~
- Sacks of Grout
- 6 Feet of 2 -inch dia PVC Casing
- 10 Feet of 2 -inch dia PVC Screen pre-pa

WELL PROTECTION AND IDENTIFICATION

- ☑ Well Cap
- ☐ Locking Steel Cover (Stick-up) N/A
- ☐ Bollards (Stick-up) N/A
- ☐ Lock
- ☑ Agency Well Tag No. BFM 024
- ☑ Top of Casing Ref Pt. = marked w North Side
  - ~~Above Ground Surface~~

WELL DEVELOPMENT

	Following Well Construction	Following Well Development
Depth To Water (ft below TOC)	~9.9	~13.2
Total Well Depth (ft below TOC)	15.66	15.67

Development Start Date/Time 1220 Development Stop Date/Time 1:55

Development Method pump/bailer Development Water Discharged to Drums for off-site Disposal

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color
35	N/A		N/A	99.1	N/A	N/A	N/A
95	N/A		N/A	1.47	N/A	N/A	N/A

Total Gallons Removed ~25 GAL

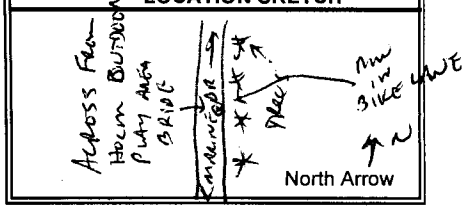
Additional Remarks pumping Dry due to low tube, but readings relative top

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: MW27
Project/Site Name: EAST BAMPDC Town
Field Professional: TB ISS
Start Date/Time: 9/22/14 1100
Stop Date/Time: 1 1136
Drilling Co.: ESN
Lisc. Driller: BRIAN / TREVOR
Drilling Method: DP
Drill Rig: TRUCK MOUNT
Drill Bit: DP

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
0				/ /							
1105	0	5	DP	N/A	67		SEE BELOW	N/A		N/A	NO
1110	5	10	↓	/ /	60	MOIST @5.5'		↓		↓	↓
1115	10	15	↓	/ /	45	WET @14'		↓		↓	↓
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /			GIVEN WATER LEVELS & TIDE TIMING, DECIDED TO SET SCREEN 6'-16'				
				/ /							
				/ /							
		9" HSA from 0-4'									
		4" DP CASING FROM 4'-16'									

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		BLACK ASPHALT
2"	6"		GRAY BASECOURSE
6"	15'		BROWN (FINES) TO GRAY (COARSE) SANDY COARSE GRAVEL WITH SILTS, DRY TO WET (@~13') [1982 GRAVEL FILL]

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

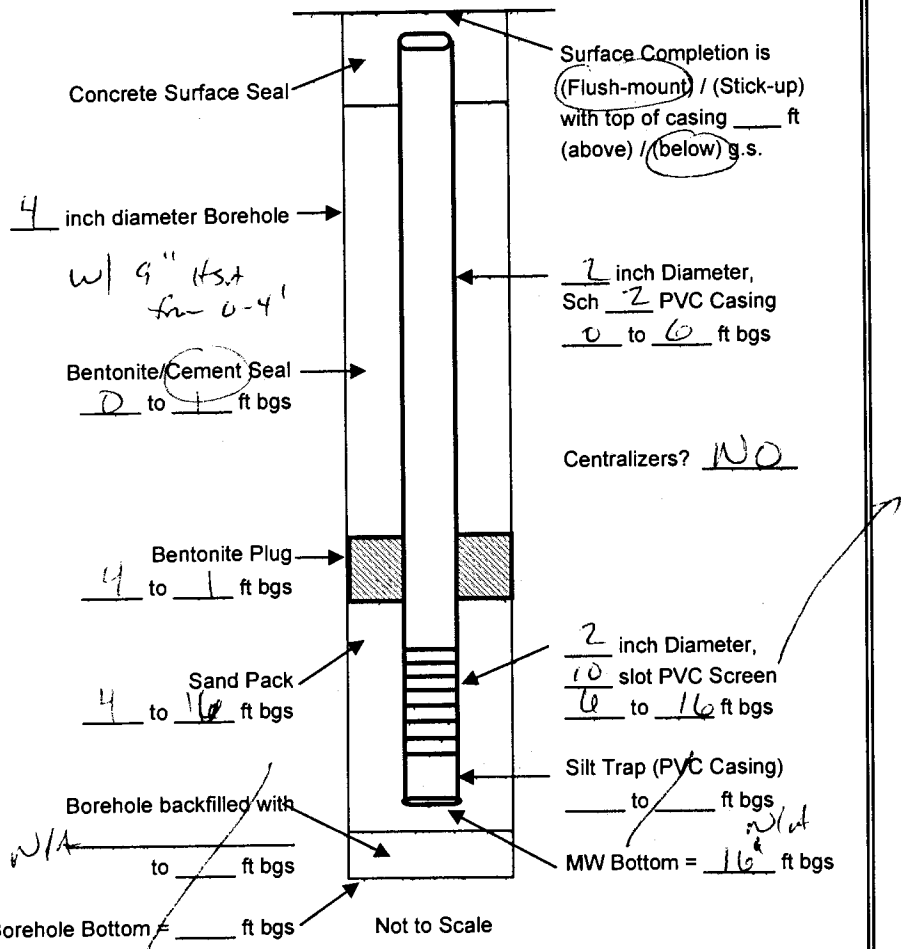
Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~13' @ 1115 which is near low tide @ 1130, GW likely was near 9.5' when tide was higher

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW-27 Installation Start Date/Time 9/22/14 1130 Installation Stop Date/Time 9/22/14 1200

CONSTRUCTION DETAILS



with pre-packed 10/20 silica sand

MATERIALS USED

15	Sacks of	10/20 Silica	Sand
1	Sacks of		Cement
1	Sacks of Bentonite Pellets		
	Sacks of Powdered Bentonite		
	Sacks of Grout		
6	Feet of	2	-inch dia PVC Casing
10	Feet of	2	-inch dia PVC Screen (pre-packed)

Cement hydrated

WELL PROTECTION AND IDENTIFICATION

- [x] Well Cap
- [ ] ~~Locking Steel Cover (Stick-up)~~
- [ ] ~~Bollards (Stick-up)~~
- [ ] Lock
- [x] Agency Well Tag No. Blm 027
- [x] Top of Casing Ref Pt. = Notch on North side of TOC

Lg marker on NW Corner

WELL DEVELOPMENT

	Following Well Construction	Following Well Development
Depth To Water (ft below TOC)	~13.3	~13.2
Total Well Depth (ft below TOC)	15.54	15.54

Development Start Date/Time 9/22/14 M15 Development Stop Date/Time 9/22 14.40

Development Method QUEST Pump Development Water Discharged to DRum For off-site Disposal

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color
35	N/A		N/A	3.2	N/A	N/A	~~Clear~~ very clear

Total Gallons Removed ~25 Gal

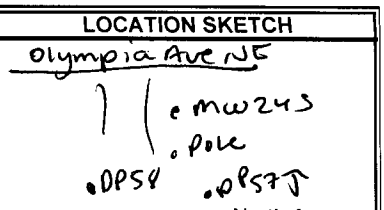
Additional Remarks Flowrate was altered from MW-26S

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID	DP58	Drilling Co.	ESN
Project/Site Name	East Bay Polgum	Lisc. Driller	Brian
Field Professional	IBISS	Drilling Method	Direct-Push
Start Date/Time	12:15	Drill Rig	truck mount
Stop Date/Time	12:30	Drill Bit	

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
12:15	0	5	DP	N/A	50	~~No~~	See below	N/A		N/A	
12:20	5	10	DP	N/A	70	Yes	"			"	
				/ /							
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GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	4		Dirt, debris
4	4		Sand → light brown / grey, silty
4	5		Wood, dark brown. Large wood pieces
5	10		Dark grey to brown silty sand w/ woody debris → dark spots of petroleum @ 8 and 10 feet

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW encountered @ 4 feet

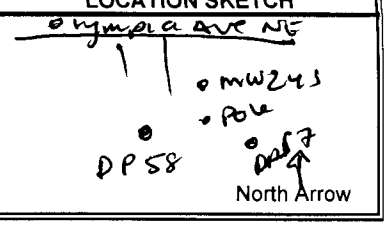
Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: DP-57
Project/Site Name: East Bay PUC GWM
Field Professional: TB/SS
Start Date/Time: 12:45
Stop Date/Time: 12:55
Drilling Co.: ESN
Lisc. Driller: Brian/Trevor
Drilling Method: Direct Push
Drill Rig: Truck mount
Drill Bit:

LOCATION SKETCH



SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
12:45	0	5	DP	N/A	45	no	See below			N/A	
12:50	5	10			60						
12:55	10	15			60						

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	3		Light grey sand & gravel
3	7		Dark brown silty sand w/ woody debris, ~~silty~~ small gravel mixed in. ~~Light~~ Moisture @5ft
7	8		Dark gray & lien silty clay w/ wood debris
8	12		High amount of wood debris mixed w/ light brown silt & gravel
12	15		Dark grey sand (fine) mixed w/ low amount of silt & clay & gravel

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
6.7ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

DATA GAP INVESTIGATION REGARDING POC GWM (SEPTEMBER 2014 GWM)

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PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Task Name: East Bay POC GWM Event
Site Location: East Bay, Olympia
Requested By / Date: TDB / 9/17/14
Work Scheduled: 9/29/14 (& 9/30 if necessary)

SERVICES REQUESTED	COMPLETED
1. Office/field prep tasks: (a) ensure all applicable pre-mob HASP forms are completed, (b) gather tide info, (c) conduct tailgate & document, (d) communicate decon & site control expectations, (e) implement traffic control plan	☒ YES ☐ NO
2. Water levels & LNAPL measurements from 16 MWs listed in WP as synoptically as possible	☒ YES ☐ NO
3. Low-flow purge & sample from MW12, MW18, MW26, and MW27 as close to low tide as possible	☒ YES ☐ NO
4. Field QC = 1 field dup	☒ YES ☐ NO
5. Save dedicated GWM tubing in dedicated bags for future GWM events	☒ YES ☐ NO
6. Waste Mgmt: (a) Use 16-gal drum(s), (b) label drum(s), (c) store in secure location, (d) ensure Port has containment for liquid drums, (e) collect sample for LOTT characterization (see below)	☒ YES ☐ NO
7. Complete daily field notes, and note any deviations from Work Plan	☒ YES ☐ NO
8. Use PIONEER Sample ID nomenclature for all samples per Work Plan	☒ YES ☐ NO
9. After shipping samples, reiterate to lab re: (a) NWTPH-HCID before NWTPH-Dx, (b) silica gel prep for NWTPH-Dx, (c) lab doing filtering for dissolved arsenic, (d) target RLs, (e) PIONEER EDD expectations	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED
☒ Review Docs: Work Plan, HASP	☒ YES ☐ NO	☒	Daily Health & Safety Meeting	☒ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐	Call PM from Site	☐ YES ☐ NO
☒ Coordinate Access: Jack Merrigan	☒ YES ☐ NO	☐	Draw Site Map _____	☐ YES ☐ NO
☐ Coordinate w/ Sub: _____	☐ YES ☐ NO	☒	Cuttings Purge/Decon Water	
☒ Rent Equip: Horiba U-22/equiv & 2 interface probes	☒ YES ☐ NO	☒	Drum Non-haz	☒ YES ☐ NO
☒ Client/Agency Coordination: Port/Ecology	☒ YES ☐ NO	☒	Sample See below	☐ YES ☐ NO
☒ Calibrate Equipment: WQ meter N/A	☒ YES ☐ NO	☐	Discharge near boring _____	☐ YES ☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing: _____

☒ Lab Testing: 5 water for NWTPH-HCID (then NWTPH-Dx w/ silica gel prep), T & D Arsenic — Lab: Anatek-Moscow (Std TAT)

☒ Lab Testing: 1 composite from IDW for TPH-G, TPH-D/HO, BTEX, PAHs, total Arsenic — Lab: Anatek-Moscow (Std TAT)

☐ Lab Testing: _____ — Lab: _____

OTHER FIELD SUPPLIES NEEDED

☒ Site Map ☒ Camera ☐ Survey Equip / GPS ☒ Van

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon, shovel, hand auger, pick, sieves)

☒ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator & 2 Interface Probes

☒ Water Quality Meter _____ ☐ Field Test Kits _____

☒ Sample Kits / Cooler / COC / Ice _____

☒ IDW: ☒ Drums _____ ☐ 5-gal buckets _____

☒ Other: Traffic management supplies (as necessary)

☐ Other: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 9/29/14 Site Location: EAST BAY Site Arrival Time: _____ Site Departure Time : _____

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

NOTES ON WORK COMPLETED

STATIC WATER LEVELS

MW	TIME	DTW (FT BELOW TOC)	LNAPL THICKNESS
MW-15	12:57	3.32	— (NONE)
MW-20	1:00	6.45	—
MW-21S	1:04	3.64	—
MW-18	1:09	~~8.27~~ 8.37	—
MW-27	1:14	8.73	—
MW-26	1:18	8.31	—

SIGNATURE: Jy Bunny Cy DATE: 9/29/14

MW	TIME	Depth(ft)	NAPL?	NAPL THICKNESS
mw10	12:50	3.56ft	NO	
mw 08	12:55	2.86ft	NO	
mw ~~255~~ 255	12:57	~~K ft~~ 8.1in	NO	length of detector
mw ~~05~~	1 05	5.42 ~~ft~~	NO	
mw 07	1:10	1.59 ~~ft~~	NO	
mw14	1:15	1" ft	NO	1in, up to top * bolt!
mw 225	1:18	3.96ft	NO	
mw13	1:20	8.67ft	NO	
mw12				

PIONEER
DAILY FIELD REPORT

Date: 9/29/14 Site Location: EAST BAY Site Arrival Time: 10:00 Site Departure Time: 6:30

WEATHER

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

TEMPERATURE

WIND

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHELLA SWAIN	PTC	10:00 - 6:30
TROY BUSSEY	PTC	10:00 - 6:30

NOTES ON WORK COMPLETED

Correction: MW09 is MW with bent casing

10:00 Safety Tailgate
10:30 Begin opening mws.
-Note: Purchase extra bolts
1:00 Begin checking H_2O levels w/ interface probes
-Note: MW08 PVC pipe bent cannot check levels
-Note: MW02R decommissioned by LOTT.
-Note: MW24S decommissioned by PIONEER.

2:35 Begin pumping MW-12 ; low tide @ 3:46 PM - 6.2ft
-water level = 8.5 ft bgs
- water is brown, murky No odor or sheen
2:55 GW-MW-12-092914

3:30 Begin pumping MW-26
-water is light grey colour, ~~stne~~ strong sea water odor
-water level = 10 ft within 15 min of low tide (6.4 ft)
3:50 GW-MW-26-092914
3:55 GW-MW-26-092914-(01) - field duplicate

4:25 Begin pumping MW-27
-water clear, no sheen
5:00 GW-MW-27-092914

5:25 measured water level at MW-18. No water 1.5 hours after low tide.

5:50 WW-EB-1-092914, Purge water from drums

6:10 Checked MW-18 water levels. Under 0.5 feet and mud on indicator. Will try morning of 9/30/2014

SIGNATURE: _____ DATE: 9/29/14

360-413-8250 2

PIONEER
DAILY FIELD REPORT

Date: 9/30/14 Site Location: EAST BAY Site Arrival Time: 8 30 Site Departure Time :

WEATHER	Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	70-85	85 Up
WIND	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Shelly Swain	PIONEER	8:30 - 10:45
Troy Bussey	PIONEER	8:30 - 10:45

NOTES ON WORK COMPLETED

8:45 Checked MW-18 water level. Still low. mud at bottom 4.5 hours after -0.2 lowtide and 2 hours before 12.9 high tide.
MW-18 still dry at 9:15 Am

9:40 1 foot of water in MW-18

9:53 Start pumping MW-18

10:15 GW-MW-18-092915

10:30 Dropped off water drums @ swantown

SIGNATURE: _____ DATE: 9/30/14

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: EAST BAY **FIELD TECHNICIAN(S):** TROY BUSVEY AND SHELIA SWAIN **DATE:** 9/29/14 & 9/30/2014

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW-12	~12	4-12	-missing screw -PVC pipe slightly bent	see other notes				Peri-staltic	11.5	6 11 16 18	0.9	Probe too large for well diameter	6.8 6.8 6.8 6.8	16.6 16.5 16.3 16.2	6.8 D D D	7.6 5.9 5.7 5.3	20.2 20.2 20.3 20.2	+106 116 118 124	1455		3.5	IN 16 GAL DRUM TO SWMU 04 SECONDARY CONTAINMENT
MW-26	~12	7-12	GOOD						14	4 9 15 21 23 25	0.9 ↓ 0.6 ↓ ↓ ↓	9.39 10.65 10.10 10.10 ↓ 10.08	7.6 8.0 8.1 8.21 8.22 8.21	16.7 16.2 16.0 16.2 16.2 16.2	27.3 8.4 14.6 5.7 9.9 8.8	9.2 6.7 1.0 0.51 Ø Ø	17.2 17.7 17.5 17.5 17.5 17.5	-227 -300 -311 -305 -318 -326	1550	ITEMS PUD COLLECTED	4	
MW-27	~16	6-16							15	6 11 17 22 28	0.7 ↓ ↓ ↓ ↓	12.9 12.9 12.66 12.9 12.9	6.89 6.77 6.78 6.79 6.80	31.7 31.5 29.2 28.7 30.2	87.6 72.8 89.5 79.9 28.4	8.76 7.96 8.15 6.07 7.65	16.4 16.3 16.3 16.4 16.4	-30 -5 15 21 45	1700		3	
MW-27 18	~16	6-16							11.5	7 12 17 20	0.25 ↓ ↓ ↓	9.95 9.77 9.52 9.41	7.02 6.97 6.99 6.99	25 23.1 23.2 23.3	1.5 Ø Ø Ø	8.3 8.06 8.00 6.87	16.7 16.8 16.9 16.9	99 106 112 115	1015		2	

DATA GAP INVESTIGATION REGARDING POC GWM (DECEMBER 2014 GWM EVENT AND FEBRUARY 2015 RE-SAMPLE OF MW12)

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PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Task Name: East Bay POC GWM Event Site Location: East Bay, Olympia

Requested By / Date: TDB / 11/26/14 Work Scheduled: Before 12/31/14

SERVICES REQUESTED	COMPLETED
1. Office prep tasks, including: (a) ensure all applicable pre-mob HASP forms are completed, (b) gather tide info, (c) get necessary equipment/supplies listed below (including WQ meter that measures all field parameters listed in Work Plan Section 2.7), (d) purchase extra bolts for MW covers	☐ YES ☐ NO
2. Field prep tasks, including: (a) conduct tailgate & document, (b) communicate decon & site control expectations, (c) set-up cones	☑ YES ☐ NO
3. As synoptically as possible, measure water levels & LNAPL thickness in MWs 7, 8, 10, 12, 13, 14, 15, 18, 20, 21S, 22S, 25S, 26, 27. No measurements needed from MW02R (decommissioned) and MW09 (kink)	☑ YES ☐ NO
4. Low-flow purge & sample from MW12, MW18, MW26, and MW27 as close to low tide as possible	☑ YES ☐ NO
5. Field QC = 1 field dup	☑ YES ☐ NO
6. Save dedicated GWM tubing in dedicated bags for future GWM events	☑ YES ☐ NO
7. Complete daily field notes, and note any deviations from Work Plan	☑ YES ☐ NO
8. Use PIONEER Sample ID nomenclature for all samples per Work Plan	☑ YES ☐ NO
9. After shipping samples, reiterate to lab re: (a) silica gel prep for NWTPH-Dx, (b) lab doing filtering for dissolved arsenic, (c) target RLs, (d) PIONEER EDD expectations	☑ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED	
☒ Review Docs: Work Plan, HASP	☑ YES	☐ NO	☒ Daily Health & Safety Meeting	☑ YES	☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES	☐ NO	☐ Call PM from Site	☐ YES	☐ NO
☐ Coordinate Access:	☐ YES	☐ NO	☐ Draw Site Map	☐ YES	☐ NO
☐ Coordinate w/ Sub:	☐ YES	☐ NO	☒ Cuttings Purge/Decon Water		
☒ Rent Equip: WQ meter & 2 interface probes	☑ YES	☐ NO	☒ Drum Discharge to LOTT	☑ YES	☐ NO
☒ Client/Agency Coordination: Port/Ecology	☑ YES	☐ NO	☐ Sample	☐ YES	☐ NO
☒ Calibrate Equipment: WQ meter	☑ YES	☐ NO	☐ Discharge near boring	☐ YES	☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: 5 water for NWTPH-Dx w/ silica gel prep, Total & Dissolved Arsenic Lab: Anatek-Moscow (Std TAT)

☐ Lab Testing: Lab:

☐ Lab Testing: Lab:

OTHER FIELD SUPPLIES NEEDED

☒ Site Map ☐ Camera ☐ Survey Equip / GPS ☒ Van

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon, shovel, hand auger, pick, sieves)

☒ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator & 2 Interface Probes

☒ Water Quality Meter ☐ Field Test Kits

☒ Sample Kits / Cooler / COC / Ice

☒ IDW: ☒ Drums Two 16-gal ☐ 5-gal buckets

☒ Other: Cones for safety, rope for securing drums

☐ Other:

PIONEER
DAILY FIELD REPORT

Date: 12/22/14 Site Location: East Bay Site Arrival Time: 800 Site Departure Time :

WEATHER	Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	70-85	85 Up
WIND	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Shella Swain	PTC	8:00 - 3:00
Daniel Britton	PTC	8:00 - 3:00

NOTES ON WORK COMPLETED

9:30 Start setting up MW-18.
Water level around 7.5 ft.
10:00 collect MW-18 GW-MW-18-122214
10:05 collect MW-18 Dup GW-MW-18-122214-(01)
collect MS/MSD
* salinity unavailable
No odor.

10:50 start pumping, water extremely murky
Kink in well
Water level measure not working due to salinity. Beeping around 6 ft.
11:15 collect GW-MW-18-122214
Tried water level @ end. Not reading due to salinity, Slight ~~other~~ sheen on H_2O in well opening

11:30 start pumping MW-26 water @ 10.84
11:50 collect GW-MW-26-122214

2:00 start pumping MW-27 water @ 9.89
2:25 collect GW-MW-27-122214

2:45 Dump waste water @ Port

Daylight hours too short to complete water level measurents. Will return in morning.

SIGNATURE: _____ DATE: 12/22/14

PIONEER
DAILY FIELD REPORT

Date: 12/23/14 Site Location: EAST BAY Site Arrival Time: 9.00 Site Departure Time : 10:30

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHELLA SWAIN	PTC	9-10:30
DANIEL BRITTAIN	PTC	9-10:30

NOTES ON WORK COMPLETED

9:00 Arrive on site. Tail gate safety S/T/O, Traffic

9:10 Start measurements @ MW-15 → MW-20 - to field.

Missing bolts are noted on attached water level table.

SIGNATURE: _____ DATE: 12/23/14

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

EAST BAY

SITE NAME: MW-18 **FIELD TECHNICIAN(S):** SS & DB **DATE:** 12/22/14

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 18				9:30	N/A	7.54 9'11	NO NAPL interface probe	Peri. stalt.		0 11 18	.5 .5 .5	7.93 7.74 7.59	3.78 3.97 3.98	0.00 0.00 0.00	112 107 109	11.14 11.05 11.09	13.8 12.9 12.9	414 407 407	1000	Field dup + MS/MSD	2.5	
MW 12			missing bolt	10:50	N/A	~ 6ft	NO NAPL interface probe	Peri-Stalt		0.0 15 20	.25 .25 .25	– – –	4.14 4.16 4.2	0.0 0.0 0.0	126 124 124	11.5 11.8 11.63	11.4 11.4 11.5	402 409 404	11:15		1.5	
MW 26				11:33	N/A	10.84	NO NAPL measuror	Peri-Staltic		0.0 10 15 20 23 27	.5 .5 .5 .5 .5 1.5	10.84 10.85 10.86 10.62 10.55 10.47	4.24 4.29 4.31 4.32 4.32 4.31	0 0 0.0 0.0 0.0 0,0 0.0	96.3 97.3 96.7 96.3 96.0 95.7	11.53 11.44 11.47 11.43 11.43 11.40	12.0 12.0 12.3 12.5 12.6 12.6	400 395 355 275 244 235	11:50		2	
MW 27				2:01	N/A	9.79	NO NAPL interface	Peri-Staltic		0.0 10 15 20	0.5 0.5 0.5 0.5	9.89 10.2 10.5	4.29 4.34 4.33 4.34	0.0 0.0 0.0 0.0	109 106 114 114	11.37 11.26 11.09 11.11	11.7 13.0 13.3 13.4	316 314 315 319	2:25		3.5	

Fourth Quarter 2014 East Bay GWM Water Level Measurements

Well	LNAPL Present?	Water Level
MW07	NO	4.51
MW08	NO	1.0
MW10	NO	3.72
MW12	NO	4.79
MW13	NO	3.21
MW14	NO	Under water
MW15	NO	2.36
MW18	NO	4.01
MW20	NO	4.89
MW21S	NO	3.78
MW22S	NO	under water
MW25S	NO	under water
MW26	NO	6.13
MW27	NO	6.64

12/23/14

one bolt

waited one - two min

one bolt

one bolt

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Task Name: East Bay POC GWM Event (Re-sample MW12) Site Location: East Bay, Olympia

Requested By / Date: TDB / 2/12/15 Work Scheduled: 2/16/15

SERVICES REQUESTED	COMPLETED
1. Office prep tasks, including: (a) ensure all applicable pre-mob HASP forms are completed, (b) gather tide info, (c) get necessary equipment/supplies listed below (including WQ meter that measures all field parameters listed in Work Plan Section 2.7)	☒ YES ☐ NO
2. Field prep tasks, including: (a) conduct tailgate & document, (b) communicate decon & site control expectations	☒ YES ☐ NO
3. Low-flow purge & sample from MW12 as close to low tide as possible	☒ YES ☐ NO
4. No field QC	☒ YES ☐ NO
5. Save dedicated GWM tubing in dedicated bags for future GWM events	☒ YES ☐ NO
6. Use PIONEER Sample ID nomenclature for all samples per Work Plan	☒ YES ☐ NO
7. Complete daily field notes, and note any deviations from Work Plan	☒ YES ☐ NO
8. After shipping samples, reiterate to lab re: (a) silica gel prep for NWTPH-Dx, (b) target RLs, (c) PIONEER EDD expectations, and (d) 5-day TAT	☒ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED	
☒ Review Docs: Work Plan, HASP	☐ YES	☐ NO	☒ Daily Health & Safety Meeting	☐ YES	☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES	☐ NO	☐ Call PM from Site	☐ YES	☐ NO
☐ Coordinate Access:	☐ YES	☐ NO	☐ Draw Site Map	☐ YES	☐ NO
☐ Coordinate w/ Sub:	☐ YES	☐ NO	☒ Cuttings Purge/Decon Water		
☒ Rent Equip: WQ meter	☐ YES	☐ NO	☒ Drum Discharge to LOTT	☐ YES	☐ NO
☒ Client/Agency Coordination: Port/Ecology	☒ YES	☐ NO	☐ Sample	☐ YES	☐ NO
☒ Calibrate Equipment: WQ meter	☐ YES	☐ NO	☐ Discharge near boring	☐ YES	☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: 1 water for NWTPH-Dx w/ silica gel prep Lab: Anatek-Moscow (5-day TAT)

☐ Lab Testing: Lab:

☐ Lab Testing: Lab:

OTHER FIELD SUPPLIES NEEDED

☒ Site Map ☐ Camera ☐ Survey Equip / GPS ☒ Van

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon, shovel, hand auger, pick, sieves)

☒ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator

☒ Water Quality Meter ☐ Field Test Kits

☒ Sample Kits / Cooler / COC / Ice

☒ IDW: ☒ Drums Two 16-gal ☐ 5-gal buckets

☒ Other: Cones for safety, rope for securing drums

☐ Other:

PIONEER
DAILY FIELD REPORT

Date: 2/16/15 Site Location: East Bay Site Arrival Time: 9:30 Site Departure Time: 10:45

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Shella Swain	PTC	9:30 - 10:45
Stacy Munsun	PTC	9:30 - 10:45

NOTES ON WORK COMPLETED

9:30 Arrive on site Safety meeting

9:50 Start pumping MW-12

Cannot put in water level measure and sample tube ~~in~~ in well at same time. measured before sampling.

10:20 sampled ~~at~~ GW-MW-12-021615

SIGNATURE: _____ DATE: 2/16/15

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DATA GAP INVESTIGATION REGARDING POC GWM (MARCH 2015 GWM EVENT)

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PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Task Name: East Bay POC GWM Event Site Location: East Bay, Olympia

Requested By / Date: TDB / 2/28/15 Work Scheduled: Before 3/31/15

SERVICES REQUESTED	COMPLETED
1. Office prep tasks, including: (a) ensure all applicable pre-mob HASP forms are completed, (b) gather tide info, (c) get necessary equipment/supplies listed below (including WQ meter that measures all field parameters listed in Work Plan Section 2.7), (d) purchase extra bolts for MW covers	☒ YES ☐ NO
2. Field prep tasks, including: (a) conduct tailgate & document, (b) communicate decon & site control expectations, (c) set-up cones	☒ YES ☐ NO
3. As synoptically as possible, measure water levels & LNAPL thickness in MWs 7, 8, 10, 12, 13, 14, 15, 18, 20, 21S, 22S, 25S, 26, 27. No measurements needed from MW02R (decommissioned) and MW09 (kink)	☒ YES ☐ NO
4. Low-flow purge & sample from MW12, MW18, MW26, and MW27 as close to low tide as possible	☒ YES ☐ NO
5. Field QC = 1 field dup	☒ YES ☐ NO
6. Save dedicated GWM tubing in dedicated bags for future GWM events	☒ YES ☐ NO
7. Complete daily field notes, and note any deviations from Work Plan	☒ YES ☐ NO
8. Use PIONEER Sample ID nomenclature for all samples per Work Plan	☒ YES ☐ NO
9. After shipping samples, reiterate to lab re: (a) silica gel prep for NWTPH-Dx, (b) lab doing filtering for dissolved arsenic, (c) target RLs, (d) PIONEER EDD expectations	☒ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED	
☒ Review Docs: Work Plan, HASP	☐ YES	☐ NO	☒ Daily Health & Safety Meeting	☐ YES	☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES	☐ NO	☐ Call PM from Site	☐ YES	☐ NO
☐ Coordinate Access:	☐ YES	☐ NO	☐ Draw Site Map	☐ YES	☐ NO
☐ Coordinate w/ Sub:	☐ YES	☐ NO	☒ Cuttings / Purge/Decon Water		
☒ Rent Equip: WQ meter & 2 interface probes	☐ YES	☐ NO	☒ Drum Discharge to LOTT	☐ YES	☐ NO
☒ Client/Agency Coordination: Port/Ecology	☐ YES	☐ NO	☐ Sample	☐ YES	☐ NO
☒ Calibrate Equipment: WQ meter	☐ YES	☐ NO	☐ Discharge near boring	☐ YES	☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: 5 water for NWTPH-Dx w/ silica gel prep, Total & Dissolved Arsenic Lab: Anatek-Moscow (Std TAT)

☐ Lab Testing: Lab:

☐ Lab Testing: Lab:

OTHER FIELD SUPPLIES NEEDED

☒ Site Map ☐ Camera ☐ Survey Equip / GPS ☒ Van

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon, shovel, hand auger, pick, sieves)

☒ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator & 2 Interface Probes

☒ Water Quality Meter ☐ Field Test Kits

☒ Sample Kits / Cooler / COC / Ice

☒ IDW: ☒ Drums Two 16-gal ☐ 5-gal buckets

☒ Other: Cones for safety, straps for securing drums

☐ Other:

PIONEER
DAILY FIELD REPORT

Date: 3/25/15 Site Location: EAST BAY Site Arrival Time: 12:45 Site Departure Time: 5:30

WEATHER

Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE				
To 32	32-50	50-70	70-85	85 Up
WIND				
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHELLA SWAIN	PIONEER	12:45 - 5:30
KATIE KULHA	PIONEER	12:45 - 5:30

NOTES ON WORK COMPLETED

12:45 Arrive on site. Tailgate
1:00 Open all wells
1:25 Start H2O level measurements
2:45 Start pumping MW-18
11.4 ft to water @ 2:45
5:00 Pumping very slowly, little water
After 5 min, water flow but no more H2O according to water level.
3:15 Not enough H2O for sample. Pumping very slow
3:40 Start pumping MW-27
~~water level~~ = 14.2 ft = depth to water
4:10 collect GW-MW-27-032515
4:20 collect GW-MW-27-032515-(01)
4:45 start pumping MW-26
5:10 collect GW-MW-26-032515
5:25 check MW-18. NO H2O

SIGNATURE: _____ DATE: 3/25/15

PIONEER
DAILY FIELD REPORT

Date: 3/26/14 Site Location: EAST BAY Site Arrival Time: 2:30 Site Departure Time: 5:35

WEATHER
TEMPERATURE
WIND

(Clear Sun)	Overcast	Drizzle	Rain	Snow
To 32	32-50	~~50-70~~	70-85	85 Up
(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHELLA SWAIN	PIONEER	2:30 - 5:35
KATIE KULHA	PIONEER	2:30 - 5:35

NOTES ON WORK COMPLETED

2:30 Arrive on-site

3:20 Start pumping MW-18 2 hrs 10 min from low flow
water at 11.01

3.50 Start collecting GW-MW-18-03615
water level below sensor
Very low flow

4:30 Not enough H2O. Only collected ¼ of jar.

4:50 Start pumping MW-12 water at 9.94

5:30 Check MW-18 No water

SIGNATURE: [signature] DATE: [signature]

PIONEER
DAILY FIELD REPORT

Date: 3/30/15 Site Location: EAST BAY Site Arrival Time: @ 7:50 Site Departure Time : 9:30

WEATHER
TEMPERATURE
WIND

(Clear Sun)	(Overcast)	Drizzle	Rain	Snow
To 32	(32-50)	50-70	70-85	85 Up
(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHELLA SWAIN	PTC	7:50
KATIE KULHA	PTC	7:50

NOTES ON WORK COMPLETED

7:50 Safety tailgate

8:17 Start pumping MW-18

8~35 Collect GW-MW-18-033015

Drop water to Pond

SIGNATURE: [signature] DATE: 3/30/15

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: EAST BAY **FIELD TECHNICIAN(S):** KK & SS **DATE:** 3/25/15 - 3/26/15

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW-18	12		Rusty water @ 3:00	2:45	N/A	11.4	N/A	Peri-static low flow		5	.01	NO	7.48	19.6	60.8	8.15	15.6	-2			~2	
										10	.01	NO	7.72	20.3	128	8.19	15.37	-17				
										15	>.01	NO	7.88	21	195	8.23	16.12	17				
MW-27	16			3:40	N/A	14.2	N/A	Peri-static low flow	N2	5	.1	14.57	6.93	4.84	8.8	6.16	13.28	-1	4:10	F	1	
										10	.1	14.75	6.86	48.5	6.4	5.11	15.06	2				
										15	.1	14.76	6.86	48.7	6.6	6.07	15.05	5	4:20	Field Dup		
MW-26	16			4:15	N/A	9.86	N/A	low-flow	~2	5	.3	10.41	7.66	9.79	24.1	0.00	12.98	-331				
										15	.3	10.17	7.93	17.3	5.8	0.00	13.3	-340				
										20	.3	10.13	7.97	17.1	5.7	0.0	13.3	-349	5:10		4	
MW-18	12		water @ 3:17	3:17	N/A	11.02	N/A	low-flow		5	.1	11.3	7.10	25	363	7.65	16.71	3		Didn't collect		
										10	.1	11.3	7.32	24.4	637	7.55	18.83	-6				
										15	.1	11.3	7.51	24.8	480	7.64	18.65	-18				
										20	0.1	11.3	7.65	25.1	520	7.48	18.9	-25			~5	
MW 12	12			4:50	N/A	9.99	N/A	low flow		5	.3	—	6.93	24.4	98.5	5.51	13.47	-51				
										10	.3	—	6.86	23.2	37.2	4.83	14.13	-47				
										15	.3	—	6.85	23.1	13.3	4.97	13.91	-39	5:10		1	
MW 18	12			8:15	~~9.87~~ N/A	9:14	N/A	low-flow		6	.3	9.99	7.17	28	14.9	6.83	11.47	47				
										11	.3	10.04	7.00	28.5	0.2	6.53	11.46	44				
										16	.3	10.12	7.01	28.7	0.0	6.21	11.58	44	8:35		2	

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DATA GAP INVESTIGATION REGARDING POC GWM (JUNE 2015 GWM EVENT)

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PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Task Name: East Bay POC GWM Event Site Location: East Bay, Olympia

Requested By / Date: TDB / 4/15/15 Work Scheduled: Early June 2015

SERVICES REQUESTED	COMPLETED
1. Office prep tasks, including: (a) ensure all applicable pre-mob HASP forms are completed, (b) gather tide info, (c) get necessary equipment/supplies listed below (including WQ meter that measures all field parameters listed in Work Plan Section 2.7), (d) purchase extra bolts for MW covers	☒ YES ☐ NO
2. Field prep tasks, including: (a) conduct tailgate & document, (b) communicate decon & site control expectations, (c) set-up cones	☒ YES ☐ NO
3. As synoptically as possible, measure water levels & LNAPL thickness in MWs 7, 8, 10, 12, 13, 14, 15, 18, 20, 21S, 22S, 25S, 26, 27. No measurements needed from MW02R (decommissioned) and MW09 (kink)	☐ YES ☐ NO
4. Low-flow purge & sample from MW12, MW18, MW26, and MW27 as close to low tide as possible	☐ YES ☐ NO
5. Field QC = 1 field dup	☐ YES ☐ NO
6. Save dedicated GWM tubing in dedicated bags for future GWM events	☐ YES ☐ NO
7. Complete daily field notes, and note any deviations from Work Plan	☐ YES ☐ NO
8. Use PIONEER Sample ID nomenclature for all samples per Work Plan	☐ YES ☐ NO
9. After shipping samples, reiterate to lab re: (a) silica gel prep for NWTPH-Dx, (b) lab doing filtering for dissolved arsenic, (c) target RLs, (d) PIONEER EDD expectations	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED	
☒ Review Docs: Work Plan, HASP	☐ YES	☐ NO	☒ Daily Health & Safety Meeting	☐ YES	☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES	☐ NO	☐ Call PM from Site	☐ YES	☐ NO
☐ Coordinate Access:	☐ YES	☐ NO	☐ Draw Site Map	☐ YES	☐ NO
☐ Coordinate w/ Sub:	☐ YES	☐ NO	☒ Cuttings: Purge/Decon Water		
☒ Rent Equip: WQ meter & 2 interface probes	☐ YES	☐ NO	☒ Drum: Discharge to LOTT	☐ YES	☐ NO
☒ Client/Agency Coordination: Port/Ecology	☐ YES	☐ NO	☐ Sample	☐ YES	☐ NO
☒ Calibrate Equipment: WQ meter	☐ YES	☐ NO	☐ Discharge near boring	☐ YES	☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: 5 water for NWTPH-Dx w/ silica gel prep, Total & Dissolved Arsenic Lab: Anatek-Moscow (Std TAT)

☐ Lab Testing: Lab:

☐ Lab Testing: Lab:

OTHER FIELD SUPPLIES NEEDED

☒ Site Map ☐ Camera ☐ Survey Equip / GPS ☒ Van

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon, shovel, hand auger, pick, sieves)

☒ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator & 2 Interface Probes

☒ Water Quality Meter ☐ Field Test Kits

☒ Sample Kits / Cooler / COC / Ice

☒ IDW: ☒ Drums Two 16-gal ☐ 5-gal buckets

☒ Other: Cones for safety, straps for securing drums

☐ Other:

PIONEER
DAILY FIELD REPORT

Date: 6/9/15 Site Location: EAST BAY Site Arrival Time: 4.00 Site Departure Time :

WEATHER
TEMPERATURE
WIND

(Clear Sun)	Overcast	Drizzle	Rain	Snow
To 32	(32-50)	50-70	70-85	85 Up
(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHELLA SWAIN	PIONEER	4:00 AM -
DANIEL BRITTAIN	PIONEER	4:00 AM -

NOTES ON WORK COMPLETED

4:00 Arrive on-site
4:05 Tailgate safety meeting
4:50 collect ~~MW~~ GW-MW-18-060915 Water @ 10.49 @ 4:55
4:55 collect GW-MW-18-060915-(01)
5:18 Water in MW-12 at 8.38 ft
5:21 Start pumping MW-12
5:55 collect GW-MW-12-060915
6:00 Start pumping MW-27
6:25 collect GW-MW-27-06095
6:50 start pumping MW-26
7:15 Collect GW-MW-26-060915
7:30 Start measuring LNAPL and dtw

SIGNATURE: DATE: 6/9/15

PIONEER
DAILY FIELD REPORT

Date: 6/9/15 Site Location: EAST BAY Site Arrival Time: 4.00 Site Departure Time :

WEATHER
TEMPERATURE
WIND

(Clear Sun)	Overcast	Drizzle	Rain	Snow
To 32	(32-50)	50-70	70-85	85 Up
(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHELLA SUAIN	PIONEER	
DANIEL BRITTAIN	PIONEER	

NOTES ON WORK COMPLETED

MW-26 9.84 ~~9.84~~
MW-27 12.72
MW-18 NO H_2O
MW-21S 4.21
~~MW~~ MW-02 10.84
MW-12 10.35
~~MW~~ MW-15 3.88
~~MW~~

WATER LEVELS

MW10
MW09 3.71
X
MW08
2.81
MW14
MW25 1.48 .5 3.78
.72 MW22S MW13 (Propane)
5.21
MW07

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: EAST BAY **FIELD TECHNICIAN(S):** SS & DB **DATE:** 6/9/15

WELL INFO				DTW				PURGING										SAMPLE COLLECTION		PURGE WATER	
										Stabilization											
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW-18			good	4:15 4:31	NA	9.49	—	peri-staltic	~2 ft	10 15	.2 .2	10.19 10.27	7.13 7.15	22.8 2.28	0.9 1.2	12.7 12.5	13.46 13.4	126 125	4:50 4:55	DUP	0.75	
MW-12			good one bolt missing	5:18	NA	8.38	—	peri-staltic	~2 ft	7 12 15	.3 .3 .3	— — —	7.22 7.2 7.18	15.2 16.2 16.2	4.7 2.2 1.5	11.26 11.37 11.39	15.94 15.55 15.35	95 102 102	5:35		1.5	
MW-27			good	5:58	NA	12.69	—	peri-staltic	~2 ft	5 10 13	.3 .3	13.14 13.32	7.19 7.17	26.9 26.6	1.4 1.0	11.24 11.28	14.35 14.11	118 119	6:25		1	
MW-26			Good	6:47	NA	9.85	—	peri-staltic	~2 ft	6 11 16 22	.3 .3 .3 .3	9.26 9.13 8.97 8.88	7.2 7.23 7.27 7.37	17.9 17.8 18.1 12.2	6.1 2.9 5.9 21	11.46 11.47 11.49 11.44	14.31 14.45 14.5 14.54	-245 -284 -287 -293	7:15		2.5	

Appendix J

Analytical Laboratory Reports Not Included in Other Appendices

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PRE-AO SOIL SAMPLING

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ANALYTICAL REPORT

Job Number: 580-3718-1

Job Description: Rants Group

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Mgmt. Assistant
hcurbow@stl-inc.com
10/23/2006
Revision: 1

Project Manager: Heather Curbow

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Case Narrative for job: 580-J3718-1

Client: GeoEngineers Inc
Date: 10/23/2006

SEMIVOLATILE 8270C SIM cPAH-solid
The recovery of the surrogate Terphenyl-d14 in sample 580-3718-11 exceeded quality control limits. All other surrogates were within control limits. No further action was taken on this outlier.

[redacted]
The recovery of the surrogate DCB Decachlorobiphenyl in samples 580-3718-7 and 580-3718-3 exceeded quality control limits. All other surrogates were within control limits. No further action was taken on this outlier.

[redacted]
Recovery of the surrogate DCB Decachlorobiphenyl in sample 580-3718-4 and both Tetrachloro-m-xylene and DCB Decachlorobiphenyl in sample 580-3718-1 exceeded quality control limits due to matrix interference.

Semivolatile GC

LCS recoveries out of control

NWTPH-Dx
LCS for motor oil failed high. LCSD for motor oil was acceptable

Affected Items
LCS 580-11251/2-B

Batch: 580-11354
Method: 580-NWTPH_Dx

Volatile Organics

LCS recoveries out of control

5035_FM/8260B:
Chloroethane recovery supressed by the increased amount of methanol in med. soil prep. Trichlorofluoromethane passed in lcs and failed low in lcsd. 2-2-dichloropropane failed high in the lcsd - samples ND.

Affected Items
LCS 580-11480/2-A

Batch: 580-11569
Method: 580-8260B

LCSD 580-11480/3-A

Batch: 580-11569
Method: 580-8260B

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-1	**DP04-060925-010**					
Naphthalene		6.5	J	72	ug/Kg	8260B
Benzo[a]anthracene		33		5.3	ug/Kg	8270C
Chrysene		41		5.3	ug/Kg	8270C
Benzofluoranthene		61	B	11	ug/Kg	8270C
Benzo[a]pyrene		37	B	5.3	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		24	B	5.3	ug/Kg	8270C
Dibenz(a,h)anthracene		9.2	B	5.3	ug/Kg	8270C
Benzo[g,h,i]perylene		19	B	5.3	ug/Kg	8270C
Naphthalene		8.6	J	21	ug/Kg	8270C
Benzo[b]fluoranthene		44	B	5.3	ug/Kg	8270C
Benzo[k]fluoranthene		17	B	5.3	ug/Kg	8270C
Acenaphthylene		4.8	J	21	ug/Kg	8270C
Fluorene		11	J	21	ug/Kg	8270C
Phenanthrene		24		21	ug/Kg	8270C
Anthracene		11	J	21	ug/Kg	8270C
Di-n-butyl phthalate		48	J B	210	ug/Kg	8270C
Fluoranthene		44		21	ug/Kg	8270C
Pyrene		53		21	ug/Kg	8270C
Benzo[a]anthracene		32		27	ug/Kg	8270C
Chrysene		45		27	ug/Kg	8270C
Bis(2-ethylhexyl) phthalate		710	J	1600	ug/Kg	8270C
Di-n-octyl phthalate		140	J	210	ug/Kg	8270C
Benzofluoranthene		76		43	ug/Kg	8270C
Benzo[a]pyrene		46	B	32	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		35	J	43	ug/Kg	8270C
Dibenz(a,h)anthracene		63		43	ug/Kg	8270C
Benzo[g,h,i]perylene		35		27	ug/Kg	8270C
Gasoline		1.6	J	7.2	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		77		53	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		25	J	26	mg/Kg	NWTPH-Dx
Barium		29		0.25	mg/Kg	6010B
Chromium		22		0.50	mg/Kg	6010B
Selenium		2.7		2.5	mg/Kg	6010B
Arsenic		3.8		0.20	mg/Kg	6020
Lead		12	B	0.20	mg/Kg	6020
Cadmium		0.18	J	0.20	mg/Kg	6020
Mercury		0.019		0.016	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-2	**DP04-060925-040**					
Naphthalene		12	J	120	ug/Kg	8260B
Benzo[a]pyrene		45	B	6.3	ug/Kg	8270C
Naphthalene		18	J	25	ug/Kg	8270C
Di-n-butyl phthalate		290	B	250	ug/Kg	8270C
Gasoline		13		12	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		7200		320	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		3900		32	mg/Kg	NWTPH-Dx
Barium		130		0.31	mg/Kg	6010B
Chromium		120		0.61	mg/Kg	6010B
Selenium		73		3.1	mg/Kg	6010B
Silver		2.0		0.61	mg/Kg	6010B
Arsenic		52		0.25	mg/Kg	6020
Lead		140	B	0.25	mg/Kg	6020
Cadmium		5.2		0.25	mg/Kg	6020
Mercury		0.049		0.022	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-3	**DP04-060925-W**					
Toluene		0.37	J	1.0	ug/L	8260B
Ethylbenzene		0.36	J	1.0	ug/L	8260B
m-Xylene & p-Xylene		1.1	J	2.0	ug/L	8260B
o-Xylene		0.40	J	1.0	ug/L	8260B
Benzyl alcohol		0.22	J	2.0	ug/L	8270C
Benzo[a]anthracene		0.054	J B	0.10	ug/L	8270C
Chrysene		0.028	J	0.10	ug/L	8270C
Benzofluoranthene		0.10	J B	0.20	ug/L	8270C
Benzo[a]pyrene		0.073	J	0.20	ug/L	8270C
Indeno[1,2,3-cd]pyrene		0.072	J B	0.10	ug/L	8270C
Dibenz(a,h)anthracene		0.056	J B	0.10	ug/L	8270C
Benzo[g,h,i]perylene		0.051	J B	0.10	ug/L	8270C
Benzoic acid		5.4	J	10	ug/L	8270C
Benzo[b]fluoranthene		0.056	J B	0.10	ug/L	8270C
Benzo[k]fluoranthene		0.043	J B	0.10	ug/L	8270C
Dimethyl phthalate		0.14	J	2.0	ug/L	8270C
Acenaphthene		0.081	J	0.51	ug/L	8270C
Diethyl phthalate		1.0	J	2.0	ug/L	8270C
Fluorene		0.10	J	0.30	ug/L	8270C
Phenanthrene		0.14	J	0.40	ug/L	8270C
Anthracene		0.028	J	0.20	ug/L	8270C
Di-n-butyl phthalate		1.1	J B	2.0	ug/L	8270C
Fluoranthene		0.070	J	0.25	ug/L	8270C
Pyrene		0.10	J	0.30	ug/L	8270C
Bis(2-ethylhexyl) phthalate		0.42	J	15	ug/L	8270C
Gasoline		0.026	J	0.050	mg/L	NWTPH-Gx
PCB-1260		0.089	J	0.10	ug/L	8082
Motor Oil (>C24-C36)		3.8	*	0.51	mg/L	NWTPH-Dx
#2 Diesel (C10-C24)		2.0		0.26	mg/L	NWTPH-Dx
Mercury		0.00014	J	0.00020	mg/L	7470A
Total Recoverable						
Barium		0.041	B	0.0050	mg/L	6010B
Lead		0.000080	J B	0.0020	mg/L	6020

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-4	**DP03-060925-010**					
Naphthalene		4.6	J	65	ug/Kg	8260B
Benzo[a]anthracene		41		5.4	ug/Kg	8270C
Chrysene		56		5.4	ug/Kg	8270C
Benzofluoranthene		70	B	11	ug/Kg	8270C
Benzo[a]pyrene		41	B	5.4	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		25	B	5.4	ug/Kg	8270C
Dibenz(a,h)anthracene		4.2	J B	5.4	ug/Kg	8270C
Benzo[g,h,i]perylene		23	B	5.4	ug/Kg	8270C
Naphthalene		8.8	J	22	ug/Kg	8270C
Benzo[b]fluoranthene		52	B	5.4	ug/Kg	8270C
Benzo[k]fluoranthene		16	B	5.4	ug/Kg	8270C
Acenaphthylene		4.7	J	22	ug/Kg	8270C
Phenanthrene		21	J	22	ug/Kg	8270C
Anthracene		9.9	J	22	ug/Kg	8270C
Di-n-butyl phthalate		52	J B	220	ug/Kg	8270C
Fluoranthene		78		22	ug/Kg	8270C
Pyrene		81		22	ug/Kg	8270C
Benzo[a]anthracene		53		27	ug/Kg	8270C
Chrysene		58		27	ug/Kg	8270C
Benzofluoranthene		100		43	ug/Kg	8270C
Benzo[a]pyrene		51	B	32	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		40	J	43	ug/Kg	8270C
Dibenz(a,h)anthracene		66		43	ug/Kg	8270C
Benzo[g,h,i]perylene		48		27	ug/Kg	8270C
Gasoline		1.7	J	6.5	mg/Kg	NWTPH-Gx
PCB-1260		0.0080	J	0.010	mg/Kg	8082
Motor Oil (>C24-C36)		620		53	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		77		27	mg/Kg	NWTPH-Dx
Barium		59		0.27	mg/Kg	6010B
Chromium		18		0.54	mg/Kg	6010B
Selenium		1.3	J	2.7	mg/Kg	6010B
Arsenic		4.4		0.22	mg/Kg	6020
Lead		19	B	0.22	mg/Kg	6020
Cadmium		0.17	J	0.22	mg/Kg	6020
Mercury		0.070		0.014	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-5	**DP02-060925-010**					
sec-Butylbenzene		37	J	79	ug/Kg	8260B
Naphthalene		14	J	79	ug/Kg	8260B
Benzo[a]anthracene		390		5.0	ug/Kg	8270C
Chrysene		140		5.0	ug/Kg	8270C
Benzofluoranthene		150	B	10	ug/Kg	8270C
Benzo[a]pyrene		130	B	5.0	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		25	B	5.0	ug/Kg	8270C
Dibenz(a,h)anthracene		19	B	5.0	ug/Kg	8270C
Benzo[g,h,i]perylene		58	B	5.0	ug/Kg	8270C
Benzo[b]fluoranthene		100	B	5.0	ug/Kg	8270C
Benzo[k]fluoranthene		22	B	5.0	ug/Kg	8270C
Phenanthrene		180	J	200	ug/Kg	8270C
Di-n-butyl phthalate		430	J B	2000	ug/Kg	8270C
Fluoranthene		100	J	200	ug/Kg	8270C
Pyrene		340		200	ug/Kg	8270C
Chrysene		560		250	ug/Kg	8270C
Benzo[g,h,i]perylene		350		250	ug/Kg	8270C
Gasoline		24		7.9	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		9900		500	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		580		250	mg/Kg	NWTPH-Dx
Barium		47		0.23	mg/Kg	6010B
Chromium		12		0.46	mg/Kg	6010B
Selenium		3.4		2.3	mg/Kg	6010B
Arsenic		3.7		0.19	mg/Kg	6020
Lead		12	B	0.19	mg/Kg	6020

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-6	**DP01-060925-010**					
Benzo[a]anthracene		8.3		5.4	ug/Kg	8270C
Chrysene		18		5.4	ug/Kg	8270C
Benzofluoranthene		22	B	11	ug/Kg	8270C
Benzo[a]pyrene		14	B	5.4	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		12	B	5.4	ug/Kg	8270C
Benzo[g,h,i]perylene		11	B	5.4	ug/Kg	8270C
Benzo[b]fluoranthene		16	B	5.4	ug/Kg	8270C
Benzo[k]fluoranthene		5.1	J B	5.4	ug/Kg	8270C
Phenanthrene		27		21	ug/Kg	8270C
Di-n-butyl phthalate		51	J B	210	ug/Kg	8270C
Fluoranthene		23		21	ug/Kg	8270C
Pyrene		25		21	ug/Kg	8270C
Butyl benzyl phthalate		43	J	110	ug/Kg	8270C
Bis(2-ethylhexyl) phthalate		730	J	1600	ug/Kg	8270C
Benzo[a]pyrene		28	J B	32	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		29	J	43	ug/Kg	8270C
Benzo[g,h,i]perylene		33		27	ug/Kg	8270C
Gasoline		2.5	J	8.0	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		100		54	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		22	J	27	mg/Kg	NWTPH-Dx
Barium		52		0.26	mg/Kg	6010B
Chromium		19		0.52	mg/Kg	6010B
Selenium		2.0	J	2.6	mg/Kg	6010B
Arsenic		5.7		0.21	mg/Kg	6020
Lead		38	B	0.21	mg/Kg	6020
Cadmium		0.046	J	0.21	mg/Kg	6020
Mercury		0.015	J	0.018	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-7	**DP01-060925-W**					
Toluene		0.86	J	1.0	ug/L	8260B
Ethylbenzene		0.40	J	1.0	ug/L	8260B
m-Xylene & p-Xylene		1.5	J	2.0	ug/L	8260B
o-Xylene		0.96	J	1.0	ug/L	8260B
Isopropylbenzene		0.095	J	1.0	ug/L	8260B
N-Propylbenzene		0.23	J	1.0	ug/L	8260B
1,3,5-Trimethylbenzene		0.65	J	1.0	ug/L	8260B
tert-Butylbenzene		0.39	J	1.0	ug/L	8260B
1,2,4-Trimethylbenzene		2.7		1.0	ug/L	8260B
Naphthalene		1.4		1.0	ug/L	8260B
Benzyl alcohol		0.14	J	2.1	ug/L	8270C
Benzo[a]anthracene		0.029	J B	0.10	ug/L	8270C
Chrysene		0.056	J	0.10	ug/L	8270C
Benzofluoranthene		0.093	J B	0.21	ug/L	8270C
3 & 4 Methylphenol		9.6		4.2	ug/L	8270C
Indeno[1,2,3-cd]pyrene		0.11	B	0.10	ug/L	8270C
Dibenz(a,h)anthracene		0.038	J B	0.10	ug/L	8270C
Benzo[g,h,i]perylene		0.079	J B	0.10	ug/L	8270C
Benzoic acid		11		10	ug/L	8270C
Naphthalene		1.2	J	2.1	ug/L	8270C
Benzo[b]fluoranthene		0.074	J B	0.10	ug/L	8270C
Benzo[k]fluoranthene		0.022	J B	0.10	ug/L	8270C
2-Methylnaphthalene		1.3		1.0	ug/L	8270C
Diethyl phthalate		0.39	J	2.1	ug/L	8270C
Pentachlorophenol		3.3	J	3.6	ug/L	8270C
Phenanthrene		0.10	J	0.42	ug/L	8270C
Anthracene		0.068	J	0.21	ug/L	8270C
Di-n-butyl phthalate		3.6	B	2.1	ug/L	8270C
Fluoranthene		0.086	J	0.26	ug/L	8270C
Pyrene		0.13	J	0.31	ug/L	8270C
Butyl benzyl phthalate		2.7	J	3.1	ug/L	8270C
Bis(2-ethylhexyl) phthalate		2.8	J	16	ug/L	8270C
1-Methylnaphthalene		0.70		0.31	ug/L	8270C
Gasoline		0.073		0.050	mg/L	NWTPH-Gx
Motor Oil (>C24-C36)		0.36	J *	0.52	mg/L	NWTPH-Dx
#2 Diesel (C10-C24)		0.25	J	0.26	mg/L	NWTPH-Dx
Mercury		0.00029		0.00020	mg/L	7470A
Total Recoverable						
Barium		0.015	B	0.0050	mg/L	6010B
Arsenic		0.0041		0.0020	mg/L	6020
Lead		0.00023	J B	0.0020	mg/L	6020

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-8	**DP09-060925-010**					
Benzofluoranthene		5.2	J B	10	ug/Kg	8270C
Benzo[a]pyrene		2.8	J B	5.2	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		2.5	J B	5.2	ug/Kg	8270C
Dibenz(a,h)anthracene		3.5	J B	5.2	ug/Kg	8270C
Benzo[g,h,i]perylene		1.5	J B	5.2	ug/Kg	8270C
Benzo[b]fluoranthene		3.1	J B	5.2	ug/Kg	8270C
Benzo[k]fluoranthene		2.2	J B	5.2	ug/Kg	8270C
Di-n-butyl phthalate		44	J B	210	ug/Kg	8270C
Gasoline		0.82	J	6.9	mg/Kg	NWTPH-Gx
Barium		35		0.25	mg/Kg	6010B
Chromium		26		0.49	mg/Kg	6010B
Selenium		2.6		2.5	mg/Kg	6010B
Arsenic		3.3		0.20	mg/Kg	6020
Lead		2.5	B	0.20	mg/Kg	6020
Mercury		0.033		0.017	mg/Kg	7471A
580-3718-9	**DP09-060925-W**					
4-Isopropyltoluene		0.12	J	1.0	ug/L	8260B
Naphthalene		0.077	J	1.0	ug/L	8260B
Indeno[1,2,3-cd]pyrene		0.023	J B	0.10	ug/L	8270C
Dibenz(a,h)anthracene		0.017	J B	0.10	ug/L	8270C
Benzoic acid		5.3	J	10	ug/L	8270C
Diethyl phthalate		0.14	J	2.1	ug/L	8270C
Di-n-butyl phthalate		0.95	J B	2.1	ug/L	8270C
Butyl benzyl phthalate		0.36	J	3.1	ug/L	8270C
Gasoline		0.012	J	0.050	mg/L	NWTPH-Gx
Total Recoverable						
Barium		0.047	B	0.0050	mg/L	6010B

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-10	**DP05-060925-015**					
Benzo[a]anthracene		3.0	J	5.0	ug/Kg	8270C
Benzofluoranthene		7.5	J B	10	ug/Kg	8270C
Benzo[a]pyrene		3.9	J B	5.0	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		5.4	B	5.0	ug/Kg	8270C
Dibenz(a,h)anthracene		3.9	J B	5.0	ug/Kg	8270C
Benzo[g,h,i]perylene		3.7	J B	5.0	ug/Kg	8270C
Benzo[b]fluoranthene		4.0	J B	5.0	ug/Kg	8270C
Benzo[k]fluoranthene		3.7	J B	5.0	ug/Kg	8270C
Di-n-butyl phthalate		41	J B	200	ug/Kg	8270C
Gasoline		0.78	J	6.4	mg/Kg	NWTPH-Gx
#2 Diesel (C10-C24)		9.1	J	26	mg/Kg	NWTPH-Dx
Barium		32		0.22	mg/Kg	6010B
Chromium		15		0.45	mg/Kg	6010B
Selenium		2.2	J	2.2	mg/Kg	6010B
Arsenic		1.7		0.18	mg/Kg	6020
Lead		2.2	B	0.18	mg/Kg	6020
Mercury		0.019		0.013	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-11	**DP06-060926-030**					
Naphthalene		140000		3700	ug/Kg	8260B
Benzo[a]anthracene		74		11	ug/Kg	8270C
Chrysene		71		11	ug/Kg	8270C
Benzofluoranthene		94	B	22	ug/Kg	8270C
Benzo[a]pyrene		71	B	11	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		41	B	11	ug/Kg	8270C
Dibenz(a,h)anthracene		7.5	J B	11	ug/Kg	8270C
Benzo[g,h,i]perylene		32	B	11	ug/Kg	8270C
Naphthalene		300		88	ug/Kg	8270C
Benzo[b]fluoranthene		70	B	11	ug/Kg	8270C
Benzo[k]fluoranthene		47	B	11	ug/Kg	8270C
2-Methylnaphthalene		970		88	ug/Kg	8270C
Acenaphthylene		37	J	88	ug/Kg	8270C
Acenaphthene		1900		88	ug/Kg	8270C
Dibenzofuran		940		440	ug/Kg	8270C
Fluorene		1100		88	ug/Kg	8270C
Phenanthrene		1600		88	ug/Kg	8270C
Anthracene		130		88	ug/Kg	8270C
Di-n-butyl phthalate		190	J B	880	ug/Kg	8270C
Fluoranthene		430		88	ug/Kg	8270C
Pyrene		450		88	ug/Kg	8270C
Benzo[a]anthracene		180		110	ug/Kg	8270C
Chrysene		150		110	ug/Kg	8270C
Bis(2-ethylhexyl) phthalate		30000	J	33000	ug/Kg	8270C
Di-n-octyl phthalate		580	J	880	ug/Kg	8270C
Benzofluoranthene		220		180	ug/Kg	8270C
Benzo[a]pyrene		220	B	130	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		150	J	180	ug/Kg	8270C
Dibenz(a,h)anthracene		260		180	ug/Kg	8270C
Benzo[g,h,i]perylene		160		110	ug/Kg	8270C
1-Methylnaphthalene		570		130	ug/Kg	8270C
Gasoline		290		19	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		320		110	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		97		57	mg/Kg	NWTPH-Dx
Barium		50		0.58	mg/Kg	6010B
Chromium		23		1.2	mg/Kg	6010B
Selenium		2.8	J	5.8	mg/Kg	6010B
Arsenic		5.8		0.46	mg/Kg	6020
Lead		48	B	0.46	mg/Kg	6020
Cadmium		0.31	J	0.46	mg/Kg	6020
Mercury		0.056		0.039	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-12	**DP10-060926-020**					
Benzofluoranthene		1.4	J B	10	ug/Kg	8270C
Benzo[a]pyrene		0.77	J B	5.1	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		0.58	J B	5.1	ug/Kg	8270C
Dibenz(a,h)anthracene		0.38	J B	5.1	ug/Kg	8270C
Benzo[g,h,i]perylene		0.61	J B	5.1	ug/Kg	8270C
Benzo[b]fluoranthene		1.3	J B	5.1	ug/Kg	8270C
Benzo[k]fluoranthene		0.42	J B	5.1	ug/Kg	8270C
Di-n-butyl phthalate		41	J B	210	ug/Kg	8270C
Di-n-octyl phthalate		140	J	210	ug/Kg	8270C
Gasoline		8.7		6.0	mg/Kg	NWTPH-Gx
#2 Diesel (C10-C24)		6.4	J	25	mg/Kg	NWTPH-Dx
Barium		44		0.23	mg/Kg	6010B
Chromium		23		0.46	mg/Kg	6010B
Selenium		2.9		2.3	mg/Kg	6010B
Arsenic		2.0		0.18	mg/Kg	6020
Lead		2.6	B	0.18	mg/Kg	6020
580-3718-13	**DP10-060926-W**					
Naphthalene		0.017	J	2.0	ug/L	8270C
Diethyl phthalate		0.13	J	2.0	ug/L	8270C
Fluorene		0.054	J	0.31	ug/L	8270C
Di-n-butyl phthalate		0.89	J B	2.0	ug/L	8270C
Butyl benzyl phthalate		0.44	J	3.1	ug/L	8270C
Motor Oil (>C24-C36)		0.14	J *	0.50	mg/L	NWTPH-Dx
#2 Diesel (C10-C24)		0.055	J	0.25	mg/L	NWTPH-Dx
Total Recoverable						
Barium		0.016	B	0.0050	mg/L	6010B
580-3718-14	**DP10-060926-WDUP**					
Acenaphthene		0.061	J	0.50	ug/L	8270C
Fluorene		0.069	J	0.30	ug/L	8270C
Di-n-butyl phthalate		0.93	J B	2.0	ug/L	8270C
Pyrene		0.022	J	0.30	ug/L	8270C
Butyl benzyl phthalate		0.56	J	3.0	ug/L	8270C
Motor Oil (>C24-C36)		0.076	J *	0.51	mg/L	NWTPH-Dx
#2 Diesel (C10-C24)		0.047	J	0.26	mg/L	NWTPH-Dx
Mercury		0.00011	J	0.00020	mg/L	7470A
Total Recoverable						
Barium		0.016	B	0.0050	mg/L	6010B

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-15	**DP07-060926-045**					
Benzofluoranthene		1.4	J B	11	ug/Kg	8270C
Benzo[a]pyrene		0.72	J B	5.5	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		0.66	J B	5.5	ug/Kg	8270C
Dibenz(a,h)anthracene		1.0	J B	5.5	ug/Kg	8270C
Benzo[g,h,i]perylene		0.47	J B	5.5	ug/Kg	8270C
Benzo[b]fluoranthene		1.6	J B	5.5	ug/Kg	8270C
2,6-Dinitrotoluene		33	J	110	ug/Kg	8270C
Di-n-butyl phthalate		44	J B	220	ug/Kg	8270C
Gasoline		2.8	J	8.1	mg/Kg	NWTPH-Gx
Barium		25		0.21	mg/Kg	6010B
Chromium		15		0.42	mg/Kg	6010B
Arsenic		2.8		0.17	mg/Kg	6020
Lead		1.5	B	0.17	mg/Kg	6020
Cadmium		0.023	J	0.17	mg/Kg	6020
580-3718-16	**DP07-060926-045DUP**					
Benzofluoranthene		0.97	J B	10	ug/Kg	8270C
Dibenz(a,h)anthracene		0.39	J B	5.1	ug/Kg	8270C
Benzo[g,h,i]perylene		0.40	J B	5.1	ug/Kg	8270C
Benzo[b]fluoranthene		1.0	J B	5.1	ug/Kg	8270C
Di-n-butyl phthalate		39	J B	200	ug/Kg	8270C
Gasoline		1.4	J	7.5	mg/Kg	NWTPH-Gx
Barium		18		0.24	mg/Kg	6010B
Chromium		17		0.48	mg/Kg	6010B
Selenium		0.44	J	2.4	mg/Kg	6010B
Arsenic		2.9		0.19	mg/Kg	6020
Lead		1.4	B	0.19	mg/Kg	6020
Mercury		0.011	J	0.017	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-17	**DP08-060926-010**					
4-Isopropyltoluene		14	J	75	ug/Kg	8260B
Naphthalene		110		75	ug/Kg	8260B
Benzo[a]anthracene		34		5.0	ug/Kg	8270C
Chrysene		120		5.0	ug/Kg	8270C
Benzofluoranthene		98	B	9.9	ug/Kg	8270C
Benzo[a]pyrene		78	B	5.0	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		34	B	5.0	ug/Kg	8270C
Dibenz(a,h)anthracene		18	B	5.0	ug/Kg	8270C
Benzo[g,h,i]perylene		39	B	5.0	ug/Kg	8270C
Benzo[b]fluoranthene		66	B	5.0	ug/Kg	8270C
Benzo[k]fluoranthene		36	B	5.0	ug/Kg	8270C
Pyrene		290		200	ug/Kg	8270C
Di-n-octyl phthalate		1400	J	2000	ug/Kg	8270C
Benzofluoranthene		110	J	400	ug/Kg	8270C
Benzo[a]pyrene		220	J B	300	ug/Kg	8270C
Benzo[g,h,i]perylene		160	J	250	ug/Kg	8270C
Gasoline		60		7.5	mg/Kg	NWTPH-Gx
PCB-1260		0.027		0.011	mg/Kg	8082
Motor Oil (>C24-C36)		8800		500	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		7300		250	mg/Kg	NWTPH-Dx
Barium		110		0.22	mg/Kg	6010B
Chromium		13		0.45	mg/Kg	6010B
Selenium		2.5		2.2	mg/Kg	6010B
Arsenic		1.8		0.18	mg/Kg	6020
Lead		37	B	0.18	mg/Kg	6020
Cadmium		0.24		0.18	mg/Kg	6020
Mercury		0.038		0.018	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-18	**DP07-060926-W**					
Toluene		0.077	J	1.0	ug/L	8260B
m-Xylene & p-Xylene		0.22	J	2.0	ug/L	8260B
o-Xylene		0.079	J	1.0	ug/L	8260B
4-Isopropyltoluene		2.7		1.0	ug/L	8260B
3 & 4 Methylphenol		0.41	J	4.2	ug/L	8270C
Benzoic acid		5.5	J	10	ug/L	8270C
Diethyl phthalate		0.21	J	2.1	ug/L	8270C
Di-n-butyl phthalate		1.1	J B	2.1	ug/L	8270C
Butyl benzyl phthalate		0.59	J	3.1	ug/L	8270C
Di-n-octyl phthalate		1.4	J	2.1	ug/L	8270C
Gasoline		0.018	J	0.050	mg/L	NWTPH-Gx
Motor Oil (>C24-C36)		0.23	J *	0.51	mg/L	NWTPH-Dx
#2 Diesel (C10-C24)		0.090	J	0.25	mg/L	NWTPH-Dx
Mercury		0.00011	J	0.00020	mg/L	7470A
Total Recoverable						
Barium		0.047	B	0.0050	mg/L	6010B

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-3718-1	DP04-060925-010	Solid	09/25/2006 0945	09/26/2006 1139
580-3718-2	DP04-060925-040	Solid	09/25/2006 0950	09/26/2006 1139
580-3718-3	DP04-060925-W	Water	09/25/2006 1000	09/26/2006 1139
580-3718-4	DP03-060925-010	Solid	09/25/2006 1050	09/26/2006 1139
580-3718-5	DP02-060925-010	Solid	09/25/2006 1200	09/26/2006 1139
580-3718-6	DP01-060925-010	Solid	09/25/2006 1245	09/26/2006 1139
580-3718-7	DP01-060925-W	Water	09/25/2006 1315	09/26/2006 1139
580-3718-8	DP09-060925-010	Solid	09/25/2006 1440	09/26/2006 1139
580-3718-9	DP09-060925-W	Water	09/25/2006 1445	09/26/2006 1139
580-3718-10	DP05-060925-015	Solid	09/25/2006 1545	09/26/2006 1139
580-3718-11	DP06-060926-030	Solid	09/26/2006 0900	09/26/2006 1139
580-3718-12	DP10-060926-020	Solid	09/26/2006 1010	09/26/2006 1139
580-3718-13	DP10-060926-W	Water	09/26/2006 1030	09/26/2006 1139
580-3718-14	DP10-060926-WDUP	Water	09/26/2006 1035	09/26/2006 1139
580-3718-15	DP07-060926-045	Solid	09/26/2006 1120	09/26/2006 1139
580-3718-16	DP07-060926-045DUP	Solid	09/26/2006 1125	09/26/2006 1139
580-3718-17	DP08-060926-010	Solid	09/26/2006 1315	09/26/2006 1139
580-3718-18	DP07-060926-W	Water	09/26/2006 1145	09/26/2006 1139

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-010**

Lab Sample ID: 580-3718-1 | Date Sampled: 09/25/2006 0945
Client Matrix: Solid | % Moisture: 12.9 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29552.D
Dilution: 1.0 | Initial Weight/Volume: 6.37 g
Date Analyzed: 09/28/2006 1632 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		10	72
Chloromethane		ND		13	72
Vinyl chloride		ND		9.4	29
Bromomethane		ND		50	360
Chloroethane		ND	*	52	360
Trichlorofluoromethane		ND		6.9	72
1,1-Dichloroethene		ND		9.6	29
Methylene Chloride		ND		11	72
trans-1,2-Dichloroethene		ND		7.8	72
1,1-Dichloroethane		ND		17	72
2,2-Dichloropropane		ND		8.5	72
cis-1,2-Dichloroethene		ND		11	72
Chlorobromomethane		ND		8.7	72
Chloroform		ND		6.9	72
1,1,1-Trichloroethane		ND		7.0	29
Carbon tetrachloride		ND		5.4	29
1,1-Dichloropropene		ND		5.6	72
Benzene		ND		5.0	14
1,2-Dichloroethane		ND		15	72
Trichloroethene		ND		5.4	29
1,2-Dichloropropane		ND		4.5	14
Dibromomethane		ND		13	72
Dichlorobromomethane		ND		5.0	72
cis-1,3-Dichloropropene		ND		5.0	72
Toluene		ND		13	72
trans-1,3-Dichloropropene		ND		5.0	72
1,1,2-Trichloroethane		ND		6.5	72
Tetrachloroethene		ND		13	45
1,3-Dichloropropane		ND		7.6	29
Chlorodibromomethane		ND		4.5	72
Ethylene Dibromide		ND		12	72
Chlorobenzene		ND		22	72
Ethylbenzene		ND		13	72
1,1,1,2-Tetrachloroethane		ND		6.9	72
1,1,2,2-Tetrachloroethane		ND		4.3	14
m-Xylene & p-Xylene		ND		27	72
o-Xylene		ND		13	72
Styrene		ND		5.8	72
Bromoform		ND		5.0	72
Isopropylbenzene		ND		11	72
Bromobenzene		ND		6.5	72
N-Propylbenzene		ND		12	72
1,2,3-Trichloropropane		ND		13	72

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-010**

Lab Sample ID: 580-3718-1 | Date Sampled: 09/25/2006 0945
Client Matrix: Solid | % Moisture: 12.9 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29552.D
Dilution: 1.0 | Initial Weight/Volume: 6.37 g
Date Analyzed: 09/28/2006 1632 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		10	72
1,3,5-Trimethylbenzene		ND		11	72
4-Chlorotoluene		ND		6.3	72
tert-Butylbenzene		ND		6.1	72
1,2,4-Trimethylbenzene		ND		12	72
sec-Butylbenzene		ND		2.9	72
1,3-Dichlorobenzene		ND		7.4	72
4-Isopropyltoluene		ND		5.0	72
1,4-Dichlorobenzene		ND		3.6	72
n-Butylbenzene		ND		4.3	72
1,2-Dichlorobenzene		ND		6.1	72
1,2-Dibromo-3-Chloropropane		ND		16	72
1,2,4-Trichlorobenzene		ND		7.0	72
1,2,3-Trichlorobenzene		ND		8.7	72
Hexachlorobutadiene		ND		12	72
Naphthalene		6.5	J	4.7	72

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	88	75 - 125
Ethylbenzene-d10	84	75 - 125
4-Bromofluorobenzene (Surr)	78	75 - 125
Trifluorotoluene (Surr)	101	75 - 125

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-040**

Lab Sample ID: 580-3718-2 | Date Sampled: 09/25/2006 0950
Client Matrix: Solid | % Moisture: 27.3 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29553.D
Dilution: 1.0 | Initial Weight/Volume: 4.63 g
Date Analyzed: 09/28/2006 1651 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		17	120
Chloromethane		ND		22	120
Vinyl chloride		ND		15	48
Bromomethane		ND		83	590
Chloroethane		ND	*	86	590
Trichlorofluoromethane		ND		11	120
1,1-Dichloroethene		ND		16	48
Methylene Chloride		ND		18	120
trans-1,2-Dichloroethene		ND		13	120
1,1-Dichloroethane		ND		28	120
2,2-Dichloropropane		ND		14	120
cis-1,2-Dichloroethene		ND		18	120
Chlorobromomethane		ND		14	120
Chloroform		ND		11	120
1,1,1-Trichloroethane		ND		12	48
Carbon tetrachloride		ND		8.9	48
1,1-Dichloropropene		ND		9.2	120
Benzene		ND		8.3	24
1,2-Dichloroethane		ND		24	120
Trichloroethene		ND		8.9	48
1,2-Dichloropropane		ND		7.4	24
Dibromomethane		ND		22	120
Dichlorobromomethane		ND		8.3	120
cis-1,3-Dichloropropene		ND		8.3	120
Toluene		ND		22	120
trans-1,3-Dichloropropene		ND		8.3	120
1,1,2-Trichloroethane		ND		11	120
Tetrachloroethene		ND		22	74
1,3-Dichloropropane		ND		12	48
Chlorodibromomethane		ND		7.4	120
Ethylene Dibromide		ND		20	120
Chlorobenzene		ND		36	120
Ethylbenzene		ND		21	120
1,1,1,2-Tetrachloroethane		ND		11	120
1,1,2,2-Tetrachloroethane		ND		7.1	24
m-Xylene & p-Xylene		ND		45	120
o-Xylene		ND		21	120
Styrene		ND		9.5	120
Bromoform		ND		8.3	120
Isopropylbenzene		ND		18	120
Bromobenzene		ND		11	120
N-Propylbenzene		ND		21	120
1,2,3-Trichloropropane		ND		21	120

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-040**

Lab Sample ID: 580-3718-2 | Date Sampled: 09/25/2006 0950
Client Matrix: Solid | % Moisture: 27.3 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29553.D
Dilution: 1.0 | Initial Weight/Volume: 4.63 g
Date Analyzed: 09/28/2006 1651 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		17	120
1,3,5-Trimethylbenzene		ND		18	120
4-Chlorotoluene		ND		10	120
tert-Butylbenzene		ND		10	120
1,2,4-Trimethylbenzene		ND		21	120
sec-Butylbenzene		ND		4.8	120
1,3-Dichlorobenzene		ND		12	120
4-Isopropyltoluene		ND		8.3	120
1,4-Dichlorobenzene		ND		5.9	120
n-Butylbenzene		ND		7.1	120
1,2-Dichlorobenzene		ND		10	120
1,2-Dibromo-3-Chloropropane		ND		26	120
1,2,4-Trichlorobenzene		ND		12	120
1,2,3-Trichlorobenzene		ND		14	120
Hexachlorobutadiene		ND		20	120
Naphthalene		12	J	7.7	120

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	88	75 - 125
Ethylbenzene-d10	83	75 - 125
4-Bromofluorobenzene (Surr)	76	75 - 125
Trifluorotoluene (Surr)	87	75 - 125

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP04-060925-W**

Lab Sample ID: 580-3718-3
Client Matrix: Water

Date Sampled: 09/25/2006 1000
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 1858
Date Prepared: 10/02/2006 1858

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12740.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.13	1.0
Chloromethane	ND		0.18	1.0
Vinyl chloride	ND		0.18	1.0
Bromomethane	ND		0.23	1.0
Chloroethane	ND		0.19	5.0
Trichlorofluoromethane	ND		0.088	1.0
1,1-Dichloroethene	ND		0.098	1.0
Methylene Chloride	ND		0.090	1.0
trans-1,2-Dichloroethene	ND		0.074	1.0
1,1-Dichloroethane	ND		0.11	1.0
2,2-Dichloropropane	ND		0.28	1.0
cis-1,2-Dichloroethene	ND		0.079	1.0
Chlorobromomethane	ND		0.14	1.0
Chloroform	ND		0.067	1.0
1,1,1-Trichloroethane	ND		0.11	1.0
Carbon tetrachloride	ND		0.070	1.0
1,1-Dichloropropene	ND		0.080	1.0
Benzene	ND		0.10	1.0
1,2-Dichloroethane	ND		0.20	1.0
Trichloroethene	ND		0.074	1.0
1,2-Dichloropropane	ND		0.092	1.0
Dibromomethane	ND		0.13	1.0
Dichlorobromomethane	ND		0.076	1.0
cis-1,3-Dichloropropene	ND		0.064	1.0
Toluene	0.37	J	0.066	1.0
trans-1,3-Dichloropropene	ND		0.082	1.0
1,1,2-Trichloroethane	ND		0.076	1.0
Tetrachloroethene	ND		0.088	1.0
1,3-Dichloropropane	ND		0.10	1.0
Chlorodibromomethane	ND		0.11	1.0
Ethylene Dibromide	ND		0.076	1.0
Chlorobenzene	ND		0.063	1.0
Ethylbenzene	0.36	J	0.085	1.0
1,1,1,2-Tetrachloroethane	ND		0.073	1.0
1,1,2,2-Tetrachloroethane	ND		0.11	1.0
m-Xylene & p-Xylene	1.1	J	0.17	2.0
o-Xylene	0.40	J	0.068	1.0
Styrene	ND		0.061	1.0
Bromoform	ND		0.076	1.0
Isopropylbenzene	ND		0.084	1.0
Bromobenzene	ND		0.079	1.0
N-Propylbenzene	ND		0.069	1.0
1,2,3-Trichloropropane	ND		0.11	1.0

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP04-060925-W**

Lab Sample ID: 580-3718-3
Client Matrix: Water

Date Sampled: 09/25/2006 1000
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 1858
Date Prepared: 10/02/2006 1858

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12740.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Chlorotoluene	ND		0.060	1.0
1,3,5-Trimethylbenzene	ND		0.077	1.0
4-Chlorotoluene	ND		0.098	1.0
tert-Butylbenzene	ND		0.048	1.0
1,2,4-Trimethylbenzene	ND		0.086	1.0
sec-Butylbenzene	ND		0.040	1.0
1,3-Dichlorobenzene	ND		0.040	1.0
4-Isopropyltoluene	ND		0.077	1.0
1,4-Dichlorobenzene	ND		0.052	1.0
n-Butylbenzene	ND		0.098	1.0
1,2-Dichlorobenzene	ND		0.070	1.0
1,2-Dibromo-3-Chloropropane	ND		0.43	2.0
1,2,4-Trichlorobenzene	ND		0.046	1.0
1,2,3-Trichlorobenzene	ND		0.089	1.0
Hexachlorobutadiene	ND		0.14	1.0
Naphthalene	ND		0.070	1.0

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	90	80 - 120
Toluene-d8 (Surr)	92	80 - 120
Ethylbenzene-d10	93	80 - 120
4-Bromofluorobenzene (Surr)	92	80 - 120
Trifluorotoluene (Surr)	104	80 - 120

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP03-060925-010**

Lab Sample ID: 580-3718-4 | Date Sampled: 09/25/2006 1050
Client Matrix: Solid | % Moisture: 8.7 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29554.D
Dilution: 1.0 | Initial Weight/Volume: 6.77 g
Date Analyzed: 09/28/2006 1710 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		9.1	65
Chloromethane		ND		12	65
Vinyl chloride		ND		8.4	26
Bromomethane		ND		45	320
Chloroethane		ND	*	47	320
Trichlorofluoromethane		ND		6.1	65
1,1-Dichloroethene		ND		8.6	26
Methylene Chloride		ND		9.9	65
trans-1,2-Dichloroethene		ND		7.0	65
1,1-Dichloroethane		ND		15	65
2,2-Dichloropropane		ND		7.6	65
cis-1,2-Dichloroethene		ND		9.7	65
Chlorobromomethane		ND		7.8	65
Chloroform		ND		6.1	65
1,1,1-Trichloroethane		ND		6.3	26
Carbon tetrachloride		ND		4.9	26
1,1-Dichloropropene		ND		5.0	65
Benzene		ND		4.5	13
1,2-Dichloroethane		ND		13	65
Trichloroethene		ND		4.9	26
1,2-Dichloropropane		ND		4.0	13
Dibromomethane		ND		12	65
Dichlorobromomethane		ND		4.5	65
cis-1,3-Dichloropropene		ND		4.5	65
Toluene		ND		12	65
trans-1,3-Dichloropropene		ND		4.5	65
1,1,2-Trichloroethane		ND		5.8	65
Tetrachloroethene		ND		12	40
1,3-Dichloropropane		ND		6.8	26
Chlorodibromomethane		ND		4.0	65
Ethylene Dibromide		ND		11	65
Chlorobenzene		ND		19	65
Ethylbenzene		ND		12	65
1,1,1,2-Tetrachloroethane		ND		6.1	65
1,1,2,2-Tetrachloroethane		ND		3.9	13
m-Xylene & p-Xylene		ND		24	65
o-Xylene		ND		12	65
Styrene		ND		5.2	65
Bromoform		ND		4.5	65
Isopropylbenzene		ND		9.9	65
Bromobenzene		ND		5.8	65
N-Propylbenzene		ND		11	65
1,2,3-Trichloropropane		ND		11	65

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP03-060925-010**

Lab Sample ID: 580-3718-4 | Date Sampled: 09/25/2006 1050
Client Matrix: Solid | % Moisture: 8.7 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29554.D
Dilution: 1.0 | Initial Weight/Volume: 6.77 g
Date Analyzed: 09/28/2006 1710 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		9.4	65
1,3,5-Trimethylbenzene		ND		9.7	65
4-Chlorotoluene		ND		5.7	65
tert-Butylbenzene		ND		5.5	65
1,2,4-Trimethylbenzene		ND		11	65
sec-Butylbenzene		ND		2.6	65
1,3-Dichlorobenzene		ND		6.6	65
4-Isopropyltoluene		ND		4.5	65
1,4-Dichlorobenzene		ND		3.2	65
n-Butylbenzene		ND		3.9	65
1,2-Dichlorobenzene		ND		5.5	65
1,2-Dibromo-3-Chloropropane		ND		14	65
1,2,4-Trichlorobenzene		ND		6.3	65
1,2,3-Trichlorobenzene		ND		7.8	65
Hexachlorobutadiene		ND		11	65
Naphthalene		4.6	J	4.2	65

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	92	75 - 125
Ethylbenzene-d10	92	75 - 125
4-Bromofluorobenzene (Surr)	88	75 - 125
Trifluorotoluene (Surr)	99	75 - 125

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP02-060925-010**

Lab Sample ID: 580-3718-5 | Date Sampled: 09/25/2006 1200
Client Matrix: Solid | % Moisture: 6.2 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29555.D
Dilution: 1.0 | Initial Weight/Volume: 5.39 g
Date Analyzed: 09/28/2006 1729 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		11	79
Chloromethane		ND		14	79
Vinyl chloride		ND		10	32
Bromomethane		ND		55	400
Chloroethane		ND	*	57	400
Trichlorofluoromethane		ND		7.5	79
1,1-Dichloroethene		ND		10	32
Methylene Chloride		ND		12	79
trans-1,2-Dichloroethene		ND		8.5	79
1,1-Dichloroethane		ND		19	79
2,2-Dichloropropane		ND		9.3	79
cis-1,2-Dichloroethene		ND		12	79
Chlorobromomethane		ND		9.5	79
Chloroform		ND		7.5	79
1,1,1-Trichloroethane		ND		7.7	32
Carbon tetrachloride		ND		5.9	32
1,1-Dichloropropene		ND		6.1	79
Benzene		ND		5.5	16
1,2-Dichloroethane		ND		16	79
Trichloroethene		ND		5.9	32
1,2-Dichloropropane		ND		4.9	16
Dibromomethane		ND		14	79
Dichlorobromomethane		ND		5.5	79
cis-1,3-Dichloropropene		ND		5.5	79
Toluene		ND		15	79
trans-1,3-Dichloropropene		ND		5.5	79
1,1,2-Trichloroethane		ND		7.1	79
Tetrachloroethene		ND		14	49
1,3-Dichloropropane		ND		8.3	32
Chlorodibromomethane		ND		4.9	79
Ethylene Dibromide		ND		13	79
Chlorobenzene		ND		24	79
Ethylbenzene		ND		14	79
1,1,1,2-Tetrachloroethane		ND		7.5	79
1,1,2,2-Tetrachloroethane		ND		4.7	16
m-Xylene & p-Xylene		ND		30	79
o-Xylene		ND		14	79
Styrene		ND		6.3	79
Bromoform		ND		5.5	79
Isopropylbenzene		ND		12	79
Bromobenzene		ND		7.1	79
N-Propylbenzene		ND		14	79
1,2,3-Trichloropropane		ND		14	79

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP02-060925-010**

Lab Sample ID: 580-3718-5 | Date Sampled: 09/25/2006 1200
Client Matrix: Solid | % Moisture: 6.2 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29555.D
Dilution: 1.0 | Initial Weight/Volume: 5.39 g
Date Analyzed: 09/28/2006 1729 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		11	79
1,3,5-Trimethylbenzene		ND		12	79
4-Chlorotoluene		ND		6.9	79
tert-Butylbenzene		ND		6.7	79
1,2,4-Trimethylbenzene		ND		14	79
sec-Butylbenzene		37	J	3.2	79
1,3-Dichlorobenzene		ND		8.1	79
4-Isopropyltoluene		ND		5.5	79
1,4-Dichlorobenzene		ND		4.0	79
n-Butylbenzene		ND		4.7	79
1,2-Dichlorobenzene		ND		6.7	79
1,2-Dibromo-3-Chloropropane		ND		17	79
1,2,4-Trichlorobenzene		ND		7.7	79
1,2,3-Trichlorobenzene		ND		9.5	79
Hexachlorobutadiene		ND		13	79
Naphthalene		14	J	5.1	79

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	87	75 - 125
Ethylbenzene-d10	84	75 - 125
4-Bromofluorobenzene (Surr)	78	75 - 125
Trifluorotoluene (Surr)	100	75 - 125

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP01-060925-010**

Lab Sample ID: 580-3718-6 | Date Sampled: 09/25/2006 1245
Client Matrix: Solid | % Moisture: 9.7 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29556.D
Dilution: 1.0 | Initial Weight/Volume: 5.52 g
Date Analyzed: 09/28/2006 1748 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		11	80
Chloromethane		ND		15	80
Vinyl chloride		ND		10	32
Bromomethane		ND		56	400
Chloroethane		ND	*	58	400
Trichlorofluoromethane		ND		7.6	80
1,1-Dichloroethene		ND		11	32
Methylene Chloride		ND		12	80
trans-1,2-Dichloroethene		ND		8.6	80
1,1-Dichloroethane		ND		19	80
2,2-Dichloropropane		ND		9.4	80
cis-1,2-Dichloroethene		ND		12	80
Chlorobromomethane		ND		9.6	80
Chloroform		ND		7.6	80
1,1,1-Trichloroethane		ND		7.8	32
Carbon tetrachloride		ND		6.0	32
1,1-Dichloropropene		ND		6.2	80
Benzene		ND		5.6	16
1,2-Dichloroethane		ND		16	80
Trichloroethene		ND		6.0	32
1,2-Dichloropropane		ND		5.0	16
Dibromomethane		ND		15	80
Dichlorobromomethane		ND		5.6	80
cis-1,3-Dichloropropene		ND		5.6	80
Toluene		ND		15	80
trans-1,3-Dichloropropene		ND		5.6	80
1,1,2-Trichloroethane		ND		7.2	80
Tetrachloroethene		ND		15	50
1,3-Dichloropropane		ND		8.4	32
Chlorodibromomethane		ND		5.0	80
Ethylene Dibromide		ND		13	80
Chlorobenzene		ND		24	80
Ethylbenzene		ND		14	80
1,1,1,2-Tetrachloroethane		ND		7.6	80
1,1,2,2-Tetrachloroethane		ND		4.8	16
m-Xylene & p-Xylene		ND		30	80
o-Xylene		ND		14	80
Styrene		ND		6.4	80
Bromoform		ND		5.6	80
Isopropylbenzene		ND		12	80
Bromobenzene		ND		7.2	80
N-Propylbenzene		ND		14	80
1,2,3-Trichloropropane		ND		14	80

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP01-060925-010**

Lab Sample ID:	580-3718-6			Date Sampled:	09/25/2006 1245
Client Matrix:	Solid	% Moisture:	9.7	Date Received:	09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-11393		Instrument ID:	SEA001
Preparation:	5035	Prep Batch: 580-11334		Lab File ID:	AG29556.D
Dilution:	1.0			Initial Weight/Volume:	5.52 g
Date Analyzed:	09/28/2006 1748			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1457				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		12	80
1,3,5-Trimethylbenzene		ND		12	80
4-Chlorotoluene		ND		7.0	80
tert-Butylbenzene		ND		6.8	80
1,2,4-Trimethylbenzene		ND		14	80
sec-Butylbenzene		ND		3.2	80
1,3-Dichlorobenzene		ND		8.2	80
4-Isopropyltoluene		ND		5.6	80
1,4-Dichlorobenzene		ND		4.0	80
n-Butylbenzene		ND		4.8	80
1,2-Dichlorobenzene		ND		6.8	80
1,2-Dibromo-3-Chloropropane		ND		18	80
1,2,4-Trichlorobenzene		ND		7.8	80
1,2,3-Trichlorobenzene		ND		9.6	80
Hexachlorobutadiene		ND		13	80
Naphthalene		ND		5.2	80

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	88	75 - 125
Ethylbenzene-d10	84	75 - 125
4-Bromofluorobenzene (Surr)	78	75 - 125
Trifluorotoluene (Surr)	103	75 - 125

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP01-060925-W**

Lab Sample ID: 580-3718-7
Client Matrix: Water

Date Sampled: 09/25/2006 1315
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 1918
Date Prepared: 10/02/2006 1918

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12741.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.13	1.0
Chloromethane	ND		0.18	1.0
Vinyl chloride	ND		0.18	1.0
Bromomethane	ND		0.23	1.0
Chloroethane	ND		0.19	5.0
Trichlorofluoromethane	ND		0.088	1.0
1,1-Dichloroethene	ND		0.098	1.0
Methylene Chloride	ND		0.090	1.0
trans-1,2-Dichloroethene	ND		0.074	1.0
1,1-Dichloroethane	ND		0.11	1.0
2,2-Dichloropropane	ND		0.28	1.0
cis-1,2-Dichloroethene	ND		0.079	1.0
Chlorobromomethane	ND		0.14	1.0
Chloroform	ND		0.067	1.0
1,1,1-Trichloroethane	ND		0.11	1.0
Carbon tetrachloride	ND		0.070	1.0
1,1-Dichloropropene	ND		0.080	1.0
Benzene	ND		0.10	1.0
1,2-Dichloroethane	ND		0.20	1.0
Trichloroethene	ND		0.074	1.0
1,2-Dichloropropane	ND		0.092	1.0
Dibromomethane	ND		0.13	1.0
Dichlorobromomethane	ND		0.076	1.0
cis-1,3-Dichloropropene	ND		0.064	1.0
Toluene	0.86	J	0.066	1.0
trans-1,3-Dichloropropene	ND		0.082	1.0
1,1,2-Trichloroethane	ND		0.076	1.0
Tetrachloroethene	ND		0.088	1.0
1,3-Dichloropropane	ND		0.10	1.0
Chlorodibromomethane	ND		0.11	1.0
Ethylene Dibromide	ND		0.076	1.0
Chlorobenzene	ND		0.063	1.0
Ethylbenzene	0.40	J	0.085	1.0
1,1,1,2-Tetrachloroethane	ND		0.073	1.0
1,1,2,2-Tetrachloroethane	ND		0.11	1.0
m-Xylene & p-Xylene	1.5	J	0.17	2.0
o-Xylene	0.96	J	0.068	1.0
Styrene	ND		0.061	1.0
Bromoform	ND		0.076	1.0
Isopropylbenzene	0.095	J	0.084	1.0
Bromobenzene	ND		0.079	1.0
N-Propylbenzene	0.23	J	0.069	1.0
1,2,3-Trichloropropane	ND		0.11	1.0

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP01-060925-W**

Lab Sample ID: 580-3718-7
Client Matrix: Water

Date Sampled: 09/25/2006 1315
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 1918
Date Prepared: 10/02/2006 1918

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12741.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Chlorotoluene	ND		0.060	1.0
1,3,5-Trimethylbenzene	0.65	J	0.077	1.0
4-Chlorotoluene	ND		0.098	1.0
tert-Butylbenzene	0.39	J	0.048	1.0
1,2,4-Trimethylbenzene	2.7		0.086	1.0
sec-Butylbenzene	ND		0.040	1.0
1,3-Dichlorobenzene	ND		0.040	1.0
4-Isopropyltoluene	ND		0.077	1.0
1,4-Dichlorobenzene	ND		0.052	1.0
n-Butylbenzene	ND		0.098	1.0
1,2-Dichlorobenzene	ND		0.070	1.0
1,2-Dibromo-3-Chloropropane	ND		0.43	2.0
1,2,4-Trichlorobenzene	ND		0.046	1.0
1,2,3-Trichlorobenzene	ND		0.089	1.0
Hexachlorobutadiene	ND		0.14	1.0
Naphthalene	1.4		0.070	1.0

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	92	80 - 120
Toluene-d8 (Surr)	94	80 - 120
Ethylbenzene-d10	92	80 - 120
4-Bromofluorobenzene (Surr)	94	80 - 120
Trifluorotoluene (Surr)	111	80 - 120

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP09-060925-010**

Lab Sample ID: 580-3718-8 | Date Sampled: 09/25/2006 1440
Client Matrix: Solid | % Moisture: 11.5 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29557.D
Dilution: 1.0 | Initial Weight/Volume: 6.54 g
Date Analyzed: 09/28/2006 1807 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		9.7	69
Chloromethane		ND		13	69
Vinyl chloride		ND		9.0	28
Bromomethane		ND		48	350
Chloroethane		ND	*	50	350
Trichlorofluoromethane		ND		6.6	69
1,1-Dichloroethene		ND		9.2	28
Methylene Chloride		ND		11	69
trans-1,2-Dichloroethene		ND		7.4	69
1,1-Dichloroethane		ND		16	69
2,2-Dichloropropane		ND		8.1	69
cis-1,2-Dichloroethene		ND		10	69
Chlorobromomethane		ND		8.3	69
Chloroform		ND		6.6	69
1,1,1-Trichloroethane		ND		6.7	28
Carbon tetrachloride		ND		5.2	28
1,1-Dichloropropene		ND		5.4	69
Benzene		ND		4.8	14
1,2-Dichloroethane		ND		14	69
Trichloroethene		ND		5.2	28
1,2-Dichloropropane		ND		4.3	14
Dibromomethane		ND		13	69
Dichlorobromomethane		ND		4.8	69
cis-1,3-Dichloropropene		ND		4.8	69
Toluene		ND		13	69
trans-1,3-Dichloropropene		ND		4.8	69
1,1,2-Trichloroethane		ND		6.2	69
Tetrachloroethene		ND		13	43
1,3-Dichloropropane		ND		7.3	28
Chlorodibromomethane		ND		4.3	69
Ethylene Dibromide		ND		11	69
Chlorobenzene		ND		21	69
Ethylbenzene		ND		12	69
1,1,1,2-Tetrachloroethane		ND		6.6	69
1,1,2,2-Tetrachloroethane		ND		4.1	14
m-Xylene & p-Xylene		ND		26	69
o-Xylene		ND		12	69
Styrene		ND		5.5	69
Bromoform		ND		4.8	69
Isopropylbenzene		ND		11	69
Bromobenzene		ND		6.2	69
N-Propylbenzene		ND		12	69
1,2,3-Trichloropropane		ND		12	69

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP09-060925-010**

Lab Sample ID: 580-3718-8 | Date Sampled: 09/25/2006 1440
Client Matrix: Solid | % Moisture: 11.5 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29557.D
Dilution: 1.0 | Initial Weight/Volume: 6.54 g
Date Analyzed: 09/28/2006 1807 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		10	69
1,3,5-Trimethylbenzene		ND		10	69
4-Chlorotoluene		ND		6.1	69
tert-Butylbenzene		ND		5.9	69
1,2,4-Trimethylbenzene		ND		12	69
sec-Butylbenzene		ND		2.8	69
1,3-Dichlorobenzene		ND		7.1	69
4-Isopropyltoluene		ND		4.8	69
1,4-Dichlorobenzene		ND		3.5	69
n-Butylbenzene		ND		4.1	69
1,2-Dichlorobenzene		ND		5.9	69
1,2-Dibromo-3-Chloropropane		ND		15	69
1,2,4-Trichlorobenzene		ND		6.7	69
1,2,3-Trichlorobenzene		ND		8.3	69
Hexachlorobutadiene		ND		11	69
Naphthalene		ND		4.5	69

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	88	75 - 125
Ethylbenzene-d10	85	75 - 125
4-Bromofluorobenzene (Surr)	78	75 - 125
Trifluorotoluene (Surr)	100	75 - 125

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP09-060925-W**

Lab Sample ID: 580-3718-9
Client Matrix: Water

Date Sampled: 09/25/2006 1445
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 1938
Date Prepared: 10/02/2006 1938

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12742.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.13	1.0
Chloromethane	ND		0.18	1.0
Vinyl chloride	ND		0.18	1.0
Bromomethane	ND		0.23	1.0
Chloroethane	ND		0.19	5.0
Trichlorofluoromethane	ND		0.088	1.0
1,1-Dichloroethene	ND		0.098	1.0
Methylene Chloride	ND		0.090	1.0
trans-1,2-Dichloroethene	ND		0.074	1.0
1,1-Dichloroethane	ND		0.11	1.0
2,2-Dichloropropane	ND		0.28	1.0
cis-1,2-Dichloroethene	ND		0.079	1.0
Chlorobromomethane	ND		0.14	1.0
Chloroform	ND		0.067	1.0
1,1,1-Trichloroethane	ND		0.11	1.0
Carbon tetrachloride	ND		0.070	1.0
1,1-Dichloropropene	ND		0.080	1.0
Benzene	ND		0.10	1.0
1,2-Dichloroethane	ND		0.20	1.0
Trichloroethene	ND		0.074	1.0
1,2-Dichloropropane	ND		0.092	1.0
Dibromomethane	ND		0.13	1.0
Dichlorobromomethane	ND		0.076	1.0
cis-1,3-Dichloropropene	ND		0.064	1.0
Toluene	ND		0.066	1.0
trans-1,3-Dichloropropene	ND		0.082	1.0
1,1,2-Trichloroethane	ND		0.076	1.0
Tetrachloroethene	ND		0.088	1.0
1,3-Dichloropropane	ND		0.10	1.0
Chlorodibromomethane	ND		0.11	1.0
Ethylene Dibromide	ND		0.076	1.0
Chlorobenzene	ND		0.063	1.0
Ethylbenzene	ND		0.085	1.0
1,1,1,2-Tetrachloroethane	ND		0.073	1.0
1,1,2,2-Tetrachloroethane	ND		0.11	1.0
m-Xylene & p-Xylene	ND		0.17	2.0
o-Xylene	ND		0.068	1.0
Styrene	ND		0.061	1.0
Bromoform	ND		0.076	1.0
Isopropylbenzene	ND		0.084	1.0
Bromobenzene	ND		0.079	1.0
N-Propylbenzene	ND		0.069	1.0
1,2,3-Trichloropropane	ND		0.11	1.0

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP09-060925-W**

Lab Sample ID: 580-3718-9
Client Matrix: Water

Date Sampled: 09/25/2006 1445
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 1938
Date Prepared: 10/02/2006 1938

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12742.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Chlorotoluene	ND		0.060	1.0
1,3,5-Trimethylbenzene	ND		0.077	1.0
4-Chlorotoluene	ND		0.098	1.0
tert-Butylbenzene	ND		0.048	1.0
1,2,4-Trimethylbenzene	ND		0.086	1.0
sec-Butylbenzene	ND		0.040	1.0
1,3-Dichlorobenzene	ND		0.040	1.0
4-Isopropyltoluene	0.12	J	0.077	1.0
1,4-Dichlorobenzene	ND		0.052	1.0
n-Butylbenzene	ND		0.098	1.0
1,2-Dichlorobenzene	ND		0.070	1.0
1,2-Dibromo-3-Chloropropane	ND		0.43	2.0
1,2,4-Trichlorobenzene	ND		0.046	1.0
1,2,3-Trichlorobenzene	ND		0.089	1.0
Hexachlorobutadiene	ND		0.14	1.0
Naphthalene	0.077	J	0.070	1.0

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	90	80 - 120
Toluene-d8 (Surr)	94	80 - 120
Ethylbenzene-d10	94	80 - 120
4-Bromofluorobenzene (Surr)	95	80 - 120
Trifluorotoluene (Surr)	111	80 - 120

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP05-060925-015**

Lab Sample ID: 580-3718-10 | Date Sampled: 09/25/2006 1545
Client Matrix: Solid | % Moisture: 5.5 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11393 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11334 | Lab File ID: AG29558.D
Dilution: 1.0 | Initial Weight/Volume: 6.64 g
Date Analyzed: 09/28/2006 1826 | Final Weight/Volume: 400 mL
Date Prepared: 09/28/2006 1457

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		8.9	64
Chloromethane		ND		12	64
Vinyl chloride		ND		8.3	26
Bromomethane		ND		45	320
Chloroethane		ND	*	46	320
Trichlorofluoromethane		ND		6.1	64
1,1-Dichloroethene		ND		8.5	26
Methylene Chloride		ND		9.7	64
trans-1,2-Dichloroethene		ND		6.9	64
1,1-Dichloroethane		ND		15	64
2,2-Dichloropropane		ND		7.5	64
cis-1,2-Dichloroethene		ND		9.6	64
Chlorobromomethane		ND		7.7	64
Chloroform		ND		6.1	64
1,1,1-Trichloroethane		ND		6.2	26
Carbon tetrachloride		ND		4.8	26
1,1-Dichloropropene		ND		4.9	64
Benzene		ND		4.5	13
1,2-Dichloroethane		ND		13	64
Trichloroethene		ND		4.8	26
1,2-Dichloropropane		ND		4.0	13
Dibromomethane		ND		12	64
Dichlorobromomethane		ND		4.5	64
cis-1,3-Dichloropropene		ND		4.5	64
Toluene		ND		12	64
trans-1,3-Dichloropropene		ND		4.5	64
1,1,2-Trichloroethane		ND		5.7	64
Tetrachloroethene		ND		12	40
1,3-Dichloropropane		ND		6.7	26
Chlorodibromomethane		ND		4.0	64
Ethylene Dibromide		ND		11	64
Chlorobenzene		ND		19	64
Ethylbenzene		ND		11	64
1,1,1,2-Tetrachloroethane		ND		6.1	64
1,1,2,2-Tetrachloroethane		ND		3.8	13
m-Xylene & p-Xylene		ND		24	64
o-Xylene		ND		11	64
Styrene		ND		5.1	64
Bromoform		ND		4.5	64
Isopropylbenzene		ND		9.7	64
Bromobenzene		ND		5.7	64
N-Propylbenzene		ND		11	64
1,2,3-Trichloropropane		ND		11	64

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP05-060925-015**

Lab Sample ID:	580-3718-10			Date Sampled:	09/25/2006 1545
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-11393		Instrument ID:	SEA001
Preparation:	5035	Prep Batch: 580-11334		Lab File ID:	AG29558.D
Dilution:	1.0			Initial Weight/Volume:	6.64 g
Date Analyzed:	09/28/2006 1826			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1457				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		9.2	64
1,3,5-Trimethylbenzene		ND		9.6	64
4-Chlorotoluene		ND		5.6	64
tert-Butylbenzene		ND		5.4	64
1,2,4-Trimethylbenzene		ND		11	64
sec-Butylbenzene		ND		2.6	64
1,3-Dichlorobenzene		ND		6.5	64
4-Isopropyltoluene		ND		4.5	64
1,4-Dichlorobenzene		ND		3.2	64
n-Butylbenzene		ND		3.8	64
1,2-Dichlorobenzene		ND		5.4	64
1,2-Dibromo-3-Chloropropane		ND		14	64
1,2,4-Trichlorobenzene		ND		6.2	64
1,2,3-Trichlorobenzene		ND		7.7	64
Hexachlorobutadiene		ND		11	64
Naphthalene		ND		4.1	64

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	92	75 - 125
Toluene-d8 (Surr)	88	75 - 125
Ethylbenzene-d10	84	75 - 125
4-Bromofluorobenzene (Surr)	77	75 - 125
Trifluorotoluene (Surr)	102	75 - 125

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP06-060926-030**

Lab Sample ID: 580-3718-11 | Date Sampled: 09/26/2006 0900
Client Matrix: Solid | % Moisture: 57.0 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11569 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11480 | Lab File ID: AG29618.D
Dilution: 20 | Initial Weight/Volume: 4.97 g
Date Analyzed: 10/03/2006 1804 | Final Weight/Volume: 400 mL
Date Prepared: 10/02/2006 1518

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		520	3700
Chloromethane		ND		680	3700
Vinyl chloride		ND		490	1500
Bromomethane		ND		2600	19000
Chloroethane		ND	*	2700	19000
Trichlorofluoromethane		ND	*	360	3700
1,1-Dichloroethene		ND		500	1500
Methylene Chloride		ND		570	3700
trans-1,2-Dichloroethene		ND		400	3700
1,1-Dichloroethane		ND		890	3700
2,2-Dichloropropane		ND	*	440	3700
cis-1,2-Dichloroethene		ND		560	3700
Chlorobromomethane		ND		450	3700
Chloroform		ND		360	3700
1,1,1-Trichloroethane		ND		370	1500
Carbon tetrachloride		ND		280	1500
1,1-Dichloropropene		ND		290	3700
Benzene		ND		260	750
1,2-Dichloroethane		ND		760	3700
Trichloroethene		ND		280	1500
1,2-Dichloropropane		ND		230	750
Dibromomethane		ND		680	3700
Dichlorobromomethane		ND		260	3700
cis-1,3-Dichloropropene		ND		260	3700
Toluene		ND		690	3700
trans-1,3-Dichloropropene		ND		260	3700
1,1,2-Trichloroethane		ND		340	3700
Tetrachloroethene		ND		680	2300
1,3-Dichloropropane		ND		390	1500
Chlorodibromomethane		ND		230	3700
Ethylene Dibromide		ND		620	3700
Chlorobenzene		ND		1100	3700
Ethylbenzene		ND		670	3700
1,1,1,2-Tetrachloroethane		ND		360	3700
1,1,2,2-Tetrachloroethane		ND		220	750
m-Xylene & p-Xylene		ND		1400	3700
o-Xylene		ND		670	3700
Styrene		ND		300	3700
Bromoform		ND		260	3700
Isopropylbenzene		ND		570	3700
Bromobenzene		ND		340	3700
N-Propylbenzene		ND		650	3700
1,2,3-Trichloropropane		ND		660	3700

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP06-060926-030**

Lab Sample ID:	580-3718-11			Date Sampled:	09/26/2006 0900
Client Matrix:	Solid	% Moisture:	57.0	Date Received:	09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-11569		Instrument ID:	SEA001
Preparation:	5035	Prep Batch: 580-11480		Lab File ID:	AG29618.D
Dilution:	20			Initial Weight/Volume:	4.97 g
Date Analyzed:	10/03/2006 1804			Final Weight/Volume:	400 mL
Date Prepared:	10/02/2006 1518				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		540	3700
1,3,5-Trimethylbenzene		ND		560	3700
4-Chlorotoluene		ND		330	3700
tert-Butylbenzene		ND		320	3700
1,2,4-Trimethylbenzene		ND		650	3700
sec-Butylbenzene		ND		150	3700
1,3-Dichlorobenzene		ND		380	3700
4-Isopropyltoluene		ND		260	3700
1,4-Dichlorobenzene		ND		190	3700
n-Butylbenzene		ND		220	3700
1,2-Dichlorobenzene		ND		320	3700
1,2-Dibromo-3-Chloropropane		ND	*	820	3700
1,2,4-Trichlorobenzene		ND		370	3700
1,2,3-Trichlorobenzene		ND		450	3700
Hexachlorobutadiene		ND		620	3700
Naphthalene		140000		240	3700

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	94	75 - 125
Ethylbenzene-d10	96	75 - 125
4-Bromofluorobenzene (Surr)	94	75 - 125
Trifluorotoluene (Surr)	96	75 - 125

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-020**

Lab Sample ID: 580-3718-12 | Date Sampled: 09/26/2006 1010
Client Matrix: Solid | % Moisture: 7.7 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11569 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11480 | Lab File ID: AG29614.D
Dilution: 1.0 | Initial Weight/Volume: 7.26 g
Date Analyzed: 10/03/2006 1648 | Final Weight/Volume: 400 mL
Date Prepared: 10/02/2006 1518

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		8.4	60
Chloromethane		ND		11	60
Vinyl chloride		ND		7.8	24
Bromomethane		ND		42	300
Chloroethane		ND	*	43	300
Trichlorofluoromethane		ND	*	5.7	60
1,1-Dichloroethene		ND		7.9	24
Methylene Chloride		ND		9.1	60
trans-1,2-Dichloroethene		ND		6.4	60
1,1-Dichloroethane		ND		14	60
2,2-Dichloropropane		ND	*	7.0	60
cis-1,2-Dichloroethene		ND		9.0	60
Chlorobromomethane		ND		7.2	60
Chloroform		ND		5.7	60
1,1,1-Trichloroethane		ND		5.8	24
Carbon tetrachloride		ND		4.5	24
1,1-Dichloropropene		ND		4.6	60
Benzene		ND		4.2	12
1,2-Dichloroethane		ND		12	60
Trichloroethene		ND		4.5	24
1,2-Dichloropropane		ND		3.7	12
Dibromomethane		ND		11	60
Dichlorobromomethane		ND		4.2	60
cis-1,3-Dichloropropene		ND		4.2	60
Toluene		ND		11	60
trans-1,3-Dichloropropene		ND		4.2	60
1,1,2-Trichloroethane		ND		5.4	60
Tetrachloroethene		ND		11	37
1,3-Dichloropropane		ND		6.3	24
Chlorodibromomethane		ND		3.7	60
Ethylene Dibromide		ND		9.8	60
Chlorobenzene		ND		18	60
Ethylbenzene		ND		11	60
1,1,1,2-Tetrachloroethane		ND		5.7	60
1,1,2,2-Tetrachloroethane		ND		3.6	12
m-Xylene & p-Xylene		ND		22	60
o-Xylene		ND		11	60
Styrene		ND		4.8	60
Bromoform		ND		4.2	60
Isopropylbenzene		ND		9.1	60
Bromobenzene		ND		5.4	60
N-Propylbenzene		ND		10	60
1,2,3-Trichloropropane		ND		11	60

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-020**

Lab Sample ID: 580-3718-12 | Date Sampled: 09/26/2006 1010
Client Matrix: Solid | % Moisture: 7.7 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11569 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11480 | Lab File ID: AG29614.D
Dilution: 1.0 | Initial Weight/Volume: 7.26 g
Date Analyzed: 10/03/2006 1648 | Final Weight/Volume: 400 mL
Date Prepared: 10/02/2006 1518

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		8.7	60
1,3,5-Trimethylbenzene		ND		9.0	60
4-Chlorotoluene		ND		5.2	60
tert-Butylbenzene		ND		5.1	60
1,2,4-Trimethylbenzene		ND		10	60
sec-Butylbenzene		ND		2.4	60
1,3-Dichlorobenzene		ND		6.1	60
4-Isopropyltoluene		ND		4.2	60
1,4-Dichlorobenzene		ND		3.0	60
n-Butylbenzene		ND		3.6	60
1,2-Dichlorobenzene		ND		5.1	60
1,2-Dibromo-3-Chloropropane		ND	*	13	60
1,2,4-Trichlorobenzene		ND		5.8	60
1,2,3-Trichlorobenzene		ND		7.2	60
Hexachlorobutadiene		ND		9.8	60
Naphthalene		ND		3.9	60

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	88	75 - 125
Ethylbenzene-d10	84	75 - 125
4-Bromofluorobenzene (Surr)	78	75 - 125
Trifluorotoluene (Surr)	103	75 - 125

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP10-060926-W**

Lab Sample ID: 580-3718-13
Client Matrix: Water

Date Sampled: 09/26/2006 1030
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 1958
Date Prepared: 10/02/2006 1958

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12743.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.13	1.0
Chloromethane	ND		0.18	1.0
Vinyl chloride	ND		0.18	1.0
Bromomethane	ND		0.23	1.0
Chloroethane	ND		0.19	5.0
Trichlorofluoromethane	ND		0.088	1.0
1,1-Dichloroethene	ND		0.098	1.0
Methylene Chloride	ND		0.090	1.0
trans-1,2-Dichloroethene	ND		0.074	1.0
1,1-Dichloroethane	ND		0.11	1.0
2,2-Dichloropropane	ND		0.28	1.0
cis-1,2-Dichloroethene	ND		0.079	1.0
Chlorobromomethane	ND		0.14	1.0
Chloroform	ND		0.067	1.0
1,1,1-Trichloroethane	ND		0.11	1.0
Carbon tetrachloride	ND		0.070	1.0
1,1-Dichloropropene	ND		0.080	1.0
Benzene	ND		0.10	1.0
1,2-Dichloroethane	ND		0.20	1.0
Trichloroethene	ND		0.074	1.0
1,2-Dichloropropane	ND		0.092	1.0
Dibromomethane	ND		0.13	1.0
Dichlorobromomethane	ND		0.076	1.0
cis-1,3-Dichloropropene	ND		0.064	1.0
Toluene	ND		0.066	1.0
trans-1,3-Dichloropropene	ND		0.082	1.0
1,1,2-Trichloroethane	ND		0.076	1.0
Tetrachloroethene	ND		0.088	1.0
1,3-Dichloropropane	ND		0.10	1.0
Chlorodibromomethane	ND		0.11	1.0
Ethylene Dibromide	ND		0.076	1.0
Chlorobenzene	ND		0.063	1.0
Ethylbenzene	ND		0.085	1.0
1,1,1,2-Tetrachloroethane	ND		0.073	1.0
1,1,2,2-Tetrachloroethane	ND		0.11	1.0
m-Xylene & p-Xylene	ND		0.17	2.0
o-Xylene	ND		0.068	1.0
Styrene	ND		0.061	1.0
Bromoform	ND		0.076	1.0
Isopropylbenzene	ND		0.084	1.0
Bromobenzene	ND		0.079	1.0
N-Propylbenzene	ND		0.069	1.0
1,2,3-Trichloropropane	ND		0.11	1.0

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP10-060926-W**

Lab Sample ID: 580-3718-13
Client Matrix: Water

Date Sampled: 09/26/2006 1030
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 1958
Date Prepared: 10/02/2006 1958

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12743.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Chlorotoluene	ND		0.060	1.0
1,3,5-Trimethylbenzene	ND		0.077	1.0
4-Chlorotoluene	ND		0.098	1.0
tert-Butylbenzene	ND		0.048	1.0
1,2,4-Trimethylbenzene	ND		0.086	1.0
sec-Butylbenzene	ND		0.040	1.0
1,3-Dichlorobenzene	ND		0.040	1.0
4-Isopropyltoluene	ND		0.077	1.0
1,4-Dichlorobenzene	ND		0.052	1.0
n-Butylbenzene	ND		0.098	1.0
1,2-Dichlorobenzene	ND		0.070	1.0
1,2-Dibromo-3-Chloropropane	ND		0.43	2.0
1,2,4-Trichlorobenzene	ND		0.046	1.0
1,2,3-Trichlorobenzene	ND		0.089	1.0
Hexachlorobutadiene	ND		0.14	1.0
Naphthalene	ND		0.070	1.0

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	90	80 - 120
Toluene-d8 (Surr)	96	80 - 120
Ethylbenzene-d10	95	80 - 120
4-Bromofluorobenzene (Surr)	90	80 - 120
Trifluorotoluene (Surr)	110	80 - 120

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP10-060926-WDUP**

Lab Sample ID: 580-3718-14
Client Matrix: Water

Date Sampled: 09/26/2006 1035
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 2018
Date Prepared: 10/02/2006 2018

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12744.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.13	1.0
Chloromethane	ND		0.18	1.0
Vinyl chloride	ND		0.18	1.0
Bromomethane	ND		0.23	1.0
Chloroethane	ND		0.19	5.0
Trichlorofluoromethane	ND		0.088	1.0
1,1-Dichloroethene	ND		0.098	1.0
Methylene Chloride	ND		0.090	1.0
trans-1,2-Dichloroethene	ND		0.074	1.0
1,1-Dichloroethane	ND		0.11	1.0
2,2-Dichloropropane	ND		0.28	1.0
cis-1,2-Dichloroethene	ND		0.079	1.0
Chlorobromomethane	ND		0.14	1.0
Chloroform	ND		0.067	1.0
1,1,1-Trichloroethane	ND		0.11	1.0
Carbon tetrachloride	ND		0.070	1.0
1,1-Dichloropropene	ND		0.080	1.0
Benzene	ND		0.10	1.0
1,2-Dichloroethane	ND		0.20	1.0
Trichloroethene	ND		0.074	1.0
1,2-Dichloropropane	ND		0.092	1.0
Dibromomethane	ND		0.13	1.0
Dichlorobromomethane	ND		0.076	1.0
cis-1,3-Dichloropropene	ND		0.064	1.0
Toluene	ND		0.066	1.0
trans-1,3-Dichloropropene	ND		0.082	1.0
1,1,2-Trichloroethane	ND		0.076	1.0
Tetrachloroethene	ND		0.088	1.0
1,3-Dichloropropane	ND		0.10	1.0
Chlorodibromomethane	ND		0.11	1.0
Ethylene Dibromide	ND		0.076	1.0
Chlorobenzene	ND		0.063	1.0
Ethylbenzene	ND		0.085	1.0
1,1,1,2-Tetrachloroethane	ND		0.073	1.0
1,1,2,2-Tetrachloroethane	ND		0.11	1.0
m-Xylene & p-Xylene	ND		0.17	2.0
o-Xylene	ND		0.068	1.0
Styrene	ND		0.061	1.0
Bromoform	ND		0.076	1.0
Isopropylbenzene	ND		0.084	1.0
Bromobenzene	ND		0.079	1.0
N-Propylbenzene	ND		0.069	1.0
1,2,3-Trichloropropane	ND		0.11	1.0

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP10-060926-WDUP**

Lab Sample ID: 580-3718-14
Client Matrix: Water

Date Sampled: 09/26/2006 1035
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 2018
Date Prepared: 10/02/2006 2018

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12744.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Chlorotoluene	ND		0.060	1.0
1,3,5-Trimethylbenzene	ND		0.077	1.0
4-Chlorotoluene	ND		0.098	1.0
tert-Butylbenzene	ND		0.048	1.0
1,2,4-Trimethylbenzene	ND		0.086	1.0
sec-Butylbenzene	ND		0.040	1.0
1,3-Dichlorobenzene	ND		0.040	1.0
4-Isopropyltoluene	ND		0.077	1.0
1,4-Dichlorobenzene	ND		0.052	1.0
n-Butylbenzene	ND		0.098	1.0
1,2-Dichlorobenzene	ND		0.070	1.0
1,2-Dibromo-3-Chloropropane	ND		0.43	2.0
1,2,4-Trichlorobenzene	ND		0.046	1.0
1,2,3-Trichlorobenzene	ND		0.089	1.0
Hexachlorobutadiene	ND		0.14	1.0
Naphthalene	ND		0.070	1.0

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	80 - 120
Toluene-d8 (Surr)	96	80 - 120
Ethylbenzene-d10	95	80 - 120
4-Bromofluorobenzene (Surr)	95	80 - 120
Trifluorotoluene (Surr)	109	80 - 120

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045**

Lab Sample ID: 580-3718-15 | Date Sampled: 09/26/2006 1120
Client Matrix: Solid | % Moisture: 13.2 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11569 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11480 | Lab File ID: AG29615.D
Dilution: 1.0 | Initial Weight/Volume: 5.72 g
Date Analyzed: 10/03/2006 1707 | Final Weight/Volume: 400 mL
Date Prepared: 10/02/2006 1518

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		11	81
Chloromethane		ND		15	81
Vinyl chloride		ND		10	32
Bromomethane		ND		56	400
Chloroethane		ND	*	58	400
Trichlorofluoromethane		ND	*	7.7	81
1,1-Dichloroethene		ND		11	32
Methylene Chloride		ND		12	81
trans-1,2-Dichloroethene		ND		8.7	81
1,1-Dichloroethane		ND		19	81
2,2-Dichloropropane		ND	*	9.5	81
cis-1,2-Dichloroethene		ND		12	81
Chlorobromomethane		ND		9.7	81
Chloroform		ND		7.7	81
1,1,1-Trichloroethane		ND		7.9	32
Carbon tetrachloride		ND		6.0	32
1,1-Dichloropropene		ND		6.2	81
Benzene		ND		5.6	16
1,2-Dichloroethane		ND		16	81
Trichloroethene		ND		6.0	32
1,2-Dichloropropane		ND		5.0	16
Dibromomethane		ND		15	81
Dichlorobromomethane		ND		5.6	81
cis-1,3-Dichloropropene		ND		5.6	81
Toluene		ND		15	81
trans-1,3-Dichloropropene		ND		5.6	81
1,1,2-Trichloroethane		ND		7.3	81
Tetrachloroethene		ND		15	50
1,3-Dichloropropane		ND		8.5	32
Chlorodibromomethane		ND		5.0	81
Ethylene Dibromide		ND		13	81
Chlorobenzene		ND		24	81
Ethylbenzene		ND		15	81
1,1,1,2-Tetrachloroethane		ND		7.7	81
1,1,2,2-Tetrachloroethane		ND		4.8	16
m-Xylene & p-Xylene		ND		30	81
o-Xylene		ND		15	81
Styrene		ND		6.4	81
Bromoform		ND		5.6	81
Isopropylbenzene		ND		12	81
Bromobenzene		ND		7.3	81
N-Propylbenzene		ND		14	81
1,2,3-Trichloropropane		ND		14	81

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045**

Lab Sample ID:	580-3718-15			Date Sampled:	09/26/2006 1120
Client Matrix:	Solid	% Moisture:	13.2	Date Received:	09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-11569		Instrument ID:	SEA001
Preparation:	5035	Prep Batch: 580-11480		Lab File ID:	AG29615.D
Dilution:	1.0			Initial Weight/Volume:	5.72 g
Date Analyzed:	10/03/2006 1707			Final Weight/Volume:	400 mL
Date Prepared:	10/02/2006 1518				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		12	81
1,3,5-Trimethylbenzene		ND		12	81
4-Chlorotoluene		ND		7.0	81
tert-Butylbenzene		ND		6.8	81
1,2,4-Trimethylbenzene		ND		14	81
sec-Butylbenzene		ND		3.2	81
1,3-Dichlorobenzene		ND		8.3	81
4-Isopropyltoluene		ND		5.6	81
1,4-Dichlorobenzene		ND		4.0	81
n-Butylbenzene		ND		4.8	81
1,2-Dichlorobenzene		ND		6.8	81
1,2-Dibromo-3-Chloropropane		ND	*	18	81
1,2,4-Trichlorobenzene		ND		7.9	81
1,2,3-Trichlorobenzene		ND		9.7	81
Hexachlorobutadiene		ND		13	81
Naphthalene		ND		5.2	81

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	92	75 - 125
Toluene-d8 (Surr)	89	75 - 125
Ethylbenzene-d10	87	75 - 125
4-Bromofluorobenzene (Surr)	83	75 - 125
Trifluorotoluene (Surr)	100	75 - 125

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045DUP**

Lab Sample ID: 580-3718-16 | Date Sampled: 09/26/2006 1125
Client Matrix: Solid | % Moisture: 8.1 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11569 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11480 | Lab File ID: AG29616.D
Dilution: 1.0 | Initial Weight/Volume: 5.81 g
Date Analyzed: 10/03/2006 1726 | Final Weight/Volume: 400 mL
Date Prepared: 10/02/2006 1518

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		10	75
Chloromethane		ND		14	75
Vinyl chloride		ND		9.7	30
Bromomethane		ND		52	370
Chloroethane		ND	*	54	370
Trichlorofluoromethane		ND	*	7.1	75
1,1-Dichloroethene		ND		9.9	30
Methylene Chloride		ND		11	75
trans-1,2-Dichloroethene		ND		8.1	75
1,1-Dichloroethane		ND		18	75
2,2-Dichloropropane		ND	*	8.8	75
cis-1,2-Dichloroethene		ND		11	75
Chlorobromomethane		ND		9.0	75
Chloroform		ND		7.1	75
1,1,1-Trichloroethane		ND		7.3	30
Carbon tetrachloride		ND		5.6	30
1,1-Dichloropropene		ND		5.8	75
Benzene		ND		5.2	15
1,2-Dichloroethane		ND		15	75
Trichloroethene		ND		5.6	30
1,2-Dichloropropane		ND		4.7	15
Dibromomethane		ND		14	75
Dichlorobromomethane		ND		5.2	75
cis-1,3-Dichloropropene		ND		5.2	75
Toluene		ND		14	75
trans-1,3-Dichloropropene		ND		5.2	75
1,1,2-Trichloroethane		ND		6.7	75
Tetrachloroethene		ND		14	47
1,3-Dichloropropane		ND		7.9	30
Chlorodibromomethane		ND		4.7	75
Ethylene Dibromide		ND		12	75
Chlorobenzene		ND		22	75
Ethylbenzene		ND		13	75
1,1,1,2-Tetrachloroethane		ND		7.1	75
1,1,2,2-Tetrachloroethane		ND		4.5	15
m-Xylene & p-Xylene		ND		28	75
o-Xylene		ND		13	75
Styrene		ND		6.0	75
Bromoform		ND		5.2	75
Isopropylbenzene		ND		11	75
Bromobenzene		ND		6.7	75
N-Propylbenzene		ND		13	75
1,2,3-Trichloropropane		ND		13	75

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045DUP**

Lab Sample ID: 580-3718-16 | Date Sampled: 09/26/2006 1125
Client Matrix: Solid | % Moisture: 8.1 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11569 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11480 | Lab File ID: AG29616.D
Dilution: 1.0 | Initial Weight/Volume: 5.81 g
Date Analyzed: 10/03/2006 1726 | Final Weight/Volume: 400 mL
Date Prepared: 10/02/2006 1518

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		11	75
1,3,5-Trimethylbenzene		ND		11	75
4-Chlorotoluene		ND		6.6	75
tert-Butylbenzene		ND		6.4	75
1,2,4-Trimethylbenzene		ND		13	75
sec-Butylbenzene		ND		3.0	75
1,3-Dichlorobenzene		ND		7.7	75
4-Isopropyltoluene		ND		5.2	75
1,4-Dichlorobenzene		ND		3.7	75
n-Butylbenzene		ND		4.5	75
1,2-Dichlorobenzene		ND		6.4	75
1,2-Dibromo-3-Chloropropane		ND	*	16	75
1,2,4-Trichlorobenzene		ND		7.3	75
1,2,3-Trichlorobenzene		ND		9.0	75
Hexachlorobutadiene		ND		12	75
Naphthalene		ND		4.9	75

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	92	75 - 125
Toluene-d8 (Surr)	89	75 - 125
Ethylbenzene-d10	85	75 - 125
4-Bromofluorobenzene (Surr)	81	75 - 125
Trifluorotoluene (Surr)	100	75 - 125

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP08-060926-010**

Lab Sample ID: 580-3718-17 | Date Sampled: 09/26/2006 1315
Client Matrix: Solid | % Moisture: 6.4 | Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-11569 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-11480 | Lab File ID: AG29617.D
Dilution: 1.0 | Initial Weight/Volume: 5.69 g
Date Analyzed: 10/03/2006 1745 | Final Weight/Volume: 400 mL
Date Prepared: 10/02/2006 1518

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		11	75
Chloromethane		ND		14	75
Vinyl chloride		ND		9.8	30
Bromomethane		ND		53	380
Chloroethane		ND	*	54	380
Trichlorofluoromethane		ND	*	7.1	75
1,1-Dichloroethene		ND		10	30
Methylene Chloride		ND		11	75
trans-1,2-Dichloroethene		ND		8.1	75
1,1-Dichloroethane		ND		18	75
2,2-Dichloropropane		ND	*	8.8	75
cis-1,2-Dichloroethene		ND		11	75
Chlorobromomethane		ND		9.0	75
Chloroform		ND		7.1	75
1,1,1-Trichloroethane		ND		7.3	30
Carbon tetrachloride		ND		5.6	30
1,1-Dichloropropene		ND		5.8	75
Benzene		ND		5.3	15
1,2-Dichloroethane		ND		15	75
Trichloroethene		ND		5.6	30
1,2-Dichloropropane		ND		4.7	15
Dibromomethane		ND		14	75
Dichlorobromomethane		ND		5.3	75
cis-1,3-Dichloropropene		ND		5.3	75
Toluene		ND		14	75
trans-1,3-Dichloropropene		ND		5.3	75
1,1,2-Trichloroethane		ND		6.8	75
Tetrachloroethene		ND		14	47
1,3-Dichloropropane		ND		7.9	30
Chlorodibromomethane		ND		4.7	75
Ethylene Dibromide		ND		12	75
Chlorobenzene		ND		23	75
Ethylbenzene		ND		14	75
1,1,1,2-Tetrachloroethane		ND		7.1	75
1,1,2,2-Tetrachloroethane		ND		4.5	15
m-Xylene & p-Xylene		ND		28	75
o-Xylene		ND		14	75
Styrene		ND		6.0	75
Bromoform		ND		5.3	75
Isopropylbenzene		ND		11	75
Bromobenzene		ND		6.8	75
N-Propylbenzene		ND		13	75
1,2,3-Trichloropropane		ND		13	75

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP08-060926-010**

Lab Sample ID:	580-3718-17			Date Sampled:	09/26/2006 1315
Client Matrix:	Solid	% Moisture:	6.4	Date Received:	09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-11569		Instrument ID:	SEA001
Preparation:	5035	Prep Batch: 580-11480		Lab File ID:	AG29617.D
Dilution:	1.0			Initial Weight/Volume:	5.69 g
Date Analyzed:	10/03/2006 1745			Final Weight/Volume:	400 mL
Date Prepared:	10/02/2006 1518				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		11	75
1,3,5-Trimethylbenzene		ND		11	75
4-Chlorotoluene		ND		6.6	75
tert-Butylbenzene		ND		6.4	75
1,2,4-Trimethylbenzene		ND		13	75
sec-Butylbenzene		ND		3.0	75
1,3-Dichlorobenzene		ND		7.7	75
4-Isopropyltoluene		14	J	5.3	75
1,4-Dichlorobenzene		ND		3.8	75
n-Butylbenzene		ND		4.5	75
1,2-Dichlorobenzene		ND		6.4	75
1,2-Dibromo-3-Chloropropane		ND	*	17	75
1,2,4-Trichlorobenzene		ND		7.3	75
1,2,3-Trichlorobenzene		ND		9.0	75
Hexachlorobutadiene		ND		12	75
Naphthalene		110		4.9	75

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	88	75 - 125
Ethylbenzene-d10	84	75 - 125
4-Bromofluorobenzene (Surr)	79	75 - 125
Trifluorotoluene (Surr)	93	75 - 125

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP07-060926-W**

Lab Sample ID: 580-3718-18
Client Matrix: Water

Date Sampled: 09/26/2006 1145
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 2039
Date Prepared: 10/02/2006 2039

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12745.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.13	1.0
Chloromethane	ND		0.18	1.0
Vinyl chloride	ND		0.18	1.0
Bromomethane	ND		0.23	1.0
Chloroethane	ND		0.19	5.0
Trichlorofluoromethane	ND		0.088	1.0
1,1-Dichloroethene	ND		0.098	1.0
Methylene Chloride	ND		0.090	1.0
trans-1,2-Dichloroethene	ND		0.074	1.0
1,1-Dichloroethane	ND		0.11	1.0
2,2-Dichloropropane	ND		0.28	1.0
cis-1,2-Dichloroethene	ND		0.079	1.0
Chlorobromomethane	ND		0.14	1.0
Chloroform	ND		0.067	1.0
1,1,1-Trichloroethane	ND		0.11	1.0
Carbon tetrachloride	ND		0.070	1.0
1,1-Dichloropropene	ND		0.080	1.0
Benzene	ND		0.10	1.0
1,2-Dichloroethane	ND		0.20	1.0
Trichloroethene	ND		0.074	1.0
1,2-Dichloropropane	ND		0.092	1.0
Dibromomethane	ND		0.13	1.0
Dichlorobromomethane	ND		0.076	1.0
cis-1,3-Dichloropropene	ND		0.064	1.0
Toluene	0.077	J	0.066	1.0
trans-1,3-Dichloropropene	ND		0.082	1.0
1,1,2-Trichloroethane	ND		0.076	1.0
Tetrachloroethene	ND		0.088	1.0
1,3-Dichloropropane	ND		0.10	1.0
Chlorodibromomethane	ND		0.11	1.0
Ethylene Dibromide	ND		0.076	1.0
Chlorobenzene	ND		0.063	1.0
Ethylbenzene	ND		0.085	1.0
1,1,1,2-Tetrachloroethane	ND		0.073	1.0
1,1,2,2-Tetrachloroethane	ND		0.11	1.0
m-Xylene & p-Xylene	0.22	J	0.17	2.0
o-Xylene	0.079	J	0.068	1.0
Styrene	ND		0.061	1.0
Bromoform	ND		0.076	1.0
Isopropylbenzene	ND		0.084	1.0
Bromobenzene	ND		0.079	1.0
N-Propylbenzene	ND		0.069	1.0
1,2,3-Trichloropropane	ND		0.11	1.0

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP07-060926-W**

Lab Sample ID: 580-3718-18
Client Matrix: Water

Date Sampled: 09/26/2006 1145
Date Received: 09/26/2006 1139

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/02/2006 2039
Date Prepared: 10/02/2006 2039

Analysis Batch: 580-11519

Instrument ID: SEA036
Lab File ID: HP12745.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Chlorotoluene	ND		0.060	1.0
1,3,5-Trimethylbenzene	ND		0.077	1.0
4-Chlorotoluene	ND		0.098	1.0
tert-Butylbenzene	ND		0.048	1.0
1,2,4-Trimethylbenzene	ND		0.086	1.0
sec-Butylbenzene	ND		0.040	1.0
1,3-Dichlorobenzene	ND		0.040	1.0
4-Isopropyltoluene	2.7		0.077	1.0
1,4-Dichlorobenzene	ND		0.052	1.0
n-Butylbenzene	ND		0.098	1.0
1,2-Dichlorobenzene	ND		0.070	1.0
1,2-Dibromo-3-Chloropropane	ND		0.43	2.0
1,2,4-Trichlorobenzene	ND		0.046	1.0
1,2,3-Trichlorobenzene	ND		0.089	1.0
Hexachlorobutadiene	ND		0.14	1.0
Naphthalene	ND		0.070	1.0

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	80 - 120
Toluene-d8 (Surr)	94	80 - 120
Ethylbenzene-d10	94	80 - 120
4-Bromofluorobenzene (Surr)	92	80 - 120
Trifluorotoluene (Surr)	107	80 - 120

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-010**

Lab Sample ID: 580-3718-1 | Date Sampled: 09/25/2006 0945
Client Matrix: Solid | % Moisture: 12.9 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006324.D
Dilution: 1.0 | Initial Weight/Volume: 10.8005 g
Date Analyzed: 09/28/2006 2357 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		29	110
Bis(2-chloroethyl)ether		ND		32	110
2-Chlorophenol		ND		24	110
1,3-Dichlorobenzene		ND		13	53
1,4-Dichlorobenzene		ND		8.1	53
Benzyl alcohol		ND		32	110
1,2-Dichlorobenzene		ND		18	53
2-Methylphenol		ND		30	110
Bis(2-chloroisopropyl) ether		ND		36	160
3 & 4 Methylphenol		ND		56	210
N-Nitrosodi-n-propylamine		ND		28	110
Hexachloroethane		ND		22	110
Nitrobenzene		ND		16	110
Isophorone		ND		28	110
2-Nitrophenol		ND		24	110
2,4-Dimethylphenol		ND		20	110
Benzoic acid		ND		880	2700
Bis(2-chloroethoxy)methane		ND		27	110
2,4-Dichlorophenol		ND		20	110
1,2,4-Trichlorobenzene		ND		11	53
Naphthalene		8.6	J	6.1	21
4-Chloroaniline		ND		29	110
Hexachlorobutadiene		ND		14	53
4-Chloro-3-methylphenol		ND		23	110
2-Methylnaphthalene		ND		3.3	21
Hexachlorocyclopentadiene		ND		27	110
2,4,6-Trichlorophenol		ND		35	160
2,4,5-Trichlorophenol		ND		24	110
2-Chloronaphthalene		ND		2.0	21
2-Nitroaniline		ND		20	110
Dimethyl phthalate		ND		8.2	110
Acenaphthylene		4.8	J	2.4	21
2,6-Dinitrotoluene		ND		20	110
3-Nitroaniline		ND		31	110
Acenaphthene		ND		6.1	21
2,4-Dinitrophenol		ND		220	1100
4-Nitrophenol		ND		280	1100
Dibenzofuran		ND		18	110
2,4-Dinitrotoluene		ND		15	110
Diethyl phthalate		ND		7.7	110
4-Chlorophenyl phenyl ether		ND		17	110
Fluorene		11	J	2.8	21
4-Nitroaniline		ND		20	110

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-010**

Lab Sample ID: 580-3718-1 | Date Sampled: 09/25/2006 0945
Client Matrix: Solid | % Moisture: 12.9 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006324.D
Dilution: 1.0 | Initial Weight/Volume: 10.8005 g
Date Analyzed: 09/28/2006 2357 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		290	1100
N-Nitrosodiphenylamine		ND		16	53
4-Bromophenyl phenyl ether		ND		11	110
Hexachlorobenzene		ND		12	53
Pentachlorophenol		ND		33	110
Phenanthrene		24		4.3	21
Anthracene		11	J	4.6	21
Di-n-butyl phthalate		48	J B	14	210
Fluoranthene		44		3.3	21
Pyrene		53		2.9	21
Butyl benzyl phthalate		ND		31	110
3,3'-Dichlorobenzidine		ND		9.7	210
Benzo[a]anthracene		32		6.9	27
Chrysene		45		8.0	27
Bis(2-ethylhexyl) phthalate		710	J	260	1600
Di-n-octyl phthalate		140	J	35	210
Benzofluoranthene		76		11	43
Benzo[a]pyrene		46	B	9.0	32
Indeno[1,2,3-cd]pyrene		35	J	13	43
Dibenz(a,h)anthracene		63		13	43
Benzo[g,h,i]perylene		35		7.8	27
Carbazole		ND		35	160
1-Methylnaphthalene		ND		9.3	32

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	105	36 - 145
Phenol-d5	101	38 - 149
Nitrobenzene-d5	105	38 - 141
2-Fluorobiphenyl	109	42 - 140
2,4,6-Tribromophenol	108	28 - 143
Terphenyl-d14	118	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP04-060925-010

Lab Sample ID: 580-3718-1 | Date Sampled: 09/25/2006 0945
Client Matrix: Solid | % Moisture: 12.9 | Date Received: 09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-11419 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-11302 | Lab File ID: HP02388.D
Dilution: 1.0 | Initial Weight/Volume: 10.8005 g
Date Analyzed: 09/29/2006 0447 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0900 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		33		1.8	5.3
Chrysene		41		0.43	5.3
Benzofluoranthene		61	B	0.67	11
Benzo[a]pyrene		37	B	0.43	5.3
Indeno[1,2,3-cd]pyrene		24	B	0.27	5.3
Dibenz(a,h)anthracene		9.2	B	0.23	5.3
Benzo[g,h,i]perylene		19	B	0.26	5.3
Benzo[b]fluoranthene		44	B	0.27	5.3
Benzo[k]fluoranthene		17	B	0.30	5.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	124	38 - 141
2-Fluorobiphenyl	113	42 - 140
Terphenyl-d14	80	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-040**

Lab Sample ID: 580-3718-2 | Date Sampled: 09/25/2006 0950
Client Matrix: Solid | % Moisture: 27.3 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006325.D
Dilution: 1.0 | Initial Weight/Volume: 10.9099 g
Date Analyzed: 09/29/2006 0021 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		34	130
Bis(2-chloroethyl)ether		ND		38	130
2-Chlorophenol		ND		29	130
1,3-Dichlorobenzene		ND		15	63
1,4-Dichlorobenzene		ND		9.6	63
Benzyl alcohol		ND		38	130
1,2-Dichlorobenzene		ND		21	63
2-Methylphenol		ND		35	130
Bis(2-chloroisopropyl) ether		ND		43	190
3 & 4 Methylphenol		ND		67	250
N-Nitrosodi-n-propylamine		ND		33	130
Hexachloroethane		ND		26	130
Nitrobenzene		ND		19	130
Isophorone		ND		33	130
2-Nitrophenol		ND		29	130
2,4-Dimethylphenol		ND		24	130
Benzoic acid		ND		1000	3200
Bis(2-chloroethoxy)methane		ND		32	130
2,4-Dichlorophenol		ND		24	130
1,2,4-Trichlorobenzene		ND		12	63
Naphthalene		18	J	7.2	25
4-Chloroaniline		ND		34	130
Hexachlorobutadiene		ND		16	63
4-Chloro-3-methylphenol		ND		28	130
2-Methylnaphthalene		ND		3.9	25
Hexachlorocyclopentadiene		ND		32	130
2,4,6-Trichlorophenol		ND		42	190
2,4,5-Trichlorophenol		ND		29	130
2-Chloronaphthalene		ND		2.4	25
2-Nitroaniline		ND		24	130
Dimethyl phthalate		ND		9.7	130
Acenaphthylene		ND		2.9	25
2,6-Dinitrotoluene		ND		24	130
3-Nitroaniline		ND		37	130
Acenaphthene		ND		7.2	25
2,4-Dinitrophenol		ND		260	1300
4-Nitrophenol		ND		330	1300
Dibenzofuran		ND		21	130
2,4-Dinitrotoluene		ND		18	130
Diethyl phthalate		ND		9.1	130
4-Chlorophenyl phenyl ether		ND		20	130
Fluorene		ND		3.3	25
4-Nitroaniline		ND		24	130

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-040**

Lab Sample ID: 580-3718-2 | Date Sampled: 09/25/2006 0950
Client Matrix: Solid | % Moisture: 27.3 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006325.D
Dilution: 1.0 | Initial Weight/Volume: 10.9099 g
Date Analyzed: 09/29/2006 0021 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		340	1300
N-Nitrosodiphenylamine		ND		19	63
4-Bromophenyl phenyl ether		ND		13	130
Hexachlorobenzene		ND		14	63
Pentachlorophenol		ND		39	130
Phenanthrene		ND		5.0	25
Anthracene		ND		5.4	25
Di-n-butyl phthalate		290	B	16	250
Fluoranthene		ND		3.9	25
Pyrene		ND		3.4	25
Butyl benzyl phthalate		ND		37	130
3,3'-Dichlorobenzidine		ND		11	250
Benzo[a]anthracene		ND		8.2	32
Chrysene		ND		9.5	32
Bis(2-ethylhexyl) phthalate		ND		300	1900
Di-n-octyl phthalate		ND		42	250
Benzofluoranthene		ND		13	50
Benzo[a]pyrene		ND		11	38
Indeno[1,2,3-cd]pyrene		ND		15	50
Dibenz(a,h)anthracene		ND		15	50
Benzo[g,h,i]perylene		ND		9.2	32
Carbazole		ND		42	190
1-Methylnaphthalene		ND		11	38

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	99	36 - 145
Phenol-d5	93	38 - 149
Nitrobenzene-d5	108	38 - 141
2-Fluorobiphenyl	104	42 - 140
2,4,6-Tribromophenol	111	28 - 143
Terphenyl-d14	83	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-040**

Lab Sample ID:	580-3718-2			Date Sampled:	09/25/2006 0950
Client Matrix:	Solid	% Moisture:	27.3	Date Received:	09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-11419		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-11302		Lab File ID:	HP02389.D
Dilution:	1.0			Initial Weight/Volume:	10.9099 g
Date Analyzed:	09/29/2006 0514			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0900			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		ND		2.1	6.3
Chrysene		ND		0.50	6.3
Benzofluoranthene		ND		0.79	13
Benzo[a]pyrene		45	B	0.50	6.3
Indeno[1,2,3-cd]pyrene		ND		0.32	6.3
Dibenz(a,h)anthracene		ND		0.28	6.3
Benzo[g,h,i]perylene		ND		0.30	6.3
Benzo[b]fluoranthene		ND		0.32	6.3
Benzo[k]fluoranthene		ND		0.35	6.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	119	38 - 141
2-Fluorobiphenyl	90	42 - 140
Terphenyl-d14	79	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP04-060925-W

Lab Sample ID: 580-3718-3 | Date Sampled: 09/25/2006 1000
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-11408 | Instrument ID: SEA023
Preparation: 3510C | Prep Batch: 580-11299 | Lab File ID: HP02373.D
Dilution: 1.0 | Initial Weight/Volume: 990 mL
Date Analyzed: 09/28/2006 2212 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0838 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzo[a]anthracene	0.054	J B	0.0091	0.10
Chrysene	0.028	J	0.0091	0.10
Benzofluoranthene	0.10	J B	0.031	0.20
Benzo[a]pyrene	0.073	J	0.061	0.20
Indeno[1,2,3-cd]pyrene	0.072	J B	0.015	0.10
Dibenz(a,h)anthracene	0.056	J B	0.012	0.10
Benzo[g,h,i]perylene	0.051	J B	0.018	0.10
Benzo[b]fluoranthene	0.056	J B	0.023	0.10
Benzo[k]fluoranthene	0.043	J B	0.011	0.10

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	128	34 - 146
2-Fluorobiphenyl	104	35 - 143
Terphenyl-d14	82	35 - 166

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP04-060925-W**

Lab Sample ID: 580-3718-3
Client Matrix: Water

Date Sampled: 09/25/2006 1000
Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1827
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292

Instrument ID: SEA040
Lab File ID: ak006310.D
Initial Weight/Volume: 990 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.075	3.0
Bis(2-chloroethyl)ether	ND		0.18	2.0
2-Chlorophenol	ND		0.22	2.0
1,3-Dichlorobenzene	ND		0.11	2.0
1,4-Dichlorobenzene	ND		0.12	2.0
Benzyl alcohol	0.22	J	0.13	2.0
1,2-Dichlorobenzene	ND		0.11	2.0
2-Methylphenol	ND		0.38	2.0
Bis(2-chloroisopropyl) ether	ND		0.089	2.0
3 & 4 Methylphenol	ND		0.17	4.0
N-Nitrosodi-n-propylamine	ND		0.20	2.0
Hexachloroethane	ND		0.13	3.0
Nitrobenzene	ND		0.076	2.0
Isophorone	ND		0.11	2.0
2-Nitrophenol	ND		0.21	2.0
2,4-Dimethylphenol	ND		0.18	10
Benzoic acid	5.4	J	0.21	10
Bis(2-chloroethoxy)methane	ND		0.096	2.0
2,4-Dichlorophenol	ND		0.13	2.0
1,2,4-Trichlorobenzene	ND		0.10	2.0
Naphthalene	ND		0.014	2.0
4-Chloroaniline	ND		0.19	2.0
Hexachlorobutadiene	ND		0.16	3.0
4-Chloro-3-methylphenol	ND		0.14	2.0
2-Methylnaphthalene	ND		0.056	1.0
Hexachlorocyclopentadiene	ND		0.12	10
2,4,6-Trichlorophenol	ND		0.10	3.0
2,4,5-Trichlorophenol	ND		0.086	2.0
2-Chloronaphthalene	ND		0.030	0.30
2-Nitroaniline	ND		0.11	2.0
Dimethyl phthalate	0.14	J	0.12	2.0
Acenaphthylene	ND		0.026	0.40
2,6-Dinitrotoluene	ND		0.14	2.0
3-Nitroaniline	ND		0.57	2.0
Acenaphthene	0.081	J	0.012	0.51
2,4-Dinitrophenol	ND		0.59	25
4-Nitrophenol	ND		1.6	10
Dibenzofuran	ND		0.099	2.0
2,4-Dinitrotoluene	ND		0.12	2.0
Diethyl phthalate	1.0	J	0.094	2.0
4-Chlorophenyl phenyl ether	ND		0.12	2.0
Fluorene	0.10	J	0.042	0.30
4-Nitroaniline	ND		0.18	3.0

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-W**

Lab Sample ID: 580-3718-3 | Date Sampled: 09/25/2006 1000
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11421 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-11292 | Lab File ID: ak006310.D
Dilution: 1.0 | Initial Weight/Volume: 990 mL
Date Analyzed: 09/28/2006 1827 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0759 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.54	20
N-Nitrosodiphenylamine	ND		0.13	2.0
4-Bromophenyl phenyl ether	ND		0.10	2.0
Hexachlorobenzene	ND		0.083	2.0
Pentachlorophenol	ND		0.13	3.5
Phenanthrene	0.14	J	0.024	0.40
Anthracene	0.028	J	0.019	0.20
Di-n-butyl phthalate	1.1	J B	0.089	2.0
Fluoranthene	0.070	J	0.027	0.25
Pyrene	0.10	J	0.020	0.30
Butyl benzyl phthalate	ND		0.24	3.0
3,3'-Dichlorobenzidine	ND		1.6	10
Benzo[a]anthracene	ND		0.033	0.30
Chrysene	ND		0.045	0.20
Bis(2-ethylhexyl) phthalate	0.42	J	0.32	15
Di-n-octyl phthalate	ND		0.18	2.0
Benzofluoranthene	ND		0.056	0.40
Benzo[a]pyrene	ND		0.027	0.20
Indeno[1,2,3-cd]pyrene	ND		0.052	0.30
Dibenz(a,h)anthracene	ND		0.046	0.30
Benzo[g,h,i]perylene	ND		0.061	0.30
Carbazole	ND		0.091	2.0
1-Methylnaphthalene	ND		0.053	0.30

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	43	10 - 120
Phenol-d5	26	10 - 102
Nitrobenzene-d5	104	34 - 146
2-Fluorobiphenyl	101	35 - 143
2,4,6-Tribromophenol	92	29 - 151
Terphenyl-d14	111	35 - 166

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP03-060925-010**

Lab Sample ID: 580-3718-4 | Date Sampled: 09/25/2006 1050
Client Matrix: Solid | % Moisture: 8.7 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006343.D
Dilution: 1.0 | Initial Weight/Volume: 10.1120 g
Date Analyzed: 09/29/2006 0739 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		29	110
Bis(2-chloroethyl)ether		ND		32	110
2-Chlorophenol		ND		25	110
1,3-Dichlorobenzene		ND		13	54
1,4-Dichlorobenzene		ND		8.2	54
Benzyl alcohol		ND		32	110
1,2-Dichlorobenzene		ND		18	54
2-Methylphenol		ND		30	110
Bis(2-chloroisopropyl) ether		ND		37	160
3 & 4 Methylphenol		ND		57	220
N-Nitrosodi-n-propylamine		ND		28	110
Hexachloroethane		ND		23	110
Nitrobenzene		ND		16	110
Isophorone		ND		28	110
2-Nitrophenol		ND		25	110
2,4-Dimethylphenol		ND		21	110
Benzoic acid		ND		900	2700
Bis(2-chloroethoxy)methane		ND		27	110
2,4-Dichlorophenol		ND		21	110
1,2,4-Trichlorobenzene		ND		11	54
Naphthalene		8.8	J	6.2	22
4-Chloroaniline		ND		29	110
Hexachlorobutadiene		ND		14	54
4-Chloro-3-methylphenol		ND		24	110
2-Methylnaphthalene		ND		3.4	22
Hexachlorocyclopentadiene		ND		27	110
2,4,6-Trichlorophenol		ND		36	160
2,4,5-Trichlorophenol		ND		25	110
2-Chloronaphthalene		ND		2.1	22
2-Nitroaniline		ND		21	110
Dimethyl phthalate		ND		8.3	110
Acenaphthylene		4.7	J	2.5	22
2,6-Dinitrotoluene		ND		21	110
3-Nitroaniline		ND		31	110
Acenaphthene		ND		6.2	22
2,4-Dinitrophenol		ND		220	1100
4-Nitrophenol		ND		280	1100
Dibenzofuran		ND		18	110
2,4-Dinitrotoluene		ND		15	110
Diethyl phthalate		ND		7.8	110
4-Chlorophenyl phenyl ether		ND		17	110
Fluorene		ND		2.8	22
4-Nitroaniline		ND		21	110

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP03-060925-010**

Lab Sample ID: 580-3718-4 | Date Sampled: 09/25/2006 1050
Client Matrix: Solid | % Moisture: 8.7 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006343.D
Dilution: 1.0 | Initial Weight/Volume: 10.1120 g
Date Analyzed: 09/29/2006 0739 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		290	1100
N-Nitrosodiphenylamine		ND		16	54
4-Bromophenyl phenyl ether		ND		11	110
Hexachlorobenzene		ND		12	54
Pentachlorophenol		ND		34	110
Phenanthrene		21	J	4.3	22
Anthracene		9.9	J	4.7	22
Di-n-butyl phthalate		52	J B	14	220
Fluoranthene		78		3.4	22
Pyrene		81		2.9	22
Butyl benzyl phthalate		ND		31	110
3,3'-Dichlorobenzidine		ND		9.9	220
Benzo[a]anthracene		53		7.0	27
Chrysene		58		8.1	27
Bis(2-ethylhexyl) phthalate		ND		260	1600
Di-n-octyl phthalate		ND		36	220
Benzofluoranthene		100		11	43
Benzo[a]pyrene		51	B	9.2	32
Indeno[1,2,3-cd]pyrene		40	J	13	43
Dibenz(a,h)anthracene		66		13	43
Benzo[g,h,i]perylene		48		7.9	27
Carbazole		ND		36	160
1-Methylnaphthalene		ND		9.4	32

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	103	36 - 145
Phenol-d5	97	38 - 149
Nitrobenzene-d5	99	38 - 141
2-Fluorobiphenyl	102	42 - 140
2,4,6-Tribromophenol	102	28 - 143
Terphenyl-d14	112	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP03-060925-010**

Lab Sample ID:	580-3718-4			Date Sampled:	09/25/2006 1050
Client Matrix:	Solid	% Moisture:	8.7	Date Received:	09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-11419		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-11302		Lab File ID:	HP02390.D
Dilution:	1.0			Initial Weight/Volume:	10.1120 g
Date Analyzed:	09/29/2006 0541			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0900			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		41		1.8	5.4
Chrysene		56		0.43	5.4
Benzofluoranthene		70	B	0.68	11
Benzo[a]pyrene		41	B	0.43	5.4
Indeno[1,2,3-cd]pyrene		25	B	0.27	5.4
Dibenz(a,h)anthracene		4.2	J B	0.24	5.4
Benzo[g,h,i]perylene		23	B	0.26	5.4
Benzo[b]fluoranthene		52	B	0.27	5.4
Benzo[k]fluoranthene		16	B	0.30	5.4

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	125	38 - 141
2-Fluorobiphenyl	105	42 - 140
Terphenyl-d14	84	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP02-060925-010**

Lab Sample ID: 580-3718-5 | Date Sampled: 09/25/2006 1200
Client Matrix: Solid | % Moisture: 6.2 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006327.D
Dilution: 10 | Initial Weight/Volume: 10.6770 g
Date Analyzed: 09/29/2006 0110 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		270	1000
Bis(2-chloroethyl)ether		ND		300	1000
2-Chlorophenol		ND		230	1000
1,3-Dichlorobenzene		ND		120	500
1,4-Dichlorobenzene		ND		76	500
Benzyl alcohol		ND		300	1000
1,2-Dichlorobenzene		ND		170	500
2-Methylphenol		ND		280	1000
Bis(2-chloroisopropyl) ether		ND		340	1500
3 & 4 Methylphenol		ND		530	2000
N-Nitrosodi-n-propylamine		ND		260	1000
Hexachloroethane		ND		210	1000
Nitrobenzene		ND		150	1000
Isophorone		ND		260	1000
2-Nitrophenol		ND		230	1000
2,4-Dimethylphenol		ND		190	1000
Benzoic acid		ND		8300	25000
Bis(2-chloroethoxy)methane		ND		250	1000
2,4-Dichlorophenol		ND		190	1000
1,2,4-Trichlorobenzene		ND		99	500
Naphthalene		ND		57	200
4-Chloroaniline		ND		270	1000
Hexachlorobutadiene		ND		130	500
4-Chloro-3-methylphenol		ND		220	1000
2-Methylnaphthalene		ND		31	200
Hexachlorocyclopentadiene		ND		250	1000
2,4,6-Trichlorophenol		ND		330	1500
2,4,5-Trichlorophenol		ND		230	1000
2-Chloronaphthalene		ND		19	200
2-Nitroaniline		ND		190	1000
Dimethyl phthalate		ND		77	1000
Acenaphthylene		ND		23	200
2,6-Dinitrotoluene		ND		190	1000
3-Nitroaniline		ND		290	1000
Acenaphthene		ND		57	200
2,4-Dinitrophenol		ND		2000	10000
4-Nitrophenol		ND		2600	10000
Dibenzofuran		ND		170	1000
2,4-Dinitrotoluene		ND		140	1000
Diethyl phthalate		ND		72	1000
4-Chlorophenyl phenyl ether		ND		160	1000
Fluorene		ND		26	200
4-Nitroaniline		ND		190	1000

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP02-060925-010**

Lab Sample ID: 580-3718-5 | Date Sampled: 09/25/2006 1200
Client Matrix: Solid | % Moisture: 6.2 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006327.D
Dilution: 10 | Initial Weight/Volume: 10.6770 g
Date Analyzed: 09/29/2006 0110 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		2700	10000
N-Nitrosodiphenylamine		ND		150	500
4-Bromophenyl phenyl ether		ND		100	1000
Hexachlorobenzene		ND		110	500
Pentachlorophenol		ND		310	1000
Phenanthrene		180	J	40	200
Anthracene		ND		43	200
Di-n-butyl phthalate		430	J B	130	2000
Fluoranthene		100	J	31	200
Pyrene		340		27	200
Butyl benzyl phthalate		ND		290	1000
3,3'-Dichlorobenzidine		ND		91	2000
Benzo[a]anthracene		ND		65	250
Chrysene		560		75	250
Bis(2-ethylhexyl) phthalate		ND		2400	15000
Di-n-octyl phthalate		ND		330	2000
Benzofluoranthene		ND		100	400
Benzo[a]pyrene		ND		85	300
Indeno[1,2,3-cd]pyrene		ND		120	400
Dibenz(a,h)anthracene		ND		120	400
Benzo[g,h,i]perylene		350		73	250
Carbazole		ND		330	1500
1-Methylnaphthalene		ND		87	300

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	83	36 - 145
Phenol-d5	91	38 - 149
Nitrobenzene-d5	94	38 - 141
2-Fluorobiphenyl	94	42 - 140
2,4,6-Tribromophenol	108	28 - 143
Terphenyl-d14	116	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP02-060925-010**

Lab Sample ID: 580-3718-5 | Date Sampled: 09/25/2006 1200
Client Matrix: Solid | % Moisture: 6.2 | Date Received: 09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-11419 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-11302 | Lab File ID: HP02391.D
Dilution: 1.0 | Initial Weight/Volume: 10.6770 g
Date Analyzed: 09/29/2006 0609 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0900 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		390		1.7	5.0
Chrysene		140		0.40	5.0
Benzofluoranthene		150	B	0.63	10
Benzo[a]pyrene		130	B	0.40	5.0
Indeno[1,2,3-cd]pyrene		25	B	0.25	5.0
Dibenz(a,h)anthracene		19	B	0.22	5.0
Benzo[g,h,i]perylene		58	B	0.24	5.0
Benzo[b]fluoranthene		100	B	0.25	5.0
Benzo[k]fluoranthene		22	B	0.28	5.0

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	116	38 - 141
2-Fluorobiphenyl	94	42 - 140
Terphenyl-d14	83	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP01-060925-010**

Lab Sample ID: 580-3718-6 | Date Sampled: 09/25/2006 1245
Client Matrix: Solid | % Moisture: 9.7 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006328.D
Dilution: 1.0 | Initial Weight/Volume: 10.3335 g
Date Analyzed: 09/29/2006 0134 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		29	110
Bis(2-chloroethyl)ether		ND		32	110
2-Chlorophenol		ND		25	110
1,3-Dichlorobenzene		ND		13	54
1,4-Dichlorobenzene		ND		8.1	54
Benzyl alcohol		ND		32	110
1,2-Dichlorobenzene		ND		18	54
2-Methylphenol		ND		30	110
Bis(2-chloroisopropyl) ether		ND		36	160
3 & 4 Methylphenol		ND		57	210
N-Nitrosodi-n-propylamine		ND		28	110
Hexachloroethane		ND		23	110
Nitrobenzene		ND		16	110
Isophorone		ND		28	110
2-Nitrophenol		ND		25	110
2,4-Dimethylphenol		ND		20	110
Benzoic acid		ND		890	2700
Bis(2-chloroethoxy)methane		ND		27	110
2,4-Dichlorophenol		ND		20	110
1,2,4-Trichlorobenzene		ND		11	54
Naphthalene		ND		6.1	21
4-Chloroaniline		ND		29	110
Hexachlorobutadiene		ND		14	54
4-Chloro-3-methylphenol		ND		24	110
2-Methylnaphthalene		ND		3.3	21
Hexachlorocyclopentadiene		ND		27	110
2,4,6-Trichlorophenol		ND		35	160
2,4,5-Trichlorophenol		ND		25	110
2-Chloronaphthalene		ND		2.0	21
2-Nitroaniline		ND		20	110
Dimethyl phthalate		ND		8.3	110
Acenaphthylene		ND		2.5	21
2,6-Dinitrotoluene		ND		20	110
3-Nitroaniline		ND		31	110
Acenaphthene		ND		6.1	21
2,4-Dinitrophenol		ND		220	1100
4-Nitrophenol		ND		280	1100
Dibenzofuran		ND		18	110
2,4-Dinitrotoluene		ND		15	110
Diethyl phthalate		ND		7.7	110
4-Chlorophenyl phenyl ether		ND		17	110
Fluorene		ND		2.8	21
4-Nitroaniline		ND		20	110

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP01-060925-010**

Lab Sample ID:	580-3718-6			Date Sampled:	09/25/2006 1245
Client Matrix:	Solid	% Moisture:	9.7	Date Received:	09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-11394		Instrument ID:	SEA040
Preparation:	3550B	Prep Batch: 580-11301		Lab File ID:	ak006328.D
Dilution:	1.0			Initial Weight/Volume:	10.3335 g
Date Analyzed:	09/29/2006 0134			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0847			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		290	1100
N-Nitrosodiphenylamine		ND		16	54
4-Bromophenyl phenyl ether		ND		11	110
Hexachlorobenzene		ND		12	54
Pentachlorophenol		ND		33	110
Phenanthrene		27		4.3	21
Anthracene		ND		4.6	21
Di-n-butyl phthalate		51	J B	14	210
Fluoranthene		23		3.3	21
Pyrene		25		2.9	21
Butyl benzyl phthalate		43	J	31	110
3,3'-Dichlorobenzidine		ND		9.8	210
Benzo[a]anthracene		ND		7.0	27
Chrysene		ND		8.0	27
Bis(2-ethylhexyl) phthalate		730	J	260	1600
Di-n-octyl phthalate		ND		35	210
Benzofluoranthene		ND		11	43
Benzo[a]pyrene		28	J B	9.1	32
Indeno[1,2,3-cd]pyrene		29	J	13	43
Dibenz(a,h)anthracene		ND		13	43
Benzo[g,h,i]perylene		33		7.8	27
Carbazole		ND		35	160
1-Methylnaphthalene		ND		9.3	32

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	99	36 - 145
Phenol-d5	101	38 - 149
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	98	42 - 140
2,4,6-Tribromophenol	87	28 - 143
Terphenyl-d14	111	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP01-060925-010**

Lab Sample ID:	580-3718-6			Date Sampled:	09/25/2006 1245
Client Matrix:	Solid	% Moisture:	9.7	Date Received:	09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-11419		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-11302		Lab File ID:	HP02392.D
Dilution:	1.0			Initial Weight/Volume:	10.3335 g
Date Analyzed:	09/29/2006 0636			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0900			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		8.3		1.8	5.4
Chrysene		18		0.43	5.4
Benzofluoranthene		22	B	0.68	11
Benzo[a]pyrene		14	B	0.43	5.4
Indeno[1,2,3-cd]pyrene		12	B	0.27	5.4
Dibenz(a,h)anthracene		ND		0.24	5.4
Benzo[g,h,i]perylene		11	B	0.26	5.4
Benzo[b]fluoranthene		16	B	0.27	5.4
Benzo[k]fluoranthene		5.1	J B	0.30	5.4

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	122	38 - 141
2-Fluorobiphenyl	99	42 - 140
Terphenyl-d14	78	42 - 151

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP01-060925-W**

Lab Sample ID: 580-3718-7
Client Matrix: Water

Date Sampled: 09/25/2006 1315
Date Received: 09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 2239
Date Prepared: 09/28/2006 0838

Analysis Batch: 580-11408
Prep Batch: 580-11299

Instrument ID: SEA023
Lab File ID: HP02374.D
Initial Weight/Volume: 960 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzo[a]anthracene	0.029	J B	0.0094	0.10
Chrysene	0.056	J	0.0094	0.10
Benzofluoranthene	0.093	J B	0.032	0.21
Benzo[a]pyrene	ND		0.063	0.21
Indeno[1,2,3-cd]pyrene	0.11	B	0.016	0.10
Dibenz(a,h)anthracene	0.038	J B	0.013	0.10
Benzo[g,h,i]perylene	0.079	J B	0.019	0.10
Benzo[b]fluoranthene	0.074	J B	0.024	0.10
Benzo[k]fluoranthene	0.022	J B	0.011	0.10

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	123	34 - 146
2-Fluorobiphenyl	98	35 - 143
Terphenyl-d14	77	35 - 166

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP01-060925-W**

Lab Sample ID: 580-3718-7
Client Matrix: Water

Date Sampled: 09/25/2006 1315
Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1851
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292

Instrument ID: SEA040
Lab File ID: ak006311.D
Initial Weight/Volume: 960 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.077	3.1
Bis(2-chloroethyl)ether	ND		0.19	2.1
2-Chlorophenol	ND		0.23	2.1
1,3-Dichlorobenzene	ND		0.11	2.1
1,4-Dichlorobenzene	ND		0.13	2.1
Benzyl alcohol	0.14	J	0.14	2.1
1,2-Dichlorobenzene	ND		0.11	2.1
2-Methylphenol	ND		0.40	2.1
Bis(2-chloroisopropyl) ether	ND		0.092	2.1
3 & 4 Methylphenol	9.6		0.18	4.2
N-Nitrosodi-n-propylamine	ND		0.21	2.1
Hexachloroethane	ND		0.14	3.1
Nitrobenzene	ND		0.078	2.1
Isophorone	ND		0.11	2.1
2-Nitrophenol	ND		0.22	2.1
2,4-Dimethylphenol	ND		0.19	10
Benzoic acid	11		0.22	10
Bis(2-chloroethoxy)methane	ND		0.099	2.1
2,4-Dichlorophenol	ND		0.14	2.1
1,2,4-Trichlorobenzene	ND		0.10	2.1
Naphthalene	1.2	J	0.015	2.1
4-Chloroaniline	ND		0.20	2.1
Hexachlorobutadiene	ND		0.17	3.1
4-Chloro-3-methylphenol	ND		0.15	2.1
2-Methylnaphthalene	1.3		0.057	1.0
Hexachlorocyclopentadiene	ND		0.13	10
2,4,6-Trichlorophenol	ND		0.10	3.1
2,4,5-Trichlorophenol	ND		0.089	2.1
2-Chloronaphthalene	ND		0.031	0.31
2-Nitroaniline	ND		0.11	2.1
Dimethyl phthalate	ND		0.13	2.1
Acenaphthylene	ND		0.027	0.42
2,6-Dinitrotoluene	ND		0.15	2.1
3-Nitroaniline	ND		0.58	2.1
Acenaphthene	ND		0.013	0.52
2,4-Dinitrophenol	ND		0.60	26
4-Nitrophenol	ND		1.7	10
Dibenzofuran	ND		0.10	2.1
2,4-Dinitrotoluene	ND		0.13	2.1
Diethyl phthalate	0.39	J	0.097	2.1
4-Chlorophenyl phenyl ether	ND		0.13	2.1
Fluorene	ND		0.044	0.31
4-Nitroaniline	ND		0.19	3.1

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP01-060925-W

Lab Sample ID: 580-3718-7 | Date Sampled: 09/25/2006 1315
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11421 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-11292 | Lab File ID: ak006311.D
Dilution: 1.0 | Initial Weight/Volume: 960 mL
Date Analyzed: 09/28/2006 1851 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0759 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.55	21
N-Nitrosodiphenylamine	ND		0.14	2.1
4-Bromophenyl phenyl ether	ND		0.10	2.1
Hexachlorobenzene	ND		0.085	2.1
Pentachlorophenol	3.3	J	0.14	3.6
Phenanthrene	0.10	J	0.025	0.42
Anthracene	0.068	J	0.020	0.21
Di-n-butyl phthalate	3.6	B	0.092	2.1
Fluoranthene	0.086	J	0.028	0.26
Pyrene	0.13	J	0.021	0.31
Butyl benzyl phthalate	2.7	J	0.25	3.1
3,3'-Dichlorobenzidine	ND		1.7	10
Benzo[a]anthracene	ND		0.034	0.31
Chrysene	ND		0.047	0.21
Bis(2-ethylhexyl) phthalate	2.8	J	0.33	16
Di-n-octyl phthalate	ND		0.19	2.1
Benzofluoranthene	ND		0.057	0.42
Benzo[a]pyrene	ND		0.028	0.21
Indeno[1,2,3-cd]pyrene	ND		0.053	0.31
Dibenz(a,h)anthracene	ND		0.048	0.31
Benzo[g,h,i]perylene	ND		0.063	0.31
Carbazole	ND		0.094	2.1
1-Methylnaphthalene	0.70		0.054	0.31

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	41	10 - 120
Phenol-d5	28	10 - 102
Nitrobenzene-d5	105	34 - 146
2-Fluorobiphenyl	103	35 - 143
2,4,6-Tribromophenol	93	29 - 151
Terphenyl-d14	112	35 - 166

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP09-060925-010**

Lab Sample ID: 580-3718-8 | Date Sampled: 09/25/2006 1440
Client Matrix: Solid | % Moisture: 11.5 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006329.D
Dilution: 1.0 | Initial Weight/Volume: 10.8106 g
Date Analyzed: 09/29/2006 0159 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		28	100
Bis(2-chloroethyl)ether		ND		31	100
2-Chlorophenol		ND		24	100
1,3-Dichlorobenzene		ND		13	52
1,4-Dichlorobenzene		ND		7.9	52
Benzyl alcohol		ND		31	100
1,2-Dichlorobenzene		ND		18	52
2-Methylphenol		ND		29	100
Bis(2-chloroisopropyl) ether		ND		36	160
3 & 4 Methylphenol		ND		55	210
N-Nitrosodi-n-propylamine		ND		27	100
Hexachloroethane		ND		22	100
Nitrobenzene		ND		16	100
Isophorone		ND		27	100
2-Nitrophenol		ND		24	100
2,4-Dimethylphenol		ND		20	100
Benzoic acid		ND		870	2600
Bis(2-chloroethoxy)methane		ND		26	100
2,4-Dichlorophenol		ND		20	100
1,2,4-Trichlorobenzene		ND		10	52
Naphthalene		ND		6.0	21
4-Chloroaniline		ND		28	100
Hexachlorobutadiene		ND		14	52
4-Chloro-3-methylphenol		ND		23	100
2-Methylnaphthalene		ND		3.2	21
Hexachlorocyclopentadiene		ND		26	100
2,4,6-Trichlorophenol		ND		35	160
2,4,5-Trichlorophenol		ND		24	100
2-Chloronaphthalene		ND		2.0	21
2-Nitroaniline		ND		20	100
Dimethyl phthalate		ND		8.1	100
Acenaphthylene		ND		2.4	21
2,6-Dinitrotoluene		ND		20	100
3-Nitroaniline		ND		30	100
Acenaphthene		ND		6.0	21
2,4-Dinitrophenol		ND		210	1000
4-Nitrophenol		ND		270	1000
Dibenzofuran		ND		18	100
2,4-Dinitrotoluene		ND		15	100
Diethyl phthalate		ND		7.5	100
4-Chlorophenyl phenyl ether		ND		17	100
Fluorene		ND		2.7	21
4-Nitroaniline		ND		20	100

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP09-060925-010**

Lab Sample ID:	580-3718-8			Date Sampled:	09/25/2006 1440
Client Matrix:	Solid	% Moisture:	11.5	Date Received:	09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-11394		Instrument ID:	SEA040
Preparation:	3550B	Prep Batch: 580-11301		Lab File ID:	ak006329.D
Dilution:	1.0			Initial Weight/Volume:	10.8106 g
Date Analyzed:	09/29/2006 0159			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0847			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		280	1000
N-Nitrosodiphenylamine		ND		16	52
4-Bromophenyl phenyl ether		ND		10	100
Hexachlorobenzene		ND		12	52
Pentachlorophenol		ND		32	100
Phenanthrene		ND		4.2	21
Anthracene		ND		4.5	21
Di-n-butyl phthalate		44	J B	14	210
Fluoranthene		ND		3.2	21
Pyrene		ND		2.8	21
Butyl benzyl phthalate		ND		30	100
3,3'-Dichlorobenzidine		ND		9.5	210
Benzo[a]anthracene		ND		6.8	26
Chrysene		ND		7.8	26
Bis(2-ethylhexyl) phthalate		ND		250	1600
Di-n-octyl phthalate		ND		35	210
Benzofluoranthene		ND		10	42
Benzo[a]pyrene		ND		8.9	31
Indeno[1,2,3-cd]pyrene		ND		13	42
Dibenz(a,h)anthracene		ND		13	42
Benzo[g,h,i]perylene		ND		7.6	26
Carbazole		ND		35	160
1-Methylnaphthalene		ND		9.1	31

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	105	36 - 145
Phenol-d5	104	38 - 149
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	101	42 - 140
2,4,6-Tribromophenol	106	28 - 143
Terphenyl-d14	113	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP09-060925-010**

Lab Sample ID:	580-3718-8			Date Sampled:	09/25/2006 1440
Client Matrix:	Solid	% Moisture:	11.5	Date Received:	09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-11419		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-11302		Lab File ID:	HP02393.D
Dilution:	1.0			Initial Weight/Volume:	10.8106 g
Date Analyzed:	09/29/2006 0703			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0900			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		ND		1.8	5.2
Chrysene		ND		0.42	5.2
Benzofluoranthene		5.2	J B	0.66	10
Benzo[a]pyrene		2.8	J B	0.42	5.2
Indeno[1,2,3-cd]pyrene		2.5	J B	0.26	5.2
Dibenz(a,h)anthracene		3.5	J B	0.23	5.2
Benzo[g,h,i]perylene		1.5	J B	0.25	5.2
Benzo[b]fluoranthene		3.1	J B	0.26	5.2
Benzo[k]fluoranthene		2.2	J B	0.29	5.2

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	119	38 - 141
2-Fluorobiphenyl	105	42 - 140
Terphenyl-d14	104	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP09-060925-W

Lab Sample ID: 580-3718-9 | Date Sampled: 09/25/2006 1445
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-11408 | Instrument ID: SEA023
Preparation: 3510C | Prep Batch: 580-11299 | Lab File ID: HP02375.D
Dilution: 1.0 | Initial Weight/Volume: 970 mL
Date Analyzed: 09/28/2006 2307 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0838 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzo[a]anthracene	ND		0.0093	0.10
Chrysene	ND		0.0093	0.10
Benzofluoranthene	ND		0.032	0.21
Benzo[a]pyrene	ND		0.062	0.21
Indeno[1,2,3-cd]pyrene	0.023	J B	0.015	0.10
Dibenz(a,h)anthracene	0.017	J B	0.012	0.10
Benzo[g,h,i]perylene	ND		0.019	0.10
Benzo[b]fluoranthene	ND		0.024	0.10
Benzo[k]fluoranthene	ND		0.011	0.10

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	130	34 - 146
2-Fluorobiphenyl	106	35 - 143
Terphenyl-d14	95	35 - 166

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP09-060925-W**

Lab Sample ID: 580-3718-9
Client Matrix: Water

Date Sampled: 09/25/2006 1445
Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1915
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292

Instrument ID: SEA040
Lab File ID: ak006312.D
Initial Weight/Volume: 970 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.076	3.1
Bis(2-chloroethyl)ether	ND		0.19	2.1
2-Chlorophenol	ND		0.23	2.1
1,3-Dichlorobenzene	ND		0.11	2.1
1,4-Dichlorobenzene	ND		0.12	2.1
Benzyl alcohol	ND		0.13	2.1
1,2-Dichlorobenzene	ND		0.11	2.1
2-Methylphenol	ND		0.39	2.1
Bis(2-chloroisopropyl) ether	ND		0.091	2.1
3 & 4 Methylphenol	ND		0.18	4.1
N-Nitrosodi-n-propylamine	ND		0.21	2.1
Hexachloroethane	ND		0.13	3.1
Nitrobenzene	ND		0.077	2.1
Isophorone	ND		0.11	2.1
2-Nitrophenol	ND		0.22	2.1
2,4-Dimethylphenol	ND		0.19	10
Benzoic acid	5.3	J	0.22	10
Bis(2-chloroethoxy)methane	ND		0.098	2.1
2,4-Dichlorophenol	ND		0.13	2.1
1,2,4-Trichlorobenzene	ND		0.10	2.1
Naphthalene	ND		0.014	2.1
4-Chloroaniline	ND		0.20	2.1
Hexachlorobutadiene	ND		0.16	3.1
4-Chloro-3-methylphenol	ND		0.14	2.1
2-Methylnaphthalene	ND		0.057	1.0
Hexachlorocyclopentadiene	ND		0.12	10
2,4,6-Trichlorophenol	ND		0.10	3.1
2,4,5-Trichlorophenol	ND		0.088	2.1
2-Chloronaphthalene	ND		0.031	0.31
2-Nitroaniline	ND		0.11	2.1
Dimethyl phthalate	ND		0.12	2.1
Acenaphthylene	ND		0.027	0.41
2,6-Dinitrotoluene	ND		0.14	2.1
3-Nitroaniline	ND		0.58	2.1
Acenaphthene	ND		0.012	0.52
2,4-Dinitrophenol	ND		0.60	26
4-Nitrophenol	ND		1.6	10
Dibenzofuran	ND		0.10	2.1
2,4-Dinitrotoluene	ND		0.12	2.1
Diethyl phthalate	0.14	J	0.096	2.1
4-Chlorophenyl phenyl ether	ND		0.12	2.1
Fluorene	ND		0.043	0.31
4-Nitroaniline	ND		0.19	3.1

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP09-060925-W**

Lab Sample ID: 580-3718-9 | Date Sampled: 09/25/2006 1445
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11421 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-11292 | Lab File ID: ak006312.D
Dilution: 1.0 | Initial Weight/Volume: 970 mL
Date Analyzed: 09/28/2006 1915 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0759 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.55	21
N-Nitrosodiphenylamine	ND		0.13	2.1
4-Bromophenyl phenyl ether	ND		0.10	2.1
Hexachlorobenzene	ND		0.085	2.1
Pentachlorophenol	ND		0.13	3.6
Phenanthrene	ND		0.025	0.41
Anthracene	ND		0.020	0.21
Di-n-butyl phthalate	0.95	J B	0.091	2.1
Fluoranthene	ND		0.028	0.26
Pyrene	ND		0.021	0.31
Butyl benzyl phthalate	0.36	J	0.25	3.1
3,3'-Dichlorobenzidine	ND		1.6	10
Benzo[a]anthracene	ND		0.034	0.31
Chrysene	ND		0.046	0.21
Bis(2-ethylhexyl) phthalate	ND		0.33	15
Di-n-octyl phthalate	ND		0.19	2.1
Benzofluoranthene	ND		0.057	0.41
Benzo[a]pyrene	ND		0.028	0.21
Indeno[1,2,3-cd]pyrene	ND		0.053	0.31
Dibenz(a,h)anthracene	ND		0.047	0.31
Benzo[g,h,i]perylene	ND		0.062	0.31
Carbazole	ND		0.093	2.1
1-Methylnaphthalene	ND		0.054	0.31

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	47	10 - 120
Phenol-d5	27	10 - 102
Nitrobenzene-d5	114	34 - 146
2-Fluorobiphenyl	110	35 - 143
2,4,6-Tribromophenol	105	29 - 151
Terphenyl-d14	119	35 - 166

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP05-060925-015**

Lab Sample ID: 580-3718-10 | Date Sampled: 09/25/2006 1545
Client Matrix: Solid | % Moisture: 5.5 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006332.D
Dilution: 1.0 | Initial Weight/Volume: 10.5566 g
Date Analyzed: 09/29/2006 0312 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		27	100
Bis(2-chloroethyl)ether		ND		30	100
2-Chlorophenol		ND		23	100
1,3-Dichlorobenzene		ND		12	50
1,4-Dichlorobenzene		ND		7.6	50
Benzyl alcohol		ND		30	100
1,2-Dichlorobenzene		ND		17	50
2-Methylphenol		ND		28	100
Bis(2-chloroisopropyl) ether		ND		34	150
3 & 4 Methylphenol		ND		53	200
N-Nitrosodi-n-propylamine		ND		26	100
Hexachloroethane		ND		21	100
Nitrobenzene		ND		15	100
Isophorone		ND		26	100
2-Nitrophenol		ND		23	100
2,4-Dimethylphenol		ND		19	100
Benzoic acid		ND		830	2500
Bis(2-chloroethoxy)methane		ND		25	100
2,4-Dichlorophenol		ND		19	100
1,2,4-Trichlorobenzene		ND		9.9	50
Naphthalene		ND		5.7	20
4-Chloroaniline		ND		27	100
Hexachlorobutadiene		ND		13	50
4-Chloro-3-methylphenol		ND		22	100
2-Methylnaphthalene		ND		3.1	20
Hexachlorocyclopentadiene		ND		25	100
2,4,6-Trichlorophenol		ND		33	150
2,4,5-Trichlorophenol		ND		23	100
2-Chloronaphthalene		ND		1.9	20
2-Nitroaniline		ND		19	100
Dimethyl phthalate		ND		7.7	100
Acenaphthylene		ND		2.3	20
2,6-Dinitrotoluene		ND		19	100
3-Nitroaniline		ND		29	100
Acenaphthene		ND		5.7	20
2,4-Dinitrophenol		ND		210	1000
4-Nitrophenol		ND		260	1000
Dibenzofuran		ND		17	100
2,4-Dinitrotoluene		ND		14	100
Diethyl phthalate		ND		7.2	100
4-Chlorophenyl phenyl ether		ND		16	100
Fluorene		ND		2.6	20
4-Nitroaniline		ND		19	100

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP05-060925-015**

Lab Sample ID:	580-3718-10			Date Sampled:	09/25/2006 1545
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-11394		Instrument ID:	SEA040
Preparation:	3550B	Prep Batch: 580-11301		Lab File ID:	ak006332.D
Dilution:	1.0			Initial Weight/Volume:	10.5566 g
Date Analyzed:	09/29/2006 0312			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0847			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		270	1000
N-Nitrosodiphenylamine		ND		15	50
4-Bromophenyl phenyl ether		ND		10	100
Hexachlorobenzene		ND		11	50
Pentachlorophenol		ND		31	100
Phenanthrene		ND		4.0	20
Anthracene		ND		4.3	20
Di-n-butyl phthalate		41	J B	13	200
Fluoranthene		ND		3.1	20
Pyrene		ND		2.7	20
Butyl benzyl phthalate		ND		29	100
3,3'-Dichlorobenzidine		ND		9.1	200
Benzo[a]anthracene		ND		6.5	25
Chrysene		ND		7.5	25
Bis(2-ethylhexyl) phthalate		ND		240	1500
Di-n-octyl phthalate		ND		33	200
Benzofluoranthene		ND		10	40
Benzo[a]pyrene		ND		8.5	30
Indeno[1,2,3-cd]pyrene		ND		12	40
Dibenz(a,h)anthracene		ND		12	40
Benzo[g,h,i]perylene		ND		7.3	25
Carbazole		ND		33	150
1-Methylnaphthalene		ND		8.7	30

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	105	36 - 145
Phenol-d5	102	38 - 149
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	102	42 - 140
2,4,6-Tribromophenol	103	28 - 143
Terphenyl-d14	114	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP05-060925-015

Lab Sample ID:	580-3718-10			Date Sampled:	09/25/2006 1545
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-11419		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-11302		Lab File ID:	HP02396.D
Dilution:	1.0			Initial Weight/Volume:	10.5566 g
Date Analyzed:	09/29/2006 0825			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0900			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		3.0	J	1.7	5.0
Chrysene		ND		0.40	5.0
Benzofluoranthene		7.5	J B	0.63	10
Benzo[a]pyrene		3.9	J B	0.40	5.0
Indeno[1,2,3-cd]pyrene		5.4	B	0.25	5.0
Dibenz(a,h)anthracene		3.9	J B	0.22	5.0
Benzo[g,h,i]perylene		3.7	J B	0.24	5.0
Benzo[b]fluoranthene		4.0	J B	0.25	5.0
Benzo[k]fluoranthene		3.7	J B	0.28	5.0

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	125	38 - 141
2-Fluorobiphenyl	105	42 - 140
Terphenyl-d14	88	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP06-060926-030**

Lab Sample ID: 580-3718-11 | Date Sampled: 09/26/2006 0900
Client Matrix: Solid | % Moisture: 57.0 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006333.D
Dilution: 1.0 | Initial Weight/Volume: 10.6219 g
Date Analyzed: 09/29/2006 0336 | Final Weight/Volume: 20 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		120	440
Bis(2-chloroethyl)ether		ND		130	440
2-Chlorophenol		ND		100	440
1,3-Dichlorobenzene		ND		53	220
1,4-Dichlorobenzene		ND		33	220
Benzyl alcohol		ND		130	440
1,2-Dichlorobenzene		ND		74	220
2-Methylphenol		ND		120	440
Bis(2-chloroisopropyl) ether		ND		150	660
3 & 4 Methylphenol		ND		230	880
N-Nitrosodi-n-propylamine		ND		110	440
Hexachloroethane		ND		92	440
Nitrobenzene		ND		66	440
Isophorone		ND		110	440
2-Nitrophenol		ND		100	440
2,4-Dimethylphenol		ND		83	440
Benzoic acid		ND		3600	11000
Bis(2-chloroethoxy)methane		ND		110	440
2,4-Dichlorophenol		ND		83	440
1,2,4-Trichlorobenzene		ND		43	220
Naphthalene		300		25	88
4-Chloroaniline		ND		120	440
Hexachlorobutadiene		ND		57	220
4-Chloro-3-methylphenol		ND		96	440
2-Methylnaphthalene		970		14	88
Hexachlorocyclopentadiene		ND		110	440
2,4,6-Trichlorophenol		ND		140	660
2,4,5-Trichlorophenol		ND		100	440
2-Chloronaphthalene		ND		8.3	88
2-Nitroaniline		ND		83	440
Dimethyl phthalate		ND		34	440
Acenaphthylene		37	J	10	88
2,6-Dinitrotoluene		ND		83	440
3-Nitroaniline		ND		130	440
Acenaphthene		1900		25	88
2,4-Dinitrophenol		ND		900	4400
4-Nitrophenol		ND		1100	4400
Dibenzofuran		940		74	440
2,4-Dinitrotoluene		ND		61	440
Diethyl phthalate		ND		32	440
4-Chlorophenyl phenyl ether		ND		70	440
Fluorene		1100		11	88
4-Nitroaniline		ND		83	440

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP06-060926-030**

Lab Sample ID: 580-3718-11 | Date Sampled: 09/26/2006 0900
Client Matrix: Solid | % Moisture: 57.0 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006333.D
Dilution: 1.0 | Initial Weight/Volume: 10.6219 g
Date Analyzed: 09/29/2006 0336 | Final Weight/Volume: 20 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		1200	4400
N-Nitrosodiphenylamine		ND		66	220
4-Bromophenyl phenyl ether		ND		44	440
Hexachlorobenzene		ND		48	220
Pentachlorophenol		ND		140	440
Phenanthrene		1600		18	88
Anthracene		130		19	88
Di-n-butyl phthalate		190	J B	57	880
Fluoranthene		430		14	88
Pyrene		450		12	88
Butyl benzyl phthalate		ND		130	440
3,3'-Dichlorobenzidine		ND		40	880
Benzo[a]anthracene		180		28	110
Chrysene		150		33	110
Di-n-octyl phthalate		580	J	140	880
Benzofluoranthene		220		44	180
Benzo[a]pyrene		220	B	37	130
Indeno[1,2,3-cd]pyrene		150	J	53	180
Dibenz(a,h)anthracene		260		53	180
Benzo[g,h,i]perylene		160		32	110
Carbazole		ND		140	660
1-Methylnaphthalene		570		38	130

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	92	36 - 145
Phenol-d5	89	38 - 149
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	101	42 - 140
2,4,6-Tribromophenol	103	28 - 143
Terphenyl-d14	113	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP06-060926-030

Lab Sample ID: 580-3718-11 | Date Sampled: 09/26/2006 0900
Client Matrix: Solid | % Moisture: 57.0 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: AK006349.D
Dilution: 5.0 | Initial Weight/Volume: 10.6219 g
Date Analyzed: 09/29/2006 1358 | Final Weight/Volume: 20 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Bis(2-ethylhexyl) phthalate		30000	J	5300	33000

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP06-060926-030

Lab Sample ID:	580-3718-11			Date Sampled:	09/26/2006 0900
Client Matrix:	Solid	% Moisture:	57.0	Date Received:	09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-11419		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-11302		Lab File ID:	HP02397.D
Dilution:	1.0			Initial Weight/Volume:	10.6219 g
Date Analyzed:	09/29/2006 0853			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0900			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		74		3.7	11
Chrysene		71		0.88	11
Benzofluoranthene		94	B	1.4	22
Benzo[a]pyrene		71	B	0.88	11
Indeno[1,2,3-cd]pyrene		41	B	0.55	11
Dibenz(a,h)anthracene		7.5	J B	0.48	11
Benzo[g,h,i]perylene		32	B	0.53	11
Benzo[b]fluoranthene		70	B	0.55	11
Benzo[k]fluoranthene		47	B	0.61	11

Surrogate	%Rec		Acceptance Limits
Nitrobenzene-d5	58		38 - 141
2-Fluorobiphenyl	51		42 - 140
Terphenyl-d14	39	X	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-020**

Lab Sample ID: 580-3718-12 | Date Sampled: 09/26/2006 1010
Client Matrix: Solid | % Moisture: 7.7 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006334.D
Dilution: 1.0 | Initial Weight/Volume: 10.5686 g
Date Analyzed: 09/29/2006 0400 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		28	100
Bis(2-chloroethyl)ether		ND		31	100
2-Chlorophenol		ND		24	100
1,3-Dichlorobenzene		ND		12	51
1,4-Dichlorobenzene		ND		7.8	51
Benzyl alcohol		ND		31	100
1,2-Dichlorobenzene		ND		17	51
2-Methylphenol		ND		29	100
Bis(2-chloroisopropyl) ether		ND		35	150
3 & 4 Methylphenol		ND		54	210
N-Nitrosodi-n-propylamine		ND		27	100
Hexachloroethane		ND		22	100
Nitrobenzene		ND		15	100
Isophorone		ND		27	100
2-Nitrophenol		ND		24	100
2,4-Dimethylphenol		ND		19	100
Benzoic acid		ND		850	2600
Bis(2-chloroethoxy)methane		ND		26	100
2,4-Dichlorophenol		ND		19	100
1,2,4-Trichlorobenzene		ND		10	51
Naphthalene		ND		5.8	21
4-Chloroaniline		ND		28	100
Hexachlorobutadiene		ND		13	51
4-Chloro-3-methylphenol		ND		23	100
2-Methylnaphthalene		ND		3.2	21
Hexachlorocyclopentadiene		ND		26	100
2,4,6-Trichlorophenol		ND		34	150
2,4,5-Trichlorophenol		ND		24	100
2-Chloronaphthalene		ND		1.9	21
2-Nitroaniline		ND		19	100
Dimethyl phthalate		ND		7.9	100
Acenaphthylene		ND		2.4	21
2,6-Dinitrotoluene		ND		19	100
3-Nitroaniline		ND		30	100
Acenaphthene		ND		5.8	21
2,4-Dinitrophenol		ND		210	1000
4-Nitrophenol		ND		270	1000
Dibenzofuran		ND		17	100
2,4-Dinitrotoluene		ND		14	100
Diethyl phthalate		ND		7.4	100
4-Chlorophenyl phenyl ether		ND		16	100
Fluorene		ND		2.7	21
4-Nitroaniline		ND		19	100

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-020**

Lab Sample ID: 580-3718-12 | Date Sampled: 09/26/2006 1010
Client Matrix: Solid | % Moisture: 7.7 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006334.D
Dilution: 1.0 | Initial Weight/Volume: 10.5686 g
Date Analyzed: 09/29/2006 0400 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		280	1000
N-Nitrosodiphenylamine		ND		15	51
4-Bromophenyl phenyl ether		ND		10	100
Hexachlorobenzene		ND		11	51
Pentachlorophenol		ND		32	100
Phenanthrene		ND		4.1	21
Anthracene		ND		4.4	21
Di-n-butyl phthalate		41	J B	13	210
Fluoranthene		ND		3.2	21
Pyrene		ND		2.8	21
Butyl benzyl phthalate		ND		30	100
3,3'-Dichlorobenzidine		ND		9.3	210
Benzo[a]anthracene		ND		6.7	26
Chrysene		ND		7.7	26
Bis(2-ethylhexyl) phthalate		ND		250	1500
Di-n-octyl phthalate		140	J	34	210
Benzofluoranthene		ND		10	41
Benzo[a]pyrene		ND		8.7	31
Indeno[1,2,3-cd]pyrene		ND		12	41
Dibenz(a,h)anthracene		ND		12	41
Benzo[g,h,i]perylene		ND		7.5	26
Carbazole		ND		34	150
1-Methylnaphthalene		ND		8.9	31

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	105	36 - 145
Phenol-d5	102	38 - 149
Nitrobenzene-d5	100	38 - 141
2-Fluorobiphenyl	102	42 - 140
2,4,6-Tribromophenol	105	28 - 143
Terphenyl-d14	114	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-020**

Lab Sample ID:	580-3718-12			Date Sampled:	09/26/2006 1010
Client Matrix:	Solid	% Moisture:	7.7	Date Received:	09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-11419		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-11302		Lab File ID:	HP02398.D
Dilution:	1.0			Initial Weight/Volume:	10.5686 g
Date Analyzed:	09/29/2006 0920			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0900			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		ND		1.7	5.1
Chrysene		ND		0.41	5.1
Benzofluoranthene		1.4	J B	0.65	10
Benzo[a]pyrene		0.77	J B	0.41	5.1
Indeno[1,2,3-cd]pyrene		0.58	J B	0.26	5.1
Dibenz(a,h)anthracene		0.38	J B	0.23	5.1
Benzo[g,h,i]perylene		0.61	J B	0.25	5.1
Benzo[b]fluoranthene		1.3	J B	0.26	5.1
Benzo[k]fluoranthene		0.42	J B	0.29	5.1

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	124	38 - 141
2-Fluorobiphenyl	106	42 - 140
Terphenyl-d14	92	42 - 151

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP10-060926-W

Lab Sample ID: 580-3718-13
Client Matrix: Water

Date Sampled: 09/26/2006 1030
Date Received: 09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 2334
Date Prepared: 09/28/2006 0838

Analysis Batch: 580-11408
Prep Batch: 580-11299

Instrument ID: SEA023
Lab File ID: HP02376.D
Initial Weight/Volume: 980 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzo[a]anthracene	ND		0.0092	0.10
Chrysene	ND		0.0092	0.10
Benzofluoranthene	ND		0.032	0.20
Benzo[a]pyrene	ND		0.061	0.20
Indeno[1,2,3-cd]pyrene	ND		0.015	0.10
Dibenz(a,h)anthracene	ND		0.012	0.10
Benzo[g,h,i]perylene	ND		0.018	0.10
Benzo[b]fluoranthene	ND		0.023	0.10
Benzo[k]fluoranthene	ND		0.011	0.10

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	118	34 - 146
2-Fluorobiphenyl	98	35 - 143
Terphenyl-d14	86	35 - 166

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP10-060926-W

Lab Sample ID: 580-3718-13
Client Matrix: Water

Date Sampled: 09/26/2006 1030
Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1940
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292

Instrument ID: SEA040
Lab File ID: ak006313.D
Initial Weight/Volume: 980 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.076	3.1
Bis(2-chloroethyl)ether	ND		0.18	2.0
2-Chlorophenol	ND		0.22	2.0
1,3-Dichlorobenzene	ND		0.11	2.0
1,4-Dichlorobenzene	ND		0.12	2.0
Benzyl alcohol	ND		0.13	2.0
1,2-Dichlorobenzene	ND		0.11	2.0
2-Methylphenol	ND		0.39	2.0
Bis(2-chloroisopropyl) ether	ND		0.090	2.0
3 & 4 Methylphenol	ND		0.17	4.1
N-Nitrosodi-n-propylamine	ND		0.20	2.0
Hexachloroethane	ND		0.13	3.1
Nitrobenzene	ND		0.077	2.0
Isophorone	ND		0.11	2.0
2-Nitrophenol	ND		0.21	2.0
2,4-Dimethylphenol	ND		0.18	10
Benzoic acid	ND		0.21	10
Bis(2-chloroethoxy)methane	ND		0.097	2.0
2,4-Dichlorophenol	ND		0.13	2.0
1,2,4-Trichlorobenzene	ND		0.10	2.0
Naphthalene	0.017	J	0.014	2.0
4-Chloroaniline	ND		0.19	2.0
Hexachlorobutadiene	ND		0.16	3.1
4-Chloro-3-methylphenol	ND		0.14	2.0
2-Methylnaphthalene	ND		0.056	1.0
Hexachlorocyclopentadiene	ND		0.12	10
2,4,6-Trichlorophenol	ND		0.10	3.1
2,4,5-Trichlorophenol	ND		0.087	2.0
2-Chloronaphthalene	ND		0.031	0.31
2-Nitroaniline	ND		0.11	2.0
Dimethyl phthalate	ND		0.12	2.0
Acenaphthylene	ND		0.027	0.41
2,6-Dinitrotoluene	ND		0.14	2.0
3-Nitroaniline	ND		0.57	2.0
Acenaphthene	ND		0.012	0.51
2,4-Dinitrophenol	ND		0.59	26
4-Nitrophenol	ND		1.6	10
Dibenzofuran	ND		0.10	2.0
2,4-Dinitrotoluene	ND		0.12	2.0
Diethyl phthalate	0.13	J	0.095	2.0
4-Chlorophenyl phenyl ether	ND		0.12	2.0
Fluorene	0.054	J	0.043	0.31
4-Nitroaniline	ND		0.18	3.1

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-W**

Lab Sample ID: 580-3718-13 | Date Sampled: 09/26/2006 1030
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11421 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-11292 | Lab File ID: ak006313.D
Dilution: 1.0 | Initial Weight/Volume: 980 mL
Date Analyzed: 09/28/2006 1940 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0759 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.54	20
N-Nitrosodiphenylamine	ND		0.13	2.0
4-Bromophenyl phenyl ether	ND		0.10	2.0
Hexachlorobenzene	ND		0.084	2.0
Pentachlorophenol	ND		0.13	3.6
Phenanthrene	ND		0.024	0.41
Anthracene	ND		0.019	0.20
Di-n-butyl phthalate	0.89	J B	0.090	2.0
Fluoranthene	ND		0.028	0.26
Pyrene	ND		0.020	0.31
Butyl benzyl phthalate	0.44	J	0.24	3.1
3,3'-Dichlorobenzidine	ND		1.6	10
Benzo[a]anthracene	ND		0.034	0.31
Chrysene	ND		0.046	0.20
Bis(2-ethylhexyl) phthalate	ND		0.33	15
Di-n-octyl phthalate	ND		0.18	2.0
Benzofluoranthene	ND		0.056	0.41
Benzo[a]pyrene	ND		0.028	0.20
Indeno[1,2,3-cd]pyrene	ND		0.052	0.31
Dibenz(a,h)anthracene	ND		0.047	0.31
Benzo[g,h,i]perylene	ND		0.061	0.31
Carbazole	ND		0.092	2.0
1-Methylnaphthalene	ND		0.053	0.31

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	42	10 - 120
Phenol-d5	24	10 - 102
Nitrobenzene-d5	102	34 - 146
2-Fluorobiphenyl	102	35 - 143
2,4,6-Tribromophenol	92	29 - 151
Terphenyl-d14	107	35 - 166

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-WDUP**

Lab Sample ID: 580-3718-14 | Date Sampled: 09/26/2006 1035
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-11408 | Instrument ID: SEA023
Preparation: 3510C | Prep Batch: 580-11299 | Lab File ID: HP02377.D
Dilution: 1.0 | Initial Weight/Volume: 995 mL
Date Analyzed: 09/29/2006 0001 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0838 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzo[a]anthracene	ND		0.0090	0.10
Chrysene	ND		0.0090	0.10
Benzofluoranthene	ND		0.031	0.20
Benzo[a]pyrene	ND		0.060	0.20
Indeno[1,2,3-cd]pyrene	ND		0.015	0.10
Dibenz(a,h)anthracene	ND		0.012	0.10
Benzo[g,h,i]perylene	ND		0.018	0.10
Benzo[b]fluoranthene	ND		0.023	0.10
Benzo[k]fluoranthene	ND		0.011	0.10

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	130	34 - 146
2-Fluorobiphenyl	106	35 - 143
Terphenyl-d14	95	35 - 166

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP10-060926-WDUP**

Lab Sample ID: 580-3718-14
Client Matrix: Water

Date Sampled: 09/26/2006 1035
Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 2004
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292

Instrument ID: SEA040
Lab File ID: ak006314.D
Initial Weight/Volume: 995 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.074	3.0
Bis(2-chloroethyl)ether	ND		0.18	2.0
2-Chlorophenol	ND		0.22	2.0
1,3-Dichlorobenzene	ND		0.11	2.0
1,4-Dichlorobenzene	ND		0.12	2.0
Benzyl alcohol	ND		0.13	2.0
1,2-Dichlorobenzene	ND		0.11	2.0
2-Methylphenol	ND		0.38	2.0
Bis(2-chloroisopropyl) ether	ND		0.088	2.0
3 & 4 Methylphenol	ND		0.17	4.0
N-Nitrosodi-n-propylamine	ND		0.20	2.0
Hexachloroethane	ND		0.13	3.0
Nitrobenzene	ND		0.075	2.0
Isophorone	ND		0.11	2.0
2-Nitrophenol	ND		0.21	2.0
2,4-Dimethylphenol	ND		0.18	10
Benzoic acid	ND		0.21	10
Bis(2-chloroethoxy)methane	ND		0.095	2.0
2,4-Dichlorophenol	ND		0.13	2.0
1,2,4-Trichlorobenzene	ND		0.10	2.0
Naphthalene	ND		0.014	2.0
4-Chloroaniline	ND		0.19	2.0
Hexachlorobutadiene	ND		0.16	3.0
4-Chloro-3-methylphenol	ND		0.14	2.0
2-Methylnaphthalene	ND		0.055	1.0
Hexachlorocyclopentadiene	ND		0.12	10
2,4,6-Trichlorophenol	ND		0.10	3.0
2,4,5-Trichlorophenol	ND		0.085	2.0
2-Chloronaphthalene	ND		0.030	0.30
2-Nitroaniline	ND		0.11	2.0
Dimethyl phthalate	ND		0.12	2.0
Acenaphthylene	ND		0.026	0.40
2,6-Dinitrotoluene	ND		0.14	2.0
3-Nitroaniline	ND		0.56	2.0
Acenaphthene	0.061	J	0.012	0.50
2,4-Dinitrophenol	ND		0.58	25
4-Nitrophenol	ND		1.6	10
Dibenzofuran	ND		0.098	2.0
2,4-Dinitrotoluene	ND		0.12	2.0
Diethyl phthalate	ND		0.093	2.0
4-Chlorophenyl phenyl ether	ND		0.12	2.0
Fluorene	0.069	J	0.042	0.30
4-Nitroaniline	ND		0.18	3.0

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-WDUP**

Lab Sample ID: 580-3718-14 | Date Sampled: 09/26/2006 1035
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11421 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-11292 | Lab File ID: ak006314.D
Dilution: 1.0 | Initial Weight/Volume: 995 mL
Date Analyzed: 09/28/2006 2004 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0759 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.53	20
N-Nitrosodiphenylamine	ND		0.13	2.0
4-Bromophenyl phenyl ether	ND		0.10	2.0
Hexachlorobenzene	ND		0.082	2.0
Pentachlorophenol	ND		0.13	3.5
Phenanthrene	ND		0.024	0.40
Anthracene	ND		0.019	0.20
Di-n-butyl phthalate	0.93	J B	0.088	2.0
Fluoranthene	ND		0.027	0.25
Pyrene	0.022	J	0.020	0.30
Butyl benzyl phthalate	0.56	J	0.24	3.0
3,3'-Dichlorobenzidine	ND		1.6	10
Benzo[a]anthracene	ND		0.033	0.30
Chrysene	ND		0.045	0.20
Bis(2-ethylhexyl) phthalate	ND		0.32	15
Di-n-octyl phthalate	ND		0.18	2.0
Benzofluoranthene	ND		0.055	0.40
Benzo[a]pyrene	ND		0.027	0.20
Indeno[1,2,3-cd]pyrene	ND		0.051	0.30
Dibenz(a,h)anthracene	ND		0.046	0.30
Benzo[g,h,i]perylene	ND		0.060	0.30
Carbazole	ND		0.090	2.0
1-Methylnaphthalene	ND		0.052	0.30

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	47	10 - 120
Phenol-d5	26	10 - 102
Nitrobenzene-d5	108	34 - 146
2-Fluorobiphenyl	109	35 - 143
2,4,6-Tribromophenol	101	29 - 151
Terphenyl-d14	117	35 - 166

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045**

Lab Sample ID: 580-3718-15 | Date Sampled: 09/26/2006 1120
Client Matrix: Solid | % Moisture: 13.2 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006335.D
Dilution: 1.0 | Initial Weight/Volume: 10.5161 g
Date Analyzed: 09/29/2006 0425 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		30	110
Bis(2-chloroethyl)ether		ND		33	110
2-Chlorophenol		ND		25	110
1,3-Dichlorobenzene		ND		13	55
1,4-Dichlorobenzene		ND		8.3	55
Benzyl alcohol		ND		33	110
1,2-Dichlorobenzene		ND		19	55
2-Methylphenol		ND		31	110
Bis(2-chloroisopropyl) ether		ND		37	160
3 & 4 Methylphenol		ND		58	220
N-Nitrosodi-n-propylamine		ND		28	110
Hexachloroethane		ND		23	110
Nitrobenzene		ND		16	110
Isophorone		ND		28	110
2-Nitrophenol		ND		25	110
2,4-Dimethylphenol		ND		21	110
Benzoic acid		ND		910	2700
Bis(2-chloroethoxy)methane		ND		27	110
2,4-Dichlorophenol		ND		21	110
1,2,4-Trichlorobenzene		ND		11	55
Naphthalene		ND		6.2	22
4-Chloroaniline		ND		30	110
Hexachlorobutadiene		ND		14	55
4-Chloro-3-methylphenol		ND		24	110
2-Methylnaphthalene		ND		3.4	22
Hexachlorocyclopentadiene		ND		27	110
2,4,6-Trichlorophenol		ND		36	160
2,4,5-Trichlorophenol		ND		25	110
2-Chloronaphthalene		ND		2.1	22
2-Nitroaniline		ND		21	110
Dimethyl phthalate		ND		8.4	110
Acenaphthylene		ND		2.5	22
2,6-Dinitrotoluene		33	J	21	110
3-Nitroaniline		ND		32	110
Acenaphthene		ND		6.2	22
2,4-Dinitrophenol		ND		220	1100
4-Nitrophenol		ND		280	1100
Dibenzofuran		ND		19	110
2,4-Dinitrotoluene		ND		15	110
Diethyl phthalate		ND		7.9	110
4-Chlorophenyl phenyl ether		ND		18	110
Fluorene		ND		2.8	22
4-Nitroaniline		ND		21	110

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045**

Lab Sample ID: 580-3718-15 | Date Sampled: 09/26/2006 1120
Client Matrix: Solid | % Moisture: 13.2 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006335.D
Dilution: 1.0 | Initial Weight/Volume: 10.5161 g
Date Analyzed: 09/29/2006 0425 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		300	1100
N-Nitrosodiphenylamine		ND		16	55
4-Bromophenyl phenyl ether		ND		11	110
Hexachlorobenzene		ND		12	55
Pentachlorophenol		ND		34	110
Phenanthrene		ND		4.4	22
Anthracene		ND		4.7	22
Di-n-butyl phthalate		44	J B	14	220
Fluoranthene		ND		3.4	22
Pyrene		ND		3.0	22
Butyl benzyl phthalate		ND		32	110
3,3'-Dichlorobenzidine		ND		10	220
Benzo[a]anthracene		ND		7.1	27
Chrysene		ND		8.2	27
Bis(2-ethylhexyl) phthalate		ND		260	1600
Di-n-octyl phthalate		ND		36	220
Benzofluoranthene		ND		11	44
Benzo[a]pyrene		ND		9.3	33
Indeno[1,2,3-cd]pyrene		ND		13	44
Dibenz(a,h)anthracene		ND		13	44
Benzo[g,h,i]perylene		ND		8.0	27
Carbazole		ND		36	160
1-Methylnaphthalene		ND		9.5	33

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	104	36 - 145
Phenol-d5	100	38 - 149
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	99	42 - 140
2,4,6-Tribromophenol	100	28 - 143
Terphenyl-d14	114	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP07-060926-045

Lab Sample ID: 580-3718-15 | Date Sampled: 09/26/2006 1120
Client Matrix: Solid | % Moisture: 13.2 | Date Received: 09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-11419 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-11302 | Lab File ID: HP02399.D
Dilution: 1.0 | Initial Weight/Volume: 10.5161 g
Date Analyzed: 09/29/2006 0947 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0900 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		ND		1.9	5.5
Chrysene		ND		0.44	5.5
Benzofluoranthene		1.4	J B	0.69	11
Benzo[a]pyrene		0.72	J B	0.44	5.5
Indeno[1,2,3-cd]pyrene		0.66	J B	0.27	5.5
Dibenz(a,h)anthracene		1.0	J B	0.24	5.5
Benzo[g,h,i]perylene		0.47	J B	0.26	5.5
Benzo[b]fluoranthene		1.6	J B	0.27	5.5
Benzo[k]fluoranthene		ND		0.31	5.5

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	120	38 - 141
2-Fluorobiphenyl	102	42 - 140
Terphenyl-d14	91	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045DUP**

Lab Sample ID: 580-3718-16 | Date Sampled: 09/26/2006 1125
Client Matrix: Solid | % Moisture: 8.1 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006336.D
Dilution: 1.0 | Initial Weight/Volume: 10.7184 g
Date Analyzed: 09/29/2006 0449 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		27	100
Bis(2-chloroethyl)ether		ND		30	100
2-Chlorophenol		ND		23	100
1,3-Dichlorobenzene		ND		12	51
1,4-Dichlorobenzene		ND		7.7	51
Benzyl alcohol		ND		30	100
1,2-Dichlorobenzene		ND		17	51
2-Methylphenol		ND		28	100
Bis(2-chloroisopropyl) ether		ND		35	150
3 & 4 Methylphenol		ND		54	200
N-Nitrosodi-n-propylamine		ND		26	100
Hexachloroethane		ND		21	100
Nitrobenzene		ND		15	100
Isophorone		ND		26	100
2-Nitrophenol		ND		23	100
2,4-Dimethylphenol		ND		19	100
Benzoic acid		ND		840	2500
Bis(2-chloroethoxy)methane		ND		25	100
2,4-Dichlorophenol		ND		19	100
1,2,4-Trichlorobenzene		ND		10	51
Naphthalene		ND		5.8	20
4-Chloroaniline		ND		27	100
Hexachlorobutadiene		ND		13	51
4-Chloro-3-methylphenol		ND		22	100
2-Methylnaphthalene		ND		3.1	20
Hexachlorocyclopentadiene		ND		25	100
2,4,6-Trichlorophenol		ND		34	150
2,4,5-Trichlorophenol		ND		23	100
2-Chloronaphthalene		ND		1.9	20
2-Nitroaniline		ND		19	100
Dimethyl phthalate		ND		7.8	100
Acenaphthylene		ND		2.3	20
2,6-Dinitrotoluene		ND		19	100
3-Nitroaniline		ND		29	100
Acenaphthene		ND		5.8	20
2,4-Dinitrophenol		ND		210	1000
4-Nitrophenol		ND		260	1000
Dibenzofuran		ND		17	100
2,4-Dinitrotoluene		ND		14	100
Diethyl phthalate		ND		7.3	100
4-Chlorophenyl phenyl ether		ND		16	100
Fluorene		ND		2.6	20
4-Nitroaniline		ND		19	100

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045DUP**

Lab Sample ID: 580-3718-16 | Date Sampled: 09/26/2006 1125
Client Matrix: Solid | % Moisture: 8.1 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006336.D
Dilution: 1.0 | Initial Weight/Volume: 10.7184 g
Date Analyzed: 09/29/2006 0449 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		270	1000
N-Nitrosodiphenylamine		ND		15	51
4-Bromophenyl phenyl ether		ND		10	100
Hexachlorobenzene		ND		11	51
Pentachlorophenol		ND		31	100
Phenanthrene		ND		4.1	20
Anthracene		ND		4.4	20
Di-n-butyl phthalate		39	J B	13	200
Fluoranthene		ND		3.1	20
Pyrene		ND		2.7	20
Butyl benzyl phthalate		ND		29	100
3,3'-Dichlorobenzidine		ND		9.2	200
Benzo[a]anthracene		ND		6.6	25
Chrysene		ND		7.6	25
Bis(2-ethylhexyl) phthalate		ND		240	1500
Di-n-octyl phthalate		ND		34	200
Benzofluoranthene		ND		10	41
Benzo[a]pyrene		ND		8.6	30
Indeno[1,2,3-cd]pyrene		ND		12	41
Dibenz(a,h)anthracene		ND		12	41
Benzo[g,h,i]perylene		ND		7.4	25
Carbazole		ND		34	150
1-Methylnaphthalene		ND		8.8	30

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	102	36 - 145
Phenol-d5	100	38 - 149
Nitrobenzene-d5	95	38 - 141
2-Fluorobiphenyl	99	42 - 140
2,4,6-Tribromophenol	97	28 - 143
Terphenyl-d14	110	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045DUP**

Lab Sample ID:	580-3718-16			Date Sampled:	09/26/2006 1125
Client Matrix:	Solid	% Moisture:	8.1	Date Received:	09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-11419		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-11302		Lab File ID:	HP02400.D
Dilution:	1.0			Initial Weight/Volume:	10.7184 g
Date Analyzed:	09/29/2006 1014			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0900			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		ND		1.7	5.1
Chrysene		ND		0.41	5.1
Benzofluoranthene		0.97	J B	0.64	10
Benzo[a]pyrene		ND		0.41	5.1
Indeno[1,2,3-cd]pyrene		ND		0.25	5.1
Dibenz(a,h)anthracene		0.39	J B	0.22	5.1
Benzo[g,h,i]perylene		0.40	J B	0.24	5.1
Benzo[b]fluoranthene		1.0	J B	0.25	5.1
Benzo[k]fluoranthene		ND		0.28	5.1

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	122	38 - 141
2-Fluorobiphenyl	105	42 - 140
Terphenyl-d14	92	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP08-060926-010**

Lab Sample ID: 580-3718-17 | Date Sampled: 09/26/2006 1315
Client Matrix: Solid | % Moisture: 6.4 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006337.D
Dilution: 10 | Initial Weight/Volume: 10.7479 g
Date Analyzed: 09/29/2006 0514 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		270	990
Bis(2-chloroethyl)ether		ND		300	990
2-Chlorophenol		ND		230	990
1,3-Dichlorobenzene		ND		120	500
1,4-Dichlorobenzene		ND		76	500
Benzyl alcohol		ND		300	990
1,2-Dichlorobenzene		ND		170	500
2-Methylphenol		ND		280	990
Bis(2-chloroisopropyl) ether		ND		340	1500
3 & 4 Methylphenol		ND		530	2000
N-Nitrosodi-n-propylamine		ND		260	990
Hexachloroethane		ND		210	990
Nitrobenzene		ND		150	990
Isophorone		ND		260	990
2-Nitrophenol		ND		230	990
2,4-Dimethylphenol		ND		190	990
Benzoic acid		ND		8300	25000
Bis(2-chloroethoxy)methane		ND		250	990
2,4-Dichlorophenol		ND		190	990
1,2,4-Trichlorobenzene		ND		98	500
Naphthalene		ND		57	200
4-Chloroaniline		ND		270	990
Hexachlorobutadiene		ND		130	500
4-Chloro-3-methylphenol		ND		220	990
2-Methylnaphthalene		ND		31	200
Hexachlorocyclopentadiene		ND		250	990
2,4,6-Trichlorophenol		ND		330	1500
2,4,5-Trichlorophenol		ND		230	990
2-Chloronaphthalene		ND		19	200
2-Nitroaniline		ND		190	990
Dimethyl phthalate		ND		77	990
Acenaphthylene		ND		23	200
2,6-Dinitrotoluene		ND		190	990
3-Nitroaniline		ND		290	990
Acenaphthene		ND		57	200
2,4-Dinitrophenol		ND		2000	9900
4-Nitrophenol		ND		2600	9900
Dibenzofuran		ND		170	990
2,4-Dinitrotoluene		ND		140	990
Diethyl phthalate		ND		72	990
4-Chlorophenyl phenyl ether		ND		160	990
Fluorene		ND		26	200
4-Nitroaniline		ND		190	990

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP08-060926-010**

Lab Sample ID: 580-3718-17 | Date Sampled: 09/26/2006 1315
Client Matrix: Solid | % Moisture: 6.4 | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11394 | Instrument ID: SEA040
Preparation: 3550B | Prep Batch: 580-11301 | Lab File ID: ak006337.D
Dilution: 10 | Initial Weight/Volume: 10.7479 g
Date Analyzed: 09/29/2006 0514 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0847 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		2700	9900
N-Nitrosodiphenylamine		ND		150	500
4-Bromophenyl phenyl ether		ND		99	990
Hexachlorobenzene		ND		110	500
Pentachlorophenol		ND		310	990
Phenanthrene		ND		40	200
Anthracene		ND		43	200
Di-n-butyl phthalate		ND		130	2000
Fluoranthene		ND		31	200
Pyrene		290		27	200
Butyl benzyl phthalate		ND		290	990
3,3'-Dichlorobenzidine		ND		90	2000
Benzo[a]anthracene		ND		65	250
Chrysene		ND		75	250
Bis(2-ethylhexyl) phthalate		ND		2400	15000
Di-n-octyl phthalate		1400	J	330	2000
Benzofluoranthene		110	J	99	400
Benzo[a]pyrene		220	J B	84	300
Indeno[1,2,3-cd]pyrene		ND		120	400
Dibenz(a,h)anthracene		ND		120	400
Benzo[g,h,i]perylene		160	J	73	250
Carbazole		ND		330	1500
1-Methylnaphthalene		ND		86	300

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	82	36 - 145
Phenol-d5	83	38 - 149
Nitrobenzene-d5	87	38 - 141
2-Fluorobiphenyl	91	42 - 140
2,4,6-Tribromophenol	111	28 - 143
Terphenyl-d14	107	42 - 151

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP08-060926-010**

Lab Sample ID:	580-3718-17			Date Sampled:	09/26/2006 1315
Client Matrix:	Solid	% Moisture:	6.4	Date Received:	09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-11419		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-11302		Lab File ID:	HP02401.D
Dilution:	1.0			Initial Weight/Volume:	10.7479 g
Date Analyzed:	09/29/2006 1042			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0900			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		34		1.7	5.0
Chrysene		120		0.40	5.0
Benzofluoranthene		98	B	0.63	9.9
Benzo[a]pyrene		78	B	0.40	5.0
Indeno[1,2,3-cd]pyrene		34	B	0.25	5.0
Dibenz(a,h)anthracene		18	B	0.22	5.0
Benzo[g,h,i]perylene		39	B	0.24	5.0
Benzo[b]fluoranthene		66	B	0.25	5.0
Benzo[k]fluoranthene		36	B	0.28	5.0

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	124	38 - 141
2-Fluorobiphenyl	49	42 - 140
Terphenyl-d14	80	42 - 151

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP07-060926-W**

Lab Sample ID: 580-3718-18
Client Matrix: Water

Date Sampled: 09/26/2006 1145
Date Received: 09/26/2006 1139

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/29/2006 0029
Date Prepared: 09/28/2006 0838

Analysis Batch: 580-11408
Prep Batch: 580-11299

Instrument ID: SEA023
Lab File ID: HP02378.D
Initial Weight/Volume: 960 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzo[a]anthracene	ND		0.0094	0.10
Chrysene	ND		0.0094	0.10
Benzofluoranthene	ND		0.032	0.21
Benzo[a]pyrene	ND		0.063	0.21
Indeno[1,2,3-cd]pyrene	ND		0.016	0.10
Dibenz(a,h)anthracene	ND		0.013	0.10
Benzo[g,h,i]perylene	ND		0.019	0.10
Benzo[b]fluoranthene	ND		0.024	0.10
Benzo[k]fluoranthene	ND		0.011	0.10

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	125	34 - 146
2-Fluorobiphenyl	103	35 - 143
Terphenyl-d14	82	35 - 166

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-W**

Lab Sample ID: 580-3718-18 | Date Sampled: 09/26/2006 1145
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11421 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-11292 | Lab File ID: ak006315.D
Dilution: 1.0 | Initial Weight/Volume: 960 mL
Date Analyzed: 09/28/2006 2028 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0759 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.077	3.1
Bis(2-chloroethyl)ether	ND		0.19	2.1
2-Chlorophenol	ND		0.23	2.1
1,3-Dichlorobenzene	ND		0.11	2.1
1,4-Dichlorobenzene	ND		0.13	2.1
Benzyl alcohol	ND		0.14	2.1
1,2-Dichlorobenzene	ND		0.11	2.1
2-Methylphenol	ND		0.40	2.1
Bis(2-chloroisopropyl) ether	ND		0.092	2.1
3 & 4 Methylphenol	0.41	J	0.18	4.2
N-Nitrosodi-n-propylamine	ND		0.21	2.1
Hexachloroethane	ND		0.14	3.1
Nitrobenzene	ND		0.078	2.1
Isophorone	ND		0.11	2.1
2-Nitrophenol	ND		0.22	2.1
2,4-Dimethylphenol	ND		0.19	10
Benzoic acid	5.5	J	0.22	10
Bis(2-chloroethoxy)methane	ND		0.099	2.1
2,4-Dichlorophenol	ND		0.14	2.1
1,2,4-Trichlorobenzene	ND		0.10	2.1
Naphthalene	ND		0.015	2.1
4-Chloroaniline	ND		0.20	2.1
Hexachlorobutadiene	ND		0.17	3.1
4-Chloro-3-methylphenol	ND		0.15	2.1
2-Methylnaphthalene	ND		0.057	1.0
Hexachlorocyclopentadiene	ND		0.13	10
2,4,6-Trichlorophenol	ND		0.10	3.1
2,4,5-Trichlorophenol	ND		0.089	2.1
2-Chloronaphthalene	ND		0.031	0.31
2-Nitroaniline	ND		0.11	2.1
Dimethyl phthalate	ND		0.13	2.1
Acenaphthylene	ND		0.027	0.42
2,6-Dinitrotoluene	ND		0.15	2.1
3-Nitroaniline	ND		0.58	2.1
Acenaphthene	ND		0.013	0.52
2,4-Dinitrophenol	ND		0.60	26
4-Nitrophenol	ND		1.7	10
Dibenzofuran	ND		0.10	2.1
2,4-Dinitrotoluene	ND		0.13	2.1
Diethyl phthalate	0.21	J	0.097	2.1
4-Chlorophenyl phenyl ether	ND		0.13	2.1
Fluorene	ND		0.044	0.31
4-Nitroaniline	ND		0.19	3.1

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-W**

Lab Sample ID: 580-3718-18 | Date Sampled: 09/26/2006 1145
Client Matrix: Water | Date Received: 09/26/2006 1139

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-11421 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-11292 | Lab File ID: ak006315.D
Dilution: 1.0 | Initial Weight/Volume: 960 mL
Date Analyzed: 09/28/2006 2028 | Final Weight/Volume: 10 mL
Date Prepared: 09/28/2006 0759 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.55	21
N-Nitrosodiphenylamine	ND		0.14	2.1
4-Bromophenyl phenyl ether	ND		0.10	2.1
Hexachlorobenzene	ND		0.085	2.1
Pentachlorophenol	ND		0.14	3.6
Phenanthrene	ND		0.025	0.42
Anthracene	ND		0.020	0.21
Di-n-butyl phthalate	1.1	J B	0.092	2.1
Fluoranthene	ND		0.028	0.26
Pyrene	ND		0.021	0.31
Butyl benzyl phthalate	0.59	J	0.25	3.1
3,3'-Dichlorobenzidine	ND		1.7	10
Benzo[a]anthracene	ND		0.034	0.31
Chrysene	ND		0.047	0.21
Bis(2-ethylhexyl) phthalate	ND		0.33	16
Di-n-octyl phthalate	1.4	J	0.19	2.1
Benzofluoranthene	ND		0.057	0.42
Benzo[a]pyrene	ND		0.028	0.21
Indeno[1,2,3-cd]pyrene	ND		0.053	0.31
Dibenz(a,h)anthracene	ND		0.048	0.31
Benzo[g,h,i]perylene	ND		0.063	0.31
Carbazole	ND		0.094	2.1
1-Methylnaphthalene	ND		0.054	0.31

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	48	10 - 120
Phenol-d5	28	10 - 102
Nitrobenzene-d5	102	34 - 146
2-Fluorobiphenyl	101	35 - 143
2,4,6-Tribromophenol	103	29 - 151
Terphenyl-d14	110	35 - 166

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP04-060925-010

Lab Sample ID:	580-3718-1			Date Sampled:	09/25/2006 0945
Client Matrix:	Solid	% Moisture:	12.9	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167500.D
Dilution:	1.0			Initial Weight/Volume:	6.37 g
Date Analyzed:	09/28/2006 1701			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		1.6	J	0.46	7.2

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	87	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	84	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-040**

Lab Sample ID:	580-3718-2			Date Sampled:	09/25/2006 0950
Client Matrix:	Solid	% Moisture:	27.3	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167501.D
Dilution:	1.0			Initial Weight/Volume:	4.63 g
Date Analyzed:	09/28/2006 1724			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		13		0.76	12

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	99	50 - 150
Trifluorotoluene (Surr)	79	50 - 150
Ethylbenzene-d10	106	50 - 150
Fluorobenzene (Surr)	84	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP04-060925-W

Lab Sample ID: 580-3718-3
Client Matrix: Water

Date Sampled: 09/25/2006 1000
Date Received: 09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 09/28/2006 1524
Date Prepared: 09/28/2006 1524

Analysis Batch: 580-11401

Instrument ID: SEA041
Lab File ID: GX0003043.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Gasoline	0.026	J	0.0077	0.050

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	88	50 - 150
Ethylbenzene-d10	101	50 - 150
Fluorobenzene (Surr)	97	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP03-060925-010**

Lab Sample ID:	580-3718-4			Date Sampled:	09/25/2006 1050
Client Matrix:	Solid	% Moisture:	8.7	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167502.D
Dilution:	1.0			Initial Weight/Volume:	6.77 g
Date Analyzed:	09/28/2006 1746			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		1.7	J	0.41	6.5

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	86	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	83	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP02-060925-010**

Lab Sample ID:	580-3718-5			Date Sampled:	09/25/2006 1200
Client Matrix:	Solid	% Moisture:	6.2	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167503.D
Dilution:	1.0			Initial Weight/Volume:	5.39 g
Date Analyzed:	09/28/2006 1809			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		24		0.50	7.9

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	103	50 - 150
Trifluorotoluene (Surr)	88	50 - 150
Ethylbenzene-d10	106	50 - 150
Fluorobenzene (Surr)	84	50 - 150
Toluene-d8 (Surr)	106	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP01-060925-010**

Lab Sample ID:	580-3718-6			Date Sampled:	09/25/2006 1245
Client Matrix:	Solid	% Moisture:	9.7	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167504.D
Dilution:	1.0			Initial Weight/Volume:	5.52 g
Date Analyzed:	09/28/2006 1832			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		2.5	J	0.51	8.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	90	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	83	50 - 150
Toluene-d8 (Surr)	106	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP01-060925-W**

Lab Sample ID: 580-3718-7
Client Matrix: Water

Date Sampled: 09/25/2006 1315
Date Received: 09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 09/28/2006 1546
Date Prepared: 09/28/2006 1546

Analysis Batch: 580-11401

Instrument ID: SEA041
Lab File ID: GX0003044.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Gasoline	0.073		0.0077	0.050

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	103	50 - 150
Ethylbenzene-d10	101	50 - 150
Fluorobenzene (Surr)	96	50 - 150
Toluene-d8 (Surr)	106	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP09-060925-010**

Lab Sample ID: 580-3718-8
Client Matrix: Solid
% Moisture: 11.5
Date Sampled: 09/25/2006 1440
Date Received: 09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5035
Dilution: 1.0
Date Analyzed: 09/28/2006 1854
Date Prepared: 09/28/2006 1514
Analysis Batch: 580-11389
Prep Batch: 580-11336
Instrument ID: SEA003
Lab File ID: CS167505.D
Initial Weight/Volume: 6.54 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		0.82	J	0.44	6.9

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	89	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	83	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP09-060925-W**

Lab Sample ID: 580-3718-9
Client Matrix: Water

Date Sampled: 09/25/2006 1445
Date Received: 09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 09/28/2006 1609
Date Prepared: 09/28/2006 1609

Analysis Batch: 580-11401

Instrument ID: SEA041
Lab File ID: GX0003045.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Gasoline	0.012	J	0.0077	0.050

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	100	50 - 150
Ethylbenzene-d10	102	50 - 150
Fluorobenzene (Surr)	95	50 - 150
Toluene-d8 (Surr)	104	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP05-060925-015

Lab Sample ID:	580-3718-10			Date Sampled:	09/25/2006 1545
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167506.D
Dilution:	1.0			Initial Weight/Volume:	6.64 g
Date Analyzed:	09/28/2006 1917			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		0.78	J	0.41	6.4

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	88	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	84	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP06-060926-030**

Lab Sample ID:	580-3718-11			Date Sampled:	09/26/2006 0900
Client Matrix:	Solid	% Moisture:	57.0	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167507.D
Dilution:	1.0			Initial Weight/Volume:	4.97 g
Date Analyzed:	09/28/2006 1939			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		290		1.2	19

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	82	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	84	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-020**

Lab Sample ID:	580-3718-12			Date Sampled:	09/26/2006 1010
Client Matrix:	Solid	% Moisture:	7.7	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167508.D
Dilution:	1.0			Initial Weight/Volume:	7.26 g
Date Analyzed:	09/28/2006 2002			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		8.7		0.38	6.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	89	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	84	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-W**

Lab Sample ID: 580-3718-13
Client Matrix: Water

Date Sampled: 09/26/2006 1030
Date Received: 09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 09/28/2006 1631
Date Prepared: 09/28/2006 1631

Analysis Batch: 580-11401

Instrument ID: SEA041
Lab File ID: GX0003046.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Gasoline	ND		0.0077	0.050

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	101	50 - 150
Trifluorotoluene (Surr)	105	50 - 150
Ethylbenzene-d10	102	50 - 150
Fluorobenzene (Surr)	96	50 - 150
Toluene-d8 (Surr)	104	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-WDUP**

Lab Sample ID: 580-3718-14 | Date Sampled: 09/26/2006 1035
Client Matrix: Water | Date Received: 09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-11401 | Instrument ID: SEA041
Preparation: 5030B | Lab File ID: GX0003047.D
Dilution: 1.0 | Initial Weight/Volume: 5 mL
Date Analyzed: 09/28/2006 1653 | Final Weight/Volume: 5 mL
Date Prepared: 09/28/2006 1653 | Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Gasoline	ND		0.0077	0.050

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	102	50 - 150
Ethylbenzene-d10	102	50 - 150
Fluorobenzene (Surr)	97	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045**

Lab Sample ID:	580-3718-15			Date Sampled:	09/26/2006 1120
Client Matrix:	Solid	% Moisture:	13.2	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167509.D
Dilution:	1.0			Initial Weight/Volume:	5.72 g
Date Analyzed:	09/28/2006 2024			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		2.8	J	0.51	8.1

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	88	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	83	50 - 150
Toluene-d8 (Surr)	106	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045DUP**

Lab Sample ID:	580-3718-16			Date Sampled:	09/26/2006 1125
Client Matrix:	Solid	% Moisture:	8.1	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167510.D
Dilution:	1.0			Initial Weight/Volume:	5.81 g
Date Analyzed:	09/28/2006 2046			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		1.4	J	0.48	7.5

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	88	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	84	50 - 150
Toluene-d8 (Surr)	106	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP08-060926-010

Lab Sample ID:	580-3718-17			Date Sampled:	09/26/2006 1315
Client Matrix:	Solid	% Moisture:	6.4	Date Received:	09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-11389		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-11336		Lab File ID:	CS167511.D
Dilution:	1.0			Initial Weight/Volume:	5.69 g
Date Analyzed:	09/28/2006 2109			Final Weight/Volume:	400 mL
Date Prepared:	09/28/2006 1514			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		60		0.48	7.5

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	84	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	83	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-W**

Lab Sample ID: 580-3718-18
Client Matrix: Water

Date Sampled: 09/26/2006 1145
Date Received: 09/26/2006 1139

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 09/28/2006 1716
Date Prepared: 09/28/2006 1716

Analysis Batch: 580-11401

Instrument ID: SEA041
Lab File ID: GX0003048.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Gasoline	0.018	J	0.0077	0.050

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	101	50 - 150
Ethylbenzene-d10	102	50 - 150
Fluorobenzene (Surr)	96	50 - 150
Toluene-d8 (Surr)	104	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP04-060925-010

Lab Sample ID:	580-3718-1			Date Sampled:	09/25/2006 0945
Client Matrix:	Solid	% Moisture:	12.9	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11666		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11625		Lab File ID:	PCB3676.D
Dilution:	1.0			Initial Weight/Volume:	10.0301 g
Date Analyzed:	10/05/2006 1120			Final Weight/Volume:	10 mL
Date Prepared:	10/04/2006 1449			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0066	0.011
PCB-1221		ND		0.0066	0.011
PCB-1232		ND		0.0066	0.011
PCB-1242		ND		0.0066	0.011
PCB-1248		ND		0.0066	0.011
PCB-1254		ND		0.0017	0.011
PCB-1260		ND		0.0017	0.011

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	49	X	60 - 123
DCB Decachlorobiphenyl	55	X	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-040**

Lab Sample ID:	580-3718-2			Date Sampled:	09/25/2006 0950
Client Matrix:	Solid	% Moisture:	27.3	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11666		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11625		Lab File ID:	PCB3683.D
Dilution:	1.0			Initial Weight/Volume:	10.6767 g
Date Analyzed:	10/05/2006 1406			Final Weight/Volume:	10 mL
Date Prepared:	10/04/2006 1449			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0075	0.013
PCB-1221		ND		0.0075	0.013
PCB-1232		ND		0.0075	0.013
PCB-1242		ND		0.0075	0.013
PCB-1248		ND		0.0075	0.013
PCB-1254		ND		0.0019	0.013
PCB-1260		ND		0.0019	0.013

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	66	60 - 123
DCB Decachlorobiphenyl	88	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP04-060925-W

Lab Sample ID: 580-3718-3 | Date Sampled: 09/25/2006 1000
Client Matrix: Water | Date Received: 09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3418.D
Dilution: 1.0 | Initial Weight/Volume: 995 mL
Date Analyzed: 09/28/2006 1951 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	0.089	J	0.050	0.10

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	116		32 - 134
DCB Decachlorobiphenyl	53	X	55 - 128

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3418.D
Dilution: 1.0 | Initial Weight/Volume: 995 mL
Date Analyzed: 09/28/2006 1951 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: SECONDARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	0.13		0.050	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	107	32 - 134
DCB Decachlorobiphenyl	61	55 - 128

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP03-060925-010

Lab Sample ID: 580-3718-4 | Date Sampled: 09/25/2006 1050
Client Matrix: Solid | % Moisture: 8.7 | Date Received: 09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-11666 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-11625 | Lab File ID: PCB3678.D
Dilution: 1.0 | Initial Weight/Volume: 10.6098 g
Date Analyzed: 10/05/2006 1207 | Final Weight/Volume: 10 mL
Date Prepared: 10/04/2006 1449 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0060	0.010
PCB-1221		ND		0.0060	0.010
PCB-1232		ND		0.0060	0.010
PCB-1242		ND		0.0060	0.010
PCB-1248		ND		0.0060	0.010
PCB-1254		ND		0.0015	0.010
PCB-1260		0.0080	J	0.0015	0.010

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	59	X	60 - 123
DCB Decachlorobiphenyl	69		65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP02-060925-010

Lab Sample ID:	580-3718-5			Date Sampled:	09/25/2006 1200
Client Matrix:	Solid	% Moisture:	6.2	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11666		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11625		Lab File ID:	PCB3681.D
Dilution:	1.0			Initial Weight/Volume:	10.2323 g
Date Analyzed:	10/05/2006 1318			Final Weight/Volume:	10 mL
Date Prepared:	10/04/2006 1449			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0060	0.010
PCB-1221		ND		0.0060	0.010
PCB-1232		ND		0.0060	0.010
PCB-1242		ND		0.0060	0.010
PCB-1248		ND		0.0060	0.010
PCB-1254		ND		0.0016	0.010
PCB-1260		ND		0.0016	0.010

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	86	60 - 123
DCB Decachlorobiphenyl	87	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP01-060925-010**

Lab Sample ID:	580-3718-6			Date Sampled:	09/25/2006 1245
Client Matrix:	Solid	% Moisture:	9.7	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11666		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11625		Lab File ID:	PCB3664.D
Dilution:	1.0			Initial Weight/Volume:	10.7560 g
Date Analyzed:	10/05/2006 0411			Final Weight/Volume:	10 mL
Date Prepared:	10/04/2006 1449			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0060	0.010
PCB-1221		ND		0.0060	0.010
PCB-1232		ND		0.0060	0.010
PCB-1242		ND		0.0060	0.010
PCB-1248		ND		0.0060	0.010
PCB-1254		ND		0.0015	0.010
PCB-1260		ND		0.0015	0.010

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	62	60 - 123
DCB Decachlorobiphenyl	75	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP01-060925-W

Lab Sample ID: 580-3718-7 | Date Sampled: 09/25/2006 1315
Client Matrix: Water | Date Received: 09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3419.D
Dilution: 1.0 | Initial Weight/Volume: 995 mL
Date Analyzed: 09/28/2006 2014 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	ND		0.050	0.10

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	87		32 - 134
DCB Decachlorobiphenyl	54	X	55 - 128

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3419.D
Dilution: 1.0 | Initial Weight/Volume: 995 mL
Date Analyzed: 09/28/2006 2014 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: SECONDARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	0.055	J	0.050	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	87	32 - 134
DCB Decachlorobiphenyl	64	55 - 128

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP09-060925-010**

Lab Sample ID:	580-3718-8			Date Sampled:	09/25/2006 1440
Client Matrix:	Solid	% Moisture:	11.5	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11604		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11268		Lab File ID:	PCB3564.D
Dilution:	1.0			Initial Weight/Volume:	10.8026 g
Date Analyzed:	10/03/2006 1024			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1350			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND	*	0.0061	0.010
PCB-1221		ND		0.0061	0.010
PCB-1232		ND		0.0061	0.010
PCB-1242		ND		0.0061	0.010
PCB-1248		ND		0.0061	0.010
PCB-1254		ND		0.0016	0.010
PCB-1260		ND	*	0.0016	0.010

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	106	60 - 123
DCB Decachlorobiphenyl	116	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP09-060925-W

Lab Sample ID: 580-3718-9 | Date Sampled: 09/25/2006 1445
Client Matrix: Water | Date Received: 09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3420.D
Dilution: 1.0 | Initial Weight/Volume: 975 mL
Date Analyzed: 09/28/2006 2038 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.082	0.10
PCB-1221	ND		0.082	0.10
PCB-1232	ND		0.082	0.10
PCB-1242	ND		0.082	0.10
PCB-1248	ND		0.082	0.10
PCB-1254	ND		0.051	0.10
PCB-1260	ND		0.051	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	118	32 - 134
DCB Decachlorobiphenyl	72	55 - 128

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3420.D
Dilution: 1.0 | Initial Weight/Volume: 975 mL
Date Analyzed: 09/28/2006 2038 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: SECONDARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.082	0.10
PCB-1221	ND		0.082	0.10
PCB-1232	ND		0.082	0.10
PCB-1242	ND		0.082	0.10
PCB-1248	ND		0.082	0.10
PCB-1254	ND		0.051	0.10
PCB-1260	ND		0.051	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	105	32 - 134
DCB Decachlorobiphenyl	75	55 - 128

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP05-060925-015

Lab Sample ID:	580-3718-10			Date Sampled:	09/25/2006 1545
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11604		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11268		Lab File ID:	PCB3560.D
Dilution:	1.0			Initial Weight/Volume:	10.2941 g
Date Analyzed:	10/03/2006 0849			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1350			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND	*	0.0060	0.010
PCB-1221		ND		0.0060	0.010
PCB-1232		ND		0.0060	0.010
PCB-1242		ND		0.0060	0.010
PCB-1248		ND		0.0060	0.010
PCB-1254		ND		0.0015	0.010
PCB-1260		ND	*	0.0015	0.010

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	111	60 - 123
DCB Decachlorobiphenyl	109	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP06-060926-030

Lab Sample ID:	580-3718-11			Date Sampled:	09/26/2006 0900
Client Matrix:	Solid	% Moisture:	57.0	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11604		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11268		Lab File ID:	PCB3561.D
Dilution:	1.0			Initial Weight/Volume:	10.1995 g
Date Analyzed:	10/03/2006 0913			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1350			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND	*	0.013	0.023
PCB-1221		ND		0.013	0.023
PCB-1232		ND		0.013	0.023
PCB-1242		ND		0.013	0.023
PCB-1248		ND		0.013	0.023
PCB-1254		ND		0.0034	0.023
PCB-1260		ND	*	0.0034	0.023

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	99	60 - 123
DCB Decachlorobiphenyl	73	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP10-060926-020

Lab Sample ID: 580-3718-12 | Date Sampled: 09/26/2006 1010
Client Matrix: Solid | % Moisture: 7.7 | Date Received: 09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-11604 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-11268 | Lab File ID: PCB3567.D
Dilution: 1.0 | Initial Weight/Volume: 10.0546 g
Date Analyzed: 10/03/2006 1135 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 1350 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND	*	0.0062	0.011
PCB-1221		ND		0.0062	0.011
PCB-1232		ND		0.0062	0.011
PCB-1242		ND		0.0062	0.011
PCB-1248		ND		0.0062	0.011
PCB-1254		ND		0.0016	0.011
PCB-1260		ND	*	0.0016	0.011

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	118	60 - 123
DCB Decachlorobiphenyl	119	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP10-060926-W

Lab Sample ID: 580-3718-13 | Date Sampled: 09/26/2006 1030
Client Matrix: Water | Date Received: 09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3421.D
Dilution: 1.0 | Initial Weight/Volume: 995 mL
Date Analyzed: 09/28/2006 2102 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	ND		0.050	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	118	32 - 134
DCB Decachlorobiphenyl	64	55 - 128

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3421.D
Dilution: 1.0 | Initial Weight/Volume: 995 mL
Date Analyzed: 09/28/2006 2102 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: SECONDARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	ND		0.050	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	107	32 - 134
DCB Decachlorobiphenyl	71	55 - 128

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP10-060926-WDUP

Lab Sample ID: 580-3718-14 | Date Sampled: 09/26/2006 1035
Client Matrix: Water | Date Received: 09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3422.D
Dilution: 1.0 | Initial Weight/Volume: 1005 mL
Date Analyzed: 09/28/2006 2125 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	ND		0.050	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	123	32 - 134
DCB Decachlorobiphenyl	74	55 - 128

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3422.D
Dilution: 1.0 | Initial Weight/Volume: 1005 mL
Date Analyzed: 09/28/2006 2125 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: SECONDARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	ND		0.050	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	109	32 - 134
DCB Decachlorobiphenyl	77	55 - 128

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP07-060926-045

Lab Sample ID:	580-3718-15			Date Sampled:	09/26/2006 1120
Client Matrix:	Solid	% Moisture:	13.2	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11604		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11268		Lab File ID:	PCB3568.D
Dilution:	1.0			Initial Weight/Volume:	10.9896 g
Date Analyzed:	10/03/2006 1159			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1350			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND	*	0.0061	0.010
PCB-1221		ND		0.0061	0.010
PCB-1232		ND		0.0061	0.010
PCB-1242		ND		0.0061	0.010
PCB-1248		ND		0.0061	0.010
PCB-1254		ND		0.0016	0.010
PCB-1260		ND	*	0.0016	0.010

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	117	60 - 123
DCB Decachlorobiphenyl	105	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045DUP**

Lab Sample ID:	580-3718-16			Date Sampled:	09/26/2006 1125
Client Matrix:	Solid	% Moisture:	8.1	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11604		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11268		Lab File ID:	PCB3569.D
Dilution:	1.0			Initial Weight/Volume:	10.9405 g
Date Analyzed:	10/03/2006 1222			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1350			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND	*	0.0058	0.0099
PCB-1221		ND		0.0058	0.0099
PCB-1232		ND		0.0058	0.0099
PCB-1242		ND		0.0058	0.0099
PCB-1248		ND		0.0058	0.0099
PCB-1254		ND		0.0015	0.0099
PCB-1260		ND	*	0.0015	0.0099

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	111	60 - 123
DCB Decachlorobiphenyl	118	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP08-060926-010

Lab Sample ID:	580-3718-17			Date Sampled:	09/26/2006 1315
Client Matrix:	Solid	% Moisture:	6.4	Date Received:	09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-11666		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-11625		Lab File ID:	PCB3682.D
Dilution:	1.0			Initial Weight/Volume:	10.1180 g
Date Analyzed:	10/05/2006 1342			Final Weight/Volume:	10 mL
Date Prepared:	10/04/2006 1449			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0061	0.011
PCB-1221		ND		0.0061	0.011
PCB-1232		ND		0.0061	0.011
PCB-1242		ND		0.0061	0.011
PCB-1248		ND		0.0061	0.011
PCB-1254		ND		0.0016	0.011
PCB-1260		0.027		0.0016	0.011

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	72	60 - 123
DCB Decachlorobiphenyl	105	65 - 126

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP07-060926-W

Lab Sample ID: 580-3718-18 | Date Sampled: 09/26/2006 1145
Client Matrix: Water | Date Received: 09/26/2006 1139

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3423.D
Dilution: 1.0 | Initial Weight/Volume: 980 mL
Date Analyzed: 09/28/2006 2149 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.082	0.10
PCB-1221	ND		0.082	0.10
PCB-1232	ND		0.082	0.10
PCB-1242	ND		0.082	0.10
PCB-1248	ND		0.082	0.10
PCB-1254	ND		0.051	0.10
PCB-1260	ND		0.051	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	120	32 - 134
DCB Decachlorobiphenyl	64	55 - 128

Method: 8082 | Analysis Batch: 580-11379 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-11237 | Lab File ID: PCB3423.D
Dilution: 1.0 | Initial Weight/Volume: 980 mL
Date Analyzed: 09/28/2006 2149 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 0802 | Injection Volume:
Column ID: SECONDARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.082	0.10
PCB-1221	ND		0.082	0.10
PCB-1232	ND		0.082	0.10
PCB-1242	ND		0.082	0.10
PCB-1248	ND		0.082	0.10
PCB-1254	ND		0.051	0.10
PCB-1260	ND		0.051	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	106	32 - 134
DCB Decachlorobiphenyl	70	55 - 128

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP04-060925-010

Lab Sample ID: 580-3718-1 | Date Sampled: 09/25/2006 0945
Client Matrix: Solid | % Moisture: 12.9 | Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-11356 | Instrument ID: SEA015
Preparation: 3550B | Prep Batch: 580-11267 | Lab File ID: PL13968.D
Dilution: 1.0 | Initial Weight/Volume: 10.8651 g
Date Analyzed: 09/28/2006 1105 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 1223 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		77		6.3	53
#2 Diesel (C10-C24)		25	J	6.4	26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	87	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP04-060925-040

Lab Sample ID:	580-3718-2			Date Sampled:	09/25/2006 0950
Client Matrix:	Solid	% Moisture:	27.3	Date Received:	09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-11356		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-11267		Lab File ID:	PL13969.D
Dilution:	1.0			Initial Weight/Volume:	10.6742 g
Date Analyzed:	09/28/2006 1125			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1223			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		3900		7.8	32

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	106	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP04-060925-040**

Lab Sample ID:	580-3718-2			Date Sampled:	09/25/2006 0950
Client Matrix:	Solid	% Moisture:	27.3	Date Received:	09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-11356		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-11267		Lab File ID:	PL13981.D
Dilution:	5.0			Initial Weight/Volume:	10.6742 g
Date Analyzed:	09/28/2006 1615			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1223			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		7200		39	320

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP04-060925-W

Lab Sample ID: 580-3718-3
Client Matrix: Water

Date Sampled: 09/25/2006 1000
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1635
Date Prepared: 09/27/2006 1049

Analysis Batch: 580-11354
Prep Batch: 580-11251

Instrument ID: SEA016
Lab File ID: EP19682.D
Initial Weight/Volume: 975 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Motor Oil (>C24-C36)	3.8	*	0.062	0.51
#2 Diesel (C10-C24)	2.0		0.033	0.26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	98	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP03-060925-010

Lab Sample ID: 580-3718-4
Client Matrix: Solid
% Moisture: 8.7
Date Sampled: 09/25/2006 1050
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 09/28/2006 1151
Date Prepared: 09/27/2006 1223
Analysis Batch: 580-11356
Prep Batch: 580-11267
Instrument ID: SEA015
Lab File ID: PL13970.D
Initial Weight/Volume: 10.2937 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		620		6.4	53
#2 Diesel (C10-C24)		77		6.4	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	86	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP02-060925-010

Lab Sample ID: 580-3718-5 | Date Sampled: 09/25/2006 1200
Client Matrix: Solid | % Moisture: 6.2 | Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-11356 | Instrument ID: SEA015
Preparation: 3550B | Prep Batch: 580-11267 | Lab File ID: PL13979.D
Dilution: 10 | Initial Weight/Volume: 10.7369 g
Date Analyzed: 09/28/2006 1524 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 1223 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		9900		59	500
#2 Diesel (C10-C24)		580		60	250

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	0	D X	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP01-060925-010

Lab Sample ID: 580-3718-6 | Date Sampled: 09/25/2006 1245
Client Matrix: Solid | % Moisture: 9.7 | Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-11356 | Instrument ID: SEA015
Preparation: 3550B | Prep Batch: 580-11267 | Lab File ID: PL13971.D
Dilution: 1.0 | Initial Weight/Volume: 10.1853 g
Date Analyzed: 09/28/2006 1216 | Final Weight/Volume: 10 mL
Date Prepared: 09/27/2006 1223 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		100		6.5	54
#2 Diesel (C10-C24)		22	J	6.5	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	81	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP01-060925-W

Lab Sample ID: 580-3718-7
Client Matrix: Water

Date Sampled: 09/25/2006 1315
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1656
Date Prepared: 09/27/2006 1049

Analysis Batch: 580-11354
Prep Batch: 580-11251

Instrument ID: SEA016
Lab File ID: EP19683.D
Initial Weight/Volume: 970 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Motor Oil (>C24-C36)	0.36	J *	0.062	0.52
#2 Diesel (C10-C24)	0.25	J	0.033	0.26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	101	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP09-060925-010

Lab Sample ID:	580-3718-8			Date Sampled:	09/25/2006 1440
Client Matrix:	Solid	% Moisture:	11.5	Date Received:	09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-11356		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-11267		Lab File ID:	PL13972.D
Dilution:	1.0			Initial Weight/Volume:	10.1948 g
Date Analyzed:	09/28/2006 1242			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1223			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		ND		6.6	55
#2 Diesel (C10-C24)		ND		6.7	28

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	89	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP09-060925-W

Lab Sample ID: 580-3718-9
Client Matrix: Water

Date Sampled: 09/25/2006 1445
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1718
Date Prepared: 09/27/2006 1049

Analysis Batch: 580-11354
Prep Batch: 580-11251

Instrument ID: SEA016
Lab File ID: EP19684.D
Initial Weight/Volume: 965 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Motor Oil (>C24-C36)	ND	*	0.062	0.52
#2 Diesel (C10-C24)	ND		0.033	0.26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	92	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP05-060925-015

Lab Sample ID: 580-3718-10
Client Matrix: Solid
% Moisture: 5.5
Date Sampled: 09/25/2006 1545
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 09/28/2006 1322
Date Prepared: 09/27/2006 1223
Analysis Batch: 580-11356
Prep Batch: 580-11267
Instrument ID: SEA015
Lab File ID: PL13974.D
Initial Weight/Volume: 10.3618 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		ND		6.1	51
#2 Diesel (C10-C24)		9.1	J	6.2	26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	94	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP06-060926-030

Lab Sample ID: 580-3718-11
Client Matrix: Solid
% Moisture: 57.0
Date Sampled: 09/26/2006 0900
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 09/28/2006 1342
Date Prepared: 09/27/2006 1223
Analysis Batch: 580-11356
Prep Batch: 580-11267
Instrument ID: SEA015
Lab File ID: PL13975.D
Initial Weight/Volume: 10.1280 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		320		14	110
#2 Diesel (C10-C24)		97		14	57

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	77	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP10-060926-020**

Lab Sample ID:	580-3718-12			Date Sampled:	09/26/2006 1010
Client Matrix:	Solid	% Moisture:	7.7	Date Received:	09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-11356		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-11267		Lab File ID:	PL13976.D
Dilution:	1.0			Initial Weight/Volume:	10.7662 g
Date Analyzed:	09/28/2006 1407			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1223			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		ND		6.0	50
#2 Diesel (C10-C24)		6.4	J	6.1	25

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	91	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP10-060926-W

Lab Sample ID: 580-3718-13
Client Matrix: Water

Date Sampled: 09/26/2006 1030
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1739
Date Prepared: 09/27/2006 1049

Analysis Batch: 580-11354
Prep Batch: 580-11251

Instrument ID: SEA016
Lab File ID: EP19685.D
Initial Weight/Volume: 1010 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Motor Oil (>C24-C36)	0.14	J *	0.059	0.50
#2 Diesel (C10-C24)	0.055	J	0.032	0.25

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	105	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP10-060926-WDUP

Lab Sample ID: 580-3718-14
Client Matrix: Water

Date Sampled: 09/26/2006 1035
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1800
Date Prepared: 09/27/2006 1049

Analysis Batch: 580-11354
Prep Batch: 580-11251

Instrument ID: SEA016
Lab File ID: EP19686.D
Initial Weight/Volume: 980 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Motor Oil (>C24-C36)	0.076	J *	0.061	0.51
#2 Diesel (C10-C24)	0.047	J	0.033	0.26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	108	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045**

Lab Sample ID: 580-3718-15
Client Matrix: Solid
% Moisture: 13.2
Date Sampled: 09/26/2006 1120
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 09/28/2006 1433
Date Prepared: 09/27/2006 1223
Analysis Batch: 580-11356
Prep Batch: 580-11267
Instrument ID: SEA015
Lab File ID: PL13977.D
Initial Weight/Volume: 10.6604 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		ND		6.5	54
#2 Diesel (C10-C24)		ND		6.5	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	80	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: **DP07-060926-045DUP**

Lab Sample ID:	580-3718-16			Date Sampled:	09/26/2006 1125
Client Matrix:	Solid	% Moisture:	8.1	Date Received:	09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-11356		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-11267		Lab File ID:	PL13978.D
Dilution:	1.0			Initial Weight/Volume:	10.2372 g
Date Analyzed:	09/28/2006 1459			Final Weight/Volume:	10 mL
Date Prepared:	09/27/2006 1223			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		ND		6.4	53
#2 Diesel (C10-C24)		ND		6.4	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	95	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP08-060926-010**

Lab Sample ID: 580-3718-17
Client Matrix: Solid
% Moisture: 6.4
Date Sampled: 09/26/2006 1315
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 10
Date Analyzed: 09/28/2006 1550
Date Prepared: 09/27/2006 1223
Analysis Batch: 580-11356
Prep Batch: 580-11267
Instrument ID: SEA015
Lab File ID: PL13980.D
Initial Weight/Volume: 10.7487 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		8800		60	500
#2 Diesel (C10-C24)		7300		60	250

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	0	D X	50 - 150

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: **DP07-060926-W**

Lab Sample ID: 580-3718-18
Client Matrix: Water

Date Sampled: 09/26/2006 1145
Date Received: 09/26/2006 1139

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 09/28/2006 1821
Date Prepared: 09/27/2006 1049

Analysis Batch: 580-11354
Prep Batch: 580-11251

Instrument ID: SEA016
Lab File ID: EP19687.D
Initial Weight/Volume: 985 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Motor Oil (>C24-C36)	0.23	J *	0.061	0.51
#2 Diesel (C10-C24)	0.090	J	0.032	0.25

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	73	50 - 150

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP04-060925-010

Lab Sample ID:	580-3718-1	Date Sampled:	09/25/2006 0945
Client Matrix:	Solid % Moisture: 12.9	Date Received:	09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.1513 g
Date Analyzed:	09/29/2006 1919			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		29		0.0055	0.25
Chromium		22		0.011	0.50
Selenium		2.7		0.21	2.5
Silver		ND		0.015	0.50

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.1513 g
Date Analyzed:	09/29/2006 1527			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		3.8		0.036	0.20
Lead		12	B	0.0017	0.20
Cadmium		0.18	J	0.0040	0.20

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11346		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.7050 g
Date Analyzed:	09/28/2006 1211			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.019		0.0073	0.016

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP04-060925-040

Lab Sample ID:	580-3718-2		Date Sampled: 09/25/2006 0950
Client Matrix:	Solid	% Moisture: 27.3	Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.1198 g
Date Analyzed:	09/29/2006 1922			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		130		0.0068	0.31
Chromium		120		0.013	0.61
Selenium		73		0.26	3.1
Silver		2.0		0.018	0.61

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.1198 g
Date Analyzed:	09/29/2006 1531			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		52		0.045	0.25
Lead		140	B	0.0021	0.25
Cadmium		5.2		0.0049	0.25

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11346		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.6305 g
Date Analyzed:	09/28/2006 1216			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.049		0.0098	0.022

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP04-060925-W

Lab Sample ID: 580-3718-3
Client Matrix: Water

Date Sampled: 09/25/2006 1000
Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Total Recoverable

Method: 6010B
Preparation: 3005A
Dilution: 1.0
Date Analyzed: 09/29/2006 1659
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11434
Prep Batch: 580-11367

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Barium	0.041	B	0.00016	0.0050
Chromium	ND		0.00063	0.010
Selenium	ND		0.0044	0.050
Silver	ND		0.00083	0.010

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method: 6020
Preparation: 3005A
Dilution: 5.0
Date Analyzed: 09/29/2006 1211
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11443
Prep Batch: 580-11367

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Arsenic	ND		0.00037	0.0020
Lead	0.000080	J B	0.000016	0.0020
Cadmium	ND		0.000037	0.0020

7470A Mercury in Liquid Waste (Manual Cold Vapor Technique)

Method: 7470A
Preparation: 7470A
Dilution: 1.0
Date Analyzed: 09/28/2006 1431
Date Prepared: 09/28/2006 0948

Analysis Batch: 580-11347
Prep Batch: 580-11309

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.00014	J	0.000055	0.00020

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP03-060925-010

Lab Sample ID:	580-3718-4	Date Sampled:	09/25/2006 1050
Client Matrix:	Solid % Moisture: 8.7	Date Received:	09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0134 g
Date Analyzed:	09/29/2006 1925			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		59		0.0060	0.27
Chromium		18		0.012	0.54
Selenium		1.3	J	0.23	2.7
Silver		ND		0.016	0.54

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.0134 g
Date Analyzed:	09/29/2006 1535			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		4.4		0.039	0.22
Lead		19	B	0.0018	0.22
Cadmium		0.17	J	0.0043	0.22

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11346		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.7660 g
Date Analyzed:	09/28/2006 1221			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.070		0.0064	0.014

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP02-060925-010

Lab Sample ID:	580-3718-5	Date Sampled:	09/25/2006 1200
Client Matrix:	Solid % Moisture: 6.2	Date Received:	09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.1517 g
Date Analyzed:	09/29/2006 1928			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		47		0.0051	0.23
Chromium		12		0.0099	0.46
Selenium		3.4		0.20	2.3
Silver		ND		0.014	0.46

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.1517 g
Date Analyzed:	09/29/2006 1539			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		3.7		0.034	0.19
Lead		12	B	0.0015	0.19
Cadmium		ND		0.0037	0.19

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11346		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.7585 g
Date Analyzed:	09/28/2006 1225			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		ND		0.0063	0.014

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP01-060925-010

Lab Sample ID: 580-3718-6
Client Matrix: Solid
% Moisture: 9.7
Date Sampled: 09/25/2006 1245
Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 09/29/2006 1931
Date Prepared: 09/29/2006 1006
Analysis Batch: 580-11614
Prep Batch: 580-11375
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0694 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		52		0.0057	0.26
Chromium		19		0.011	0.52
Selenium		2.0	J	0.22	2.6
Silver		ND		0.015	0.52

6020 Inductively Coupled Plasma - Mass Spectrometry

Method: 6020
Preparation: 3050B
Dilution: 10
Date Analyzed: 09/29/2006 1543
Date Prepared: 09/29/2006 1006
Analysis Batch: 580-11444
Prep Batch: 580-11375
Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0694 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		5.7		0.038	0.21
Lead		38	B	0.0017	0.21
Cadmium		0.046	J	0.0041	0.21

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 09/28/2006 1231
Date Prepared: 09/28/2006 0826
Analysis Batch: 580-11346
Prep Batch: 580-11295
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.6216 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.015	J	0.0080	0.018

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP01-060925-W

Lab Sample ID: 580-3718-7 | Date Sampled: 09/25/2006 1315
Client Matrix: Water | Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Total Recoverable

Method: 6010B | Analysis Batch: 580-11434 | Instrument ID: SEA027
Preparation: 3005A | Prep Batch: 580-11367 | Lab File ID: N/A
Dilution: 1.0 | Initial Weight/Volume: 50 mL
Date Analyzed: 09/29/2006 1737 | Final Weight/Volume: 50 mL
Date Prepared: 10/29/2006 0913

Analyte	Result (mg/L)	Qualifier	MDL	RL
Barium	0.015	B	0.00016	0.0050
Chromium	ND		0.00063	0.010
Selenium	ND		0.0044	0.050
Silver	ND		0.00083	0.010

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method: 6020 | Analysis Batch: 580-11443 | Instrument ID: SEA026
Preparation: 3005A | Prep Batch: 580-11367 | Lab File ID: N/A
Dilution: 5.0 | Initial Weight/Volume: 50 mL
Date Analyzed: 09/29/2006 1247 | Final Weight/Volume: 50 mL
Date Prepared: 10/29/2006 0913

Analyte	Result (mg/L)	Qualifier	MDL	RL
Arsenic	0.0041		0.00037	0.0020
Lead	0.00023	J B	0.000016	0.0020
Cadmium	ND		0.000037	0.0020

7470A Mercury in Liquid Waste (Manual Cold Vapor Technique)

Method: 7470A | Analysis Batch: 580-11347 | Instrument ID: SEA029
Preparation: 7470A | Prep Batch: 580-11309 | Lab File ID: N/A
Dilution: 1.0 | Initial Weight/Volume: 50 mL
Date Analyzed: 09/28/2006 1452 | Final Weight/Volume: 50 mL
Date Prepared: 09/28/2006 0948

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.00029		0.000055	0.00020

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP09-060925-010

Lab Sample ID: 580-3718-8
Client Matrix: Solid
% Moisture: 11.5
Date Sampled: 09/25/2006 1440
Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 09/29/2006 1934
Date Prepared: 09/29/2006 1006
Analysis Batch: 580-11614
Prep Batch: 580-11375
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.1446 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		35		0.0055	0.25
Chromium		26		0.011	0.49
Selenium		2.6		0.21	2.5
Silver		ND		0.014	0.49

6020 Inductively Coupled Plasma - Mass Spectrometry

Method: 6020
Preparation: 3050B
Dilution: 10
Date Analyzed: 09/29/2006 1547
Date Prepared: 09/29/2006 1006
Analysis Batch: 580-11444
Prep Batch: 580-11375
Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.1446 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		3.3		0.036	0.20
Lead		2.5	B	0.0016	0.20
Cadmium		ND		0.0040	0.20

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 09/28/2006 1235
Date Prepared: 09/28/2006 0826
Analysis Batch: 580-11346
Prep Batch: 580-11295
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.6662 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.033		0.0076	0.017

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP09-060925-W

Lab Sample ID: 580-3718-9
Client Matrix: Water

Date Sampled: 09/25/2006 1445
Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Total Recoverable

Method: 6010B
Preparation: 3005A
Dilution: 1.0
Date Analyzed: 09/29/2006 1740
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11434
Prep Batch: 580-11367

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Barium	0.047	B	0.00016	0.0050
Chromium	ND		0.00063	0.010
Selenium	ND		0.0044	0.050
Silver	ND		0.00083	0.010

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method: 6020
Preparation: 3005A
Dilution: 5.0
Date Analyzed: 09/29/2006 1252
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11443
Prep Batch: 580-11367

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Arsenic	ND		0.00037	0.0020
Lead	ND		0.000016	0.0020
Cadmium	ND		0.000037	0.0020

7470A Mercury in Liquid Waste (Manual Cold Vapor Technique)

Method: 7470A
Preparation: 7470A
Dilution: 1.0
Date Analyzed: 09/28/2006 1457
Date Prepared: 09/28/2006 0948

Analysis Batch: 580-11347
Prep Batch: 580-11309

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	ND		0.000055	0.00020

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP05-060925-015

Lab Sample ID:	580-3718-10	Date Sampled:	09/25/2006 1545
Client Matrix:	Solid % Moisture: 5.5	Date Received:	09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.1785 g
Date Analyzed:	09/29/2006 1937			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		32		0.0050	0.22
Chromium		15		0.0096	0.45
Selenium		2.2	J	0.19	2.2
Silver		ND		0.013	0.45

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.1785 g
Date Analyzed:	09/29/2006 1551			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		1.7		0.033	0.18
Lead		2.2	B	0.0015	0.18
Cadmium		ND		0.0036	0.18

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11645		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.7989 g
Date Analyzed:	09/28/2006 1240			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.019		0.0060	0.013

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP06-060926-030

Lab Sample ID:	580-3718-11	Date Sampled:	09/26/2006 0900
Client Matrix:	Solid % Moisture: 57.0	Date Received:	09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0025 g
Date Analyzed:	09/29/2006 1953			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		50		0.013	0.58
Chromium		23		0.025	1.2
Selenium		2.8	J	0.49	5.8
Silver		ND		0.034	1.2

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.0025 g
Date Analyzed:	09/29/2006 1555			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		5.8		0.084	0.46
Lead		48	B	0.0039	0.46
Cadmium		0.31	J	0.0093	0.46

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11346		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.6010 g
Date Analyzed:	09/28/2006 1300			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.056		0.017	0.039

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP10-060926-020

Lab Sample ID:	580-3718-12	Date Sampled:	09/26/2006 1010
Client Matrix:	Solid % Moisture: 7.7	Date Received:	09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.1819 g
Date Analyzed:	09/29/2006 1957			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		44		0.0051	0.23
Chromium		23		0.0098	0.46
Selenium		2.9		0.19	2.3
Silver		ND		0.013	0.46

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.1819 g
Date Analyzed:	09/29/2006 1559			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		2.0		0.033	0.18
Lead		2.6	B	0.0015	0.18
Cadmium		ND		0.0037	0.18

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11346		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5771 g
Date Analyzed:	09/28/2006 1304			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		ND		0.0084	0.019

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP10-060926-W

Lab Sample ID: 580-3718-13
Client Matrix: Water

Date Sampled: 09/26/2006 1030
Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Total Recoverable

Method: 6010B
Preparation: 3005A
Dilution: 1.0
Date Analyzed: 09/29/2006 1742
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11434
Prep Batch: 580-11367

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Barium	0.016	B	0.00016	0.0050
Chromium	ND		0.00063	0.010
Selenium	ND		0.0044	0.050
Silver	ND		0.00083	0.010

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method: 6020
Preparation: 3005A
Dilution: 5.0
Date Analyzed: 09/29/2006 1256
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11443
Prep Batch: 580-11367

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Arsenic	ND		0.00037	0.0020
Lead	ND		0.000016	0.0020
Cadmium	ND		0.000037	0.0020

7470A Mercury in Liquid Waste (Manual Cold Vapor Technique)

Method: 7470A
Preparation: 7470A
Dilution: 1.0
Date Analyzed: 09/28/2006 1501
Date Prepared: 09/28/2006 0948

Analysis Batch: 580-11347
Prep Batch: 580-11309

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	ND		0.000055	0.00020

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP10-060926-WDUP

Lab Sample ID: 580-3718-14
Client Matrix: Water

Date Sampled: 09/26/2006 1035
Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Total Recoverable

Method: 6010B
Preparation: 3005A
Dilution: 1.0
Date Analyzed: 09/29/2006 1745
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11434
Prep Batch: 580-11367

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Barium	0.016	B	0.00016	0.0050
Chromium	ND		0.00063	0.010
Selenium	ND		0.0044	0.050
Silver	ND		0.00083	0.010

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method: 6020
Preparation: 3005A
Dilution: 5.0
Date Analyzed: 09/29/2006 1300
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11443
Prep Batch: 580-11367

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Arsenic	ND		0.00037	0.0020
Lead	ND		0.000016	0.0020
Cadmium	ND		0.000037	0.0020

7470A Mercury in Liquid Waste (Manual Cold Vapor Technique)

Method: 7470A
Preparation: 7470A
Dilution: 1.0
Date Analyzed: 09/28/2006 1506
Date Prepared: 09/28/2006 0948

Analysis Batch: 580-11347
Prep Batch: 580-11309

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.00011	J	0.000055	0.00020

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP07-060926-045

Lab Sample ID:	580-3718-15	Date Sampled:	09/26/2006 1120
Client Matrix:	Solid % Moisture: 13.2	Date Received:	09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.3623 g
Date Analyzed:	09/29/2006 2000			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		25		0.0047	0.21
Chromium		15		0.0090	0.42
Selenium		ND		0.18	2.1
Silver		ND		0.012	0.42

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.3623 g
Date Analyzed:	09/29/2006 1611			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		2.8		0.031	0.17
Lead		1.5	B	0.0014	0.17
Cadmium		0.023	J	0.0034	0.17

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11346		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0233 g
Date Analyzed:	09/28/2006 1309			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		ND		0.0051	0.011

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP07-060926-045DUP

Lab Sample ID:	580-3718-16	Date Sampled:	09/26/2006 1125
Client Matrix:	Solid % Moisture: 8.1	Date Received:	09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.1375 g
Date Analyzed:	09/29/2006 2003			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		18		0.0053	0.24
Chromium		17		0.010	0.48
Selenium		0.44	J	0.20	2.4
Silver		ND		0.014	0.48

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.1375 g
Date Analyzed:	09/29/2006 1615			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		2.9		0.035	0.19
Lead		1.4	B	0.0016	0.19
Cadmium		ND		0.0038	0.19

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11346		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.6228 g
Date Analyzed:	09/28/2006 1314			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.011	J	0.0079	0.017

Client: GeoEngineers Inc | Job Number: 580-3718-1

Client Sample ID: DP08-060926-010

Lab Sample ID:	580-3718-17	Date Sampled:	09/26/2006 1315
Client Matrix:	Solid % Moisture: 6.4	Date Received:	09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-11614		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.1961 g
Date Analyzed:	09/29/2006 2006			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		110		0.0050	0.22
Chromium		13		0.0096	0.45
Selenium		2.5		0.19	2.2
Silver		ND		0.013	0.45

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-11444		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-11375		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.1961 g
Date Analyzed:	09/29/2006 1619			Final Weight/Volume:	50 mL
Date Prepared:	09/29/2006 1006				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		1.8		0.032	0.18
Lead		37	B	0.0015	0.18
Cadmium		0.24		0.0036	0.18

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-11346		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-11295		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5960 g
Date Analyzed:	09/28/2006 1319			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0826				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.038		0.0081	0.018

Client: GeoEngineers Inc

Job Number: 580-3718-1

Client Sample ID: DP07-060926-W

Lab Sample ID: 580-3718-18
Client Matrix: Water

Date Sampled: 09/26/2006 1145
Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Total Recoverable

Method: 6010B
Preparation: 3005A
Dilution: 1.0
Date Analyzed: 09/29/2006 1748
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11434
Prep Batch: 580-11367

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Barium	0.047	B	0.00016	0.0050
Chromium	ND		0.00063	0.010
Selenium	ND		0.0044	0.050
Silver	ND		0.00083	0.010

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method: 6020
Preparation: 3005A
Dilution: 5.0
Date Analyzed: 09/29/2006 1304
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11443
Prep Batch: 580-11367

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Arsenic	ND		0.00037	0.0020
Lead	ND		0.000016	0.0020
Cadmium	ND		0.000037	0.0020

7470A Mercury in Liquid Waste (Manual Cold Vapor Technique)

Method: 7470A
Preparation: 7470A
Dilution: 1.0
Date Analyzed: 09/28/2006 1511
Date Prepared: 09/28/2006 0948

Analysis Batch: 580-11347
Prep Batch: 580-11309

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.00011	J	0.000055	0.00020

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11334

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-11334/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1456
Date Prepared: 09/28/2006 1457

Analysis Batch: 580-11393
Prep Batch: 580-11334
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29549.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		5.6	40
Chloromethane	ND		7.3	40
Vinyl chloride	ND		5.2	16
Bromomethane	ND		28	200
Chloroethane	ND		29	200
Trichlorofluoromethane	ND		3.8	40
1,1-Dichloroethene	ND		5.3	16
Methylene Chloride	ND		6.1	40
trans-1,2-Dichloroethene	ND		4.3	40
1,1-Dichloroethane	ND		9.5	40
2,2-Dichloropropane	ND		4.7	40
cis-1,2-Dichloroethene	ND		6.0	40
Chlorobromomethane	ND		4.8	40
Chloroform	ND		3.8	40
1,1,1-Trichloroethane	ND		3.9	16
Carbon tetrachloride	ND		3.0	16
1,1-Dichloropropene	ND		3.1	40
Benzene	ND		2.8	8.0
1,2-Dichloroethane	ND		8.1	40
Trichloroethene	ND		3.0	16
1,2-Dichloropropane	ND		2.5	8.0
Dibromomethane	ND		7.3	40
Dichlorobromomethane	ND		2.8	40
cis-1,3-Dichloropropene	ND		2.8	40
Toluene	ND		7.4	40
trans-1,3-Dichloropropene	ND		2.8	40
1,1,2-Trichloroethane	ND		3.6	40
Tetrachloroethene	ND		7.3	25
1,3-Dichloropropane	ND		4.2	16
Chlorodibromomethane	ND		2.5	40
Ethylene Dibromide	ND		6.6	40
Chlorobenzene	ND		12	40
Ethylbenzene	ND		7.2	40
1,1,1,2-Tetrachloroethane	ND		3.8	40
1,1,2,2-Tetrachloroethane	ND		2.4	8.0
m-Xylene & p-Xylene	ND		15	40
o-Xylene	ND		7.2	40
Styrene	ND		3.2	40
Bromoform	ND		2.8	40
Isopropylbenzene	ND		6.1	40
Bromobenzene	ND		3.6	40

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11334

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-11334/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1456
Date Prepared: 09/28/2006 1457

Analysis Batch: 580-11393
Prep Batch: 580-11334
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29549.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
N-Propylbenzene	ND		6.9	40
1,2,3-Trichloropropane	ND		7.1	40
2-Chlorotoluene	ND		5.8	40
1,3,5-Trimethylbenzene	ND		6.0	40
4-Chlorotoluene	ND		3.5	40
tert-Butylbenzene	ND		3.4	40
1,2,4-Trimethylbenzene	ND		6.9	40
sec-Butylbenzene	ND		1.6	40
1,3-Dichlorobenzene	ND		4.1	40
4-Isopropyltoluene	ND		2.8	40
1,4-Dichlorobenzene	ND		2.0	40
n-Butylbenzene	ND		2.4	40
1,2-Dichlorobenzene	ND		3.4	40
1,2-Dibromo-3-Chloropropane	ND		8.8	40
1,2,4-Trichlorobenzene	ND		3.9	40
1,2,3-Trichlorobenzene	ND		4.8	40
Hexachlorobutadiene	ND		6.6	40
Naphthalene	ND		2.6	40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	92	75 - 125
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	87	75 - 125
Trifluorotoluene (Surr)	113	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11334

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-11334/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1359
Date Prepared: 09/28/2006 1457

Analysis Batch: 580-11393
Prep Batch: 580-11334
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29546.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-11334/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1418
Date Prepared: 09/28/2006 1457

Analysis Batch: 580-11393
Prep Batch: 580-11334
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29547.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dichlorodifluoromethane	61	54	35 - 135	11	20		
Chloromethane	96	86	50 - 130	10	20		
Vinyl chloride	102	95	60 - 125	7	20		
Bromomethane	115	109	30 - 160	5	20		
Chloroethane	40	39	40 - 155	3	20	J	J *
Trichlorofluoromethane	112	105	25 - 185	7	20		
1,1-Dichloroethene	114	118	65 - 135	4	26		
Methylene Chloride	105	100	55 - 140	5	20		
trans-1,2-Dichloroethene	114	118	65 - 135	4	20		
1,1-Dichloroethane	122	120	75 - 125	2	20		
2,2-Dichloropropane	130	129	65 - 135	1	20		
cis-1,2-Dichloroethene	114	114	65 - 125	0	20		
Chlorobromomethane	109	107	70 - 125	2	20		
Chloroform	120	110	70 - 125	9	20		
1,1,1-Trichloroethane	118	113	70 - 135	4	20		
Carbon tetrachloride	123	114	65 - 135	8	20		
1,1-Dichloropropene	116	116	70 - 135	1	20		
Benzene	112	108	75 - 125	4	22		
1,2-Dichloroethane	107	102	70 - 135	5	20		
Trichloroethene	114	112	75 - 125	2	28		
1,2-Dichloropropane	115	107	70 - 120	7	20		
Dibromomethane	110	104	75 - 130	6	20		
Dichlorobromomethane	109	98	70 - 130	10	20		
cis-1,3-Dichloropropene	111	103	70 - 125	7	20		
Toluene	110	104	70 - 125	6	21		
trans-1,3-Dichloropropene	102	92	65 - 125	11	20		
1,1,2-Trichloroethane	99	98	60 - 125	1	20		
Tetrachloroethene	115	109	65 - 140	5	20		
1,3-Dichloropropane	106	98	75 - 125	7	20		
Chlorodibromomethane	101	89	65 - 130	13	20		
Ethylene Dibromide	103	100	70 - 125	3	20		
Chlorobenzene	110	100	75 - 125	10	24		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11334

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-11334/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1359
Date Prepared: 09/28/2006 1457

Analysis Batch: 580-11393
Prep Batch: 580-11334
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29546.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-11334/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1418
Date Prepared: 09/28/2006 1457

Analysis Batch: 580-11393
Prep Batch: 580-11334
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29547.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethylbenzene	116	106	75 - 125	9	20		
1,1,1,2-Tetrachloroethane	110	98	75 - 125	12	20		
1,1,2,2-Tetrachloroethane	91	93	55 - 130	2	20		
m-Xylene & p-Xylene	112	102	80 - 125	10	20		
o-Xylene	107	98	75 - 125	9	20		
Styrene	111	103	75 - 125	8	20		
Bromoform	104	92	55 - 135	12	20		
Isopropylbenzene	114	105	75 - 130	8	20		
Bromobenzene	104	97	65 - 120	7	20		
N-Propylbenzene	117	108	65 - 135	8	20		
1,2,3-Trichloropropane	93	96	65 - 130	3	20		
2-Chlorotoluene	110	100	70 - 130	10	20		
1,3,5-Trimethylbenzene	115	103	65 - 135	11	20		
4-Chlorotoluene	109	100	75 - 125	8	20		
tert-Butylbenzene	119	109	65 - 130	8	20		
1,2,4-Trimethylbenzene	114	104	65 - 135	9	20		
sec-Butylbenzene	117	107	65 - 130	9	20		
1,3-Dichlorobenzene	103	94	70 - 125	9	20		
4-Isopropyltoluene	114	104	75 - 135	9	20		
1,4-Dichlorobenzene	109	102	70 - 125	6	20		
n-Butylbenzene	125	114	65 - 140	9	20		
1,2-Dichlorobenzene	105	99	75 - 120	6	20		
1,2-Dibromo-3-Chloropropane	92	92	40 - 135	0	20		
1,2,4-Trichlorobenzene	107	103	65 - 130	4	20		
1,2,3-Trichlorobenzene	104	98	60 - 135	5	20		
Hexachlorobutadiene	124	117	55 - 140	5	20		
Naphthalene	95	96	40 - 125	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	92	92	75 - 125
Toluene-d8 (Surr)	92	91	75 - 125
Ethylbenzene-d10	94	90	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	89	85	75 - 125
Trifluorotoluene (Surr)	116	116	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11480

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-11480/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/03/2006 1628
Date Prepared: 10/02/2006 1518

Analysis Batch: 580-11569
Prep Batch: 580-11480
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29613.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		5.6	40
Chloromethane	ND		7.3	40
Vinyl chloride	ND		5.2	16
Bromomethane	ND		28	200
Chloroethane	ND		29	200
Trichlorofluoromethane	ND		3.8	40
1,1-Dichloroethene	ND		5.3	16
Methylene Chloride	ND		6.1	40
trans-1,2-Dichloroethene	ND		4.3	40
1,1-Dichloroethane	ND		9.5	40
2,2-Dichloropropane	ND		4.7	40
cis-1,2-Dichloroethene	ND		6.0	40
Chlorobromomethane	ND		4.8	40
Chloroform	ND		3.8	40
1,1,1-Trichloroethane	ND		3.9	16
Carbon tetrachloride	ND		3.0	16
1,1-Dichloropropene	ND		3.1	40
Benzene	ND		2.8	8.0
1,2-Dichloroethane	ND		8.1	40
Trichloroethene	ND		3.0	16
1,2-Dichloropropane	ND		2.5	8.0
Dibromomethane	ND		7.3	40
Dichlorobromomethane	ND		2.8	40
cis-1,3-Dichloropropene	ND		2.8	40
Toluene	ND		7.4	40
trans-1,3-Dichloropropene	ND		2.8	40
1,1,2-Trichloroethane	ND		3.6	40
Tetrachloroethene	ND		7.3	25
1,3-Dichloropropane	ND		4.2	16
Chlorodibromomethane	ND		2.5	40
Ethylene Dibromide	ND		6.6	40
Chlorobenzene	ND		12	40
Ethylbenzene	ND		7.2	40
1,1,1,2-Tetrachloroethane	ND		3.8	40
1,1,2,2-Tetrachloroethane	ND		2.4	8.0
m-Xylene & p-Xylene	ND		15	40
o-Xylene	ND		7.2	40
Styrene	ND		3.2	40
Bromoform	ND		2.8	40
Isopropylbenzene	ND		6.1	40
Bromobenzene	ND		3.6	40

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11480

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-11480/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/03/2006 1628
Date Prepared: 10/02/2006 1518

Analysis Batch: 580-11569
Prep Batch: 580-11480
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29613.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
N-Propylbenzene	ND		6.9	40
1,2,3-Trichloropropane	ND		7.1	40
2-Chlorotoluene	ND		5.8	40
1,3,5-Trimethylbenzene	ND		6.0	40
4-Chlorotoluene	ND		3.5	40
tert-Butylbenzene	ND		3.4	40
1,2,4-Trimethylbenzene	ND		6.9	40
sec-Butylbenzene	ND		1.6	40
1,3-Dichlorobenzene	ND		4.1	40
4-Isopropyltoluene	ND		2.8	40
1,4-Dichlorobenzene	ND		2.0	40
n-Butylbenzene	ND		2.4	40
1,2-Dichlorobenzene	ND		3.4	40
1,2-Dibromo-3-Chloropropane	ND		8.8	40
1,2,4-Trichlorobenzene	ND		3.9	40
1,2,3-Trichlorobenzene	ND		4.8	40
Hexachlorobutadiene	ND		6.6	40
Naphthalene	ND		2.6	40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	88	75 - 125
Ethylbenzene-d10	85	75 - 125
4-Bromofluorobenzene (Surr)	77	75 - 125
Trifluorotoluene (Surr)	114	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11480

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-11480/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/03/2006 1532
Date Prepared: 10/02/2006 1518

Analysis Batch: 580-11569
Prep Batch: 580-11480
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29610.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-11480/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/03/2006 1551
Date Prepared: 10/02/2006 1518

Analysis Batch: 580-11569
Prep Batch: 580-11480
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29611.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dichlorodifluoromethane	49	49	35 - 135	0	20		
Chloromethane	80	75	50 - 130	6	20		
Vinyl chloride	88	87	60 - 125	1	20		
Bromomethane	87	80	30 - 160	9	20	J	J
Chloroethane	34	32	40 - 155	7	20	J *	J *
Trichlorofluoromethane	65	26	25 - 185	87	20		*
1,1-Dichloroethene	110	124	65 - 135	12	26		
Methylene Chloride	93	104	55 - 140	11	20		
trans-1,2-Dichloroethene	110	124	65 - 135	12	20		
1,1-Dichloroethane	113	124	75 - 125	9	20		
2,2-Dichloropropane	124	139	65 - 135	12	20		*
cis-1,2-Dichloroethene	109	125	65 - 125	14	20		
Chlorobromomethane	101	114	70 - 125	12	20		
Chloroform	105	117	70 - 125	11	20		
1,1,1-Trichloroethane	111	125	70 - 135	12	20		
Carbon tetrachloride	119	130	65 - 135	9	20		
1,1-Dichloropropene	113	127	70 - 135	12	20		
Benzene	102	112	75 - 125	9	22		
1,2-Dichloroethane	92	106	70 - 135	14	20		
Trichloroethene	111	122	75 - 125	10	28		
1,2-Dichloropropane	103	113	70 - 120	10	20		
Dibromomethane	96	109	75 - 130	13	20		
Dichlorobromomethane	94	97	70 - 130	3	20		
cis-1,3-Dichloropropene	98	106	70 - 125	8	20		
Toluene	95	105	70 - 125	9	21		
trans-1,3-Dichloropropene	88	92	65 - 125	5	20		
1,1,2-Trichloroethane	87	95	60 - 125	9	20		
Tetrachloroethene	103	112	65 - 140	9	20		
1,3-Dichloropropane	90	99	75 - 125	9	20		
Chlorodibromomethane	85	85	65 - 130	1	20		
Ethylene Dibromide	87	94	70 - 125	8	20		
Chlorobenzene	91	98	75 - 125	8	24		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11480

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-11480/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/03/2006 1532
Date Prepared: 10/02/2006 1518

Analysis Batch: 580-11569
Prep Batch: 580-11480
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29610.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-11480/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/03/2006 1551
Date Prepared: 10/02/2006 1518

Analysis Batch: 580-11569
Prep Batch: 580-11480
Units: ug/Kg

Instrument ID: SEA001
Lab File ID: AG29611.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethylbenzene	97	102	75 - 125	6	20		
1,1,1,2-Tetrachloroethane	93	94	75 - 125	1	20		
1,1,2,2-Tetrachloroethane	79	89	55 - 130	12	20		
m-Xylene & p-Xylene	94	98	80 - 125	4	20		
o-Xylene	90	95	75 - 125	5	20		
Styrene	94	100	75 - 125	6	20		
Bromoform	92	87	55 - 135	6	20		
Isopropylbenzene	98	104	75 - 130	6	20		
Bromobenzene	88	92	65 - 120	5	20		
N-Propylbenzene	101	104	65 - 135	3	20		
1,2,3-Trichloropropane	76	87	65 - 130	14	20		
2-Chlorotoluene	92	98	70 - 130	7	20		
1,3,5-Trimethylbenzene	99	102	65 - 135	4	20		
4-Chlorotoluene	91	96	75 - 125	5	20		
tert-Butylbenzene	106	110	65 - 130	3	20		
1,2,4-Trimethylbenzene	98	102	65 - 135	4	20		
sec-Butylbenzene	105	110	65 - 130	5	20		
1,3-Dichlorobenzene	86	91	70 - 125	5	20		
4-Isopropyltoluene	104	108	75 - 135	4	20		
1,4-Dichlorobenzene	96	106	70 - 125	10	20		
n-Butylbenzene	123	132	65 - 140	7	20		
1,2-Dichlorobenzene	96	106	75 - 120	10	20		
1,2-Dibromo-3-Chloropropane	84	106	40 - 135	23	20		*
1,2,4-Trichlorobenzene	106	115	65 - 130	9	20		
1,2,3-Trichlorobenzene	98	112	60 - 135	13	20		
Hexachlorobutadiene	126	134	55 - 140	6	20		
Naphthalene	89	105	40 - 125	17	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	91	91	75 - 125
Toluene-d8 (Surr)	89	88	75 - 125
Ethylbenzene-d10	88	85	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	81	77	75 - 125
Trifluorotoluene (Surr)	113	114	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11519

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 580-11519/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/02/2006 1237
Date Prepared: 10/02/2006 1237

Analysis Batch: 580-11519
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA036
Lab File ID: hp12726.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		0.13	1.0
Chloromethane	ND		0.18	1.0
Vinyl chloride	ND		0.18	1.0
Bromomethane	ND		0.23	1.0
Chloroethane	ND		0.19	5.0
Trichlorofluoromethane	ND		0.088	1.0
1,1-Dichloroethene	ND		0.098	1.0
Methylene Chloride	ND		0.090	1.0
trans-1,2-Dichloroethene	ND		0.074	1.0
1,1-Dichloroethane	ND		0.11	1.0
2,2-Dichloropropane	ND		0.28	1.0
cis-1,2-Dichloroethene	ND		0.079	1.0
Chlorobromomethane	ND		0.14	1.0
Chloroform	ND		0.067	1.0
1,1,1-Trichloroethane	ND		0.11	1.0
Carbon tetrachloride	ND		0.070	1.0
1,1-Dichloropropene	ND		0.080	1.0
Benzene	ND		0.10	1.0
1,2-Dichloroethane	ND		0.20	1.0
Trichloroethene	ND		0.074	1.0
1,2-Dichloropropane	ND		0.092	1.0
Dibromomethane	ND		0.13	1.0
Dichlorobromomethane	ND		0.076	1.0
cis-1,3-Dichloropropene	ND		0.064	1.0
Toluene	ND		0.066	1.0
trans-1,3-Dichloropropene	ND		0.082	1.0
1,1,2-Trichloroethane	ND		0.076	1.0
Tetrachloroethene	ND		0.088	1.0
1,3-Dichloropropane	ND		0.10	1.0
Chlorodibromomethane	ND		0.11	1.0
Ethylene Dibromide	ND		0.076	1.0
Chlorobenzene	ND		0.063	1.0
Ethylbenzene	ND		0.085	1.0
1,1,1,2-Tetrachloroethane	ND		0.073	1.0
1,1,2,2-Tetrachloroethane	ND		0.11	1.0
m-Xylene & p-Xylene	ND		0.17	2.0
o-Xylene	ND		0.068	1.0
Styrene	ND		0.061	1.0
Bromoform	ND		0.076	1.0
Isopropylbenzene	ND		0.084	1.0
Bromobenzene	ND		0.079	1.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11519

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 580-11519/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/02/2006 1237
Date Prepared: 10/02/2006 1237

Analysis Batch: 580-11519
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA036
Lab File ID: hp12726.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
N-Propylbenzene	ND		0.069	1.0
1,2,3-Trichloropropane	ND		0.11	1.0
2-Chlorotoluene	ND		0.060	1.0
1,3,5-Trimethylbenzene	ND		0.077	1.0
4-Chlorotoluene	ND		0.098	1.0
tert-Butylbenzene	ND		0.048	1.0
1,2,4-Trimethylbenzene	ND		0.086	1.0
sec-Butylbenzene	ND		0.040	1.0
1,3-Dichlorobenzene	ND		0.040	1.0
4-Isopropyltoluene	ND		0.077	1.0
1,4-Dichlorobenzene	ND		0.052	1.0
n-Butylbenzene	ND		0.098	1.0
1,2-Dichlorobenzene	ND		0.070	1.0
1,2-Dibromo-3-Chloropropane	ND		0.43	2.0
1,2,4-Trichlorobenzene	ND		0.046	1.0
1,2,3-Trichlorobenzene	ND		0.089	1.0
Hexachlorobutadiene	ND		0.14	1.0
Naphthalene	ND		0.070	1.0

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	91	80 - 120
Toluene-d8 (Surr)	94	80 - 120
Ethylbenzene-d10	94	80 - 120
4-Bromofluorobenzene (Surr)	92	80 - 120
Trifluorotoluene (Surr)	97	80 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11519

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 580-11519/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/02/2006 1137
Date Prepared: 10/02/2006 1137

Analysis Batch: 580-11519
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA036
Lab File ID: HP12723.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 580-11519/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/02/2006 1157
Date Prepared: 10/02/2006 1157

Analysis Batch: 580-11519
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA036
Lab File ID: HP12724.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dichlorodifluoromethane	54	49	30 - 155	8	20		
Chloromethane	68	65	40 - 125	5	20		
Vinyl chloride	75	82	50 - 145	9	20		
Bromomethane	74	79	30 - 145	7	20		
Chloroethane	81	84	60 - 135	4	20	J	J
Trichlorofluoromethane	94	88	60 - 145	7	20		
1,1-Dichloroethene	98	97	70 - 130	1	15		
Methylene Chloride	94	96	55 - 140	2	20		
trans-1,2-Dichloroethene	103	99	60 - 140	3	20		
1,1-Dichloroethane	87	88	70 - 135	2	20		
2,2-Dichloropropane	93	95	70 - 135	2	20		
cis-1,2-Dichloroethene	98	97	70 - 125	1	20		
Chlorobromomethane	88	87	65 - 130	1	20		
Chloroform	88	93	65 - 135	6	20		
1,1,1-Trichloroethane	99	95	65 - 130	4	20		
Carbon tetrachloride	102	106	65 - 140	4	20		
1,1-Dichloropropene	89	94	75 - 130	6	20		
Benzene	91	93	80 - 120	2	12		
1,2-Dichloroethane	86	86	70 - 130	0	20		
Trichloroethene	102	100	75 - 125	2	13		
1,2-Dichloropropane	96	94	75 - 125	2	20		
Dibromomethane	107	102	75 - 125	5	20		
Dichlorobromomethane	102	99	75 - 120	3	20		
cis-1,3-Dichloropropene	105	104	70 - 130	1	20		
Toluene	100	99	75 - 120	1	12		
trans-1,3-Dichloropropene	99	95	55 - 140	4	20		
1,1,2-Trichloroethane	96	95	75 - 125	1	20		
Tetrachloroethene	111	107	45 - 150	4	20		
1,3-Dichloropropane	96	96	75 - 125	1	20		
Chlorodibromomethane	104	100	60 - 135	3	20		
Ethylene Dibromide	101	103	80 - 120	1	20		
Chlorobenzene	100	98	80 - 120	2	13		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11519

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 580-11519/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/02/2006 1137
Date Prepared: 10/02/2006 1137

Analysis Batch: 580-11519
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA036
Lab File ID: HP12723.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 580-11519/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/02/2006 1157
Date Prepared: 10/02/2006 1157

Analysis Batch: 580-11519
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA036
Lab File ID: HP12724.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethylbenzene	101	101	75 - 125	0	20		
1,1,1,2-Tetrachloroethane	103	104	80 - 130	1	20		
1,1,2,2-Tetrachloroethane	99	98	65 - 130	1	20		
m-Xylene & p-Xylene	99	101	75 - 130	2	20		
o-Xylene	92	95	80 - 120	4	20		
Styrene	105	103	65 - 135	2	20		
Bromoform	112	108	70 - 130	3	20		
Isopropylbenzene	101	103	80 - 125	1	20		
Bromobenzene	104	104	75 - 125	0	20		
N-Propylbenzene	99	98	70 - 130	0	20		
1,2,3-Trichloropropane	90	86	75 - 125	4	20		
2-Chlorotoluene	98	101	75 - 125	4	20		
1,3,5-Trimethylbenzene	102	105	75 - 130	3	20		
4-Chlorotoluene	104	102	75 - 130	1	20		
tert-Butylbenzene	102	94	70 - 130	8	20		
1,2,4-Trimethylbenzene	100	100	75 - 130	0	20		
sec-Butylbenzene	101	103	70 - 125	2	20		
1,3-Dichlorobenzene	95	99	75 - 125	4	20		
4-Isopropyltoluene	98	101	75 - 130	3	20		
1,4-Dichlorobenzene	103	103	75 - 125	0	20		
n-Butylbenzene	97	103	70 - 135	6	20		
1,2-Dichlorobenzene	96	99	70 - 120	3	20		
1,2-Dibromo-3-Chloropropane	91	88	50 - 130	3	20		
1,2,4-Trichlorobenzene	103	100	65 - 135	3	20		
1,2,3-Trichlorobenzene	100	103	55 - 140	3	20		
Hexachlorobutadiene	101	111	50 - 140	10	20		
Naphthalene	102	103	55 - 140	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	92	90	80 - 120
Toluene-d8 (Surr)	96	96	80 - 120
Ethylbenzene-d10	97	97	80 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	94	80 - 120
Trifluorotoluene (Surr)	100	104	80 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11292

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-11292/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1714
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak006307.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		0.074	3.0
Bis(2-chloroethyl)ether	ND		0.18	2.0
2-Chlorophenol	ND		0.22	2.0
1,3-Dichlorobenzene	ND		0.11	2.0
1,4-Dichlorobenzene	ND		0.12	2.0
Benzyl alcohol	ND		0.13	2.0
1,2-Dichlorobenzene	ND		0.11	2.0
2-Methylphenol	ND		0.38	2.0
Bis(2-chloroisopropyl) ether	ND		0.088	2.0
3 & 4 Methylphenol	ND		0.17	4.0
N-Nitrosodi-n-propylamine	ND		0.20	2.0
Hexachloroethane	ND		0.13	3.0
Nitrobenzene	ND		0.075	2.0
Isophorone	ND		0.11	2.0
2-Nitrophenol	ND		0.21	2.0
2,4-Dimethylphenol	ND		0.18	10
Benzoic acid	ND		0.21	10
Bis(2-chloroethoxy)methane	ND		0.095	2.0
2,4-Dichlorophenol	ND		0.13	2.0
1,2,4-Trichlorobenzene	ND		0.10	2.0
Naphthalene	ND		0.014	2.0
4-Chloroaniline	ND		0.19	2.0
Hexachlorobutadiene	ND		0.16	3.0
4-Chloro-3-methylphenol	ND		0.14	2.0
2-Methylnaphthalene	ND		0.055	1.0
Hexachlorocyclopentadiene	ND		0.12	10
2,4,6-Trichlorophenol	ND		0.10	3.0
2,4,5-Trichlorophenol	ND		0.085	2.0
2-Chloronaphthalene	ND		0.030	0.30
2-Nitroaniline	ND		0.11	2.0
Dimethyl phthalate	ND		0.12	2.0
Acenaphthylene	ND		0.026	0.40
2,6-Dinitrotoluene	ND		0.14	2.0
3-Nitroaniline	ND		0.56	2.0
Acenaphthene	ND		0.012	0.50
2,4-Dinitrophenol	ND		0.58	25
4-Nitrophenol	ND		1.6	10
Dibenzofuran	ND		0.098	2.0
2,4-Dinitrotoluene	ND		0.12	2.0
Diethyl phthalate	ND		0.093	2.0
4-Chlorophenyl phenyl ether	ND		0.12	2.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11292

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-11292/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1714
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak006307.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Fluorene	ND		0.042	0.30
4-Nitroaniline	ND		0.18	3.0
4,6-Dinitro-2-methylphenol	ND		0.53	20
N-Nitrosodiphenylamine	ND		0.13	2.0
4-Bromophenyl phenyl ether	ND		0.10	2.0
Hexachlorobenzene	ND		0.082	2.0
Pentachlorophenol	ND		0.13	3.5
Phenanthrene	ND		0.024	0.40
Anthracene	ND		0.019	0.20
Di-n-butyl phthalate	0.58	J	0.088	2.0
Fluoranthene	ND		0.027	0.25
Pyrene	ND		0.020	0.30
Butyl benzyl phthalate	ND		0.24	3.0
3,3'-Dichlorobenzidine	ND		1.6	10
Benzo[a]anthracene	ND		0.033	0.30
Chrysene	ND		0.045	0.20
Bis(2-ethylhexyl) phthalate	ND		0.32	15
Di-n-octyl phthalate	ND		0.18	2.0
Benzofluoranthene	ND		0.055	0.40
Benzo[a]pyrene	ND		0.027	0.20
Indeno[1,2,3-cd]pyrene	ND		0.051	0.30
Dibenz(a,h)anthracene	ND		0.046	0.30
Benzo[g,h,i]perylene	ND		0.060	0.30
Carbazole	ND		0.090	2.0
1-Methylnaphthalene	ND		0.052	0.30

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	54	10 - 120
Phenol-d5	31	10 - 102
Nitrobenzene-d5	114	34 - 146
2-Fluorobiphenyl	112	35 - 143
2,4,6-Tribromophenol	106	29 - 151
Terphenyl-d14	123	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11292

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-11292/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1738
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak006308.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-11292/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1803
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak006309.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	28	32	10 - 70	11	51	J	
Bis(2-chloroethyl)ether	102	105	53 - 128	3	50		
2-Chlorophenol	96	96	52 - 122	0	25		
1,3-Dichlorobenzene	103	104	58 - 129	0	50		
1,4-Dichlorobenzene	105	106	62 - 132	1	32		
Benzyl alcohol	63	65	20 - 100	3	50		
1,2-Dichlorobenzene	106	104	60 - 126	2	50		
2-Methylphenol	78	81	35 - 106	4	50		
Bis(2-chloroisopropyl) ether	102	102	50 - 135	0	50		
3 & 4 Methylphenol	68	72	21 - 102	6	50		
N-Nitrosodi-n-propylamine	104	103	47 - 142	1	48		
Hexachloroethane	103	103	60 - 125	0	50		
Nitrobenzene	105	105	66 - 131	1	50		
Isophorone	108	106	62 - 122	2	50		
2-Nitrophenol	88	91	55 - 131	3	50		
2,4-Dimethylphenol	100	102	47 - 127	2	50	J	
Benzoic acid	15	22	0 - 35	37	50	J	
Bis(2-chloroethoxy)methane	106	104	65 - 126	2	50		
2,4-Dichlorophenol	107	105	66 - 122	2	50		
1,2,4-Trichlorobenzene	106	105	59 - 130	1	28		
Naphthalene	104	104	66 - 127	0	32		
4-Chloroaniline	110	111	75 - 171	1	50		
Hexachlorobutadiene	108	104	54 - 135	4	50		
4-Chloro-3-methylphenol	102	103	56 - 121	1	33		
2-Methylnaphthalene	107	107	64 - 125	0	30		
Hexachlorocyclopentadiene	68	71	45 - 126	5	50	J	J
2,4,6-Trichlorophenol	110	114	62 - 127	3	50		
2,4,5-Trichlorophenol	111	115	64 - 124	3	50		
2-Chloronaphthalene	104	104	70 - 125	0	50		
2-Nitroaniline	111	112	65 - 130	1	50		
Dimethyl phthalate	105	106	47 - 147	1	50		
Acenaphthylene	108	109	71 - 126	1	45		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11292

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-11292/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1738
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak006308.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-11292/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1803
Date Prepared: 09/28/2006 0759

Analysis Batch: 580-11421
Prep Batch: 580-11292
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak006309.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	102	104	66 - 131	2	50		
3-Nitroaniline	139	145	90 - 176	4	50		
Acenaphthene	105	105	65 - 130	1	27		
2,4-Dinitrophenol	63	71	15 - 140	12	50	J	J
4-Nitrophenol	26	36	10 - 135	30	59	J	J
Dibenzofuran	105	106	71 - 121	1	50		
2,4-Dinitrotoluene	102	104	57 - 128	3	35		
Diethyl phthalate	106	108	54 - 135	2	50		
4-Chlorophenyl phenyl ether	106	106	66 - 127	0	50		
Fluorene	107	107	69 - 129	0	29		
4-Nitroaniline	124	135	58 - 143	8	50		
4,6-Dinitro-2-methylphenol	46	56	36 - 127	19	50	J	J
N-Nitrosodiphenylamine	108	109	90 - 150	1	33		
4-Bromophenyl phenyl ether	106	106	66 - 131	1	50		
Hexachlorobenzene	104	99	67 - 128	5	50		
Pentachlorophenol	101	105	43 - 118	3	67		
Phenanthrene	104	103	62 - 128	1	24		
Anthracene	111	109	73 - 128	2	28		
Di-n-butyl phthalate	112	108	72 - 132	3	50		
Fluoranthene	111	110	64 - 124	1	22		
Pyrene	112	112	58 - 140	1	38		
Butyl benzyl phthalate	123	117	70 - 141	5	50		
3,3'-Dichlorobenzidine	141	141	67 - 157	0	50		
Benzo[a]anthracene	106	106	70 - 126	0	29		
Chrysene	105	105	70 - 126	0	33		
Bis(2-ethylhexyl) phthalate	123	118	69 - 154	4	50	J	J
Di-n-octyl phthalate	120	116	49 - 149	3	50		
Benzofluoranthene	108	110	59 - 140	1	41		
Benzo[a]pyrene	104	106	72 - 128	2	27		
Indeno[1,2,3-cd]pyrene	107	111	58 - 139	3	34		
Dibenz(a,h)anthracene	106	109	61 - 146	3	42		
Benzo[g,h,i]perylene	106	108	59 - 144	2	32		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11292

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-11292/2-A	Analysis Batch: 580-11421	Instrument ID: SEA040
Client Matrix:	Water	Prep Batch: 580-11292	Lab File ID: ak006308.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	09/28/2006 1738		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0759		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-11292/3-A	Analysis Batch: 580-11421	Instrument ID: SEA040
Client Matrix:	Water	Prep Batch: 580-11292	Lab File ID: ak006309.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	09/28/2006 1803		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0759		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Carbazole	128	127	90 - 155	1	50		
1-Methylnaphthalene	106	105	47 - 148	1	50		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	52	57	10 - 120
Phenol-d5	29	32	10 - 102
Nitrobenzene-d5	112	109	34 - 146
2-Fluorobiphenyl	109	109	35 - 143
2,4,6-Tribromophenol	112	110	29 - 151
Terphenyl-d14	119	117	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11299

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-11299/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 2050
Date Prepared: 09/28/2006 0838

Analysis Batch: 580-11408
Prep Batch: 580-11299
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP02370.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Benzo[a]anthracene	0.035	J	0.0090	0.10
Chrysene	ND		0.0090	0.10
Benzofluoranthene	0.077	J	0.031	0.20
Benzo[a]pyrene	ND		0.060	0.20
Indeno[1,2,3-cd]pyrene	0.027	J	0.015	0.10
Dibenz(a,h)anthracene	0.053	J	0.012	0.10
Benzo[g,h,i]perylene	0.041	J	0.018	0.10
Benzo[b]fluoranthene	0.043	J	0.023	0.10
Benzo[k]fluoranthene	0.038	J	0.011	0.10

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	132	34 - 146
2-Fluorobiphenyl	110	35 - 143
Terphenyl-d14	100	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11299

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-11299/2-A	Analysis Batch: 580-11408	Instrument ID: SEA023
Client Matrix:	Water	Prep Batch: 580-11299	Lab File ID: HP02371.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	09/28/2006 2117		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0838		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-11299/3-A	Analysis Batch: 580-11408	Instrument ID: SEA023
Client Matrix:	Water	Prep Batch: 580-11299	Lab File ID: HP02372.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	09/28/2006 2145		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0838		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzo[a]anthracene	107	104	70 - 126	2	29		
Chrysene	100	101	70 - 126	0	33		
Benzofluoranthene	100	99	59 - 140	0	41		
Benzo[a]pyrene	100	99	72 - 128	1	27		
Indeno[1,2,3-cd]pyrene	93	91	58 - 139	2	34		
Dibenz(a,h)anthracene	90	88	61 - 146	2	42		
Benzo[g,h,i]perylene	88	86	59 - 144	1	32		
Benzo[b]fluoranthene	101	100	64 - 140	1	41		
Benzo[k]fluoranthene	98	99	62 - 142	0	41		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	134	130	34 - 146
2-Fluorobiphenyl	106	106	35 - 143
Terphenyl-d14	94	92	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11301

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-11301/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 2243
Date Prepared: 09/28/2006 0847

Analysis Batch: 580-11394
Prep Batch: 580-11301
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak006321.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		27	100
Bis(2-chloroethyl)ether	ND		30	100
2-Chlorophenol	ND		23	100
1,3-Dichlorobenzene	ND		12	50
1,4-Dichlorobenzene	ND		7.6	50
Benzyl alcohol	ND		30	100
1,2-Dichlorobenzene	ND		17	50
2-Methylphenol	ND		28	100
Bis(2-chloroisopropyl) ether	ND		34	150
3 & 4 Methylphenol	ND		53	200
N-Nitrosodi-n-propylamine	ND		26	100
Hexachloroethane	ND		21	100
Nitrobenzene	ND		15	100
Isophorone	ND		26	100
2-Nitrophenol	ND		23	100
2,4-Dimethylphenol	ND		19	100
Benzoic acid	ND		830	2500
Bis(2-chloroethoxy)methane	ND		25	100
2,4-Dichlorophenol	ND		19	100
1,2,4-Trichlorobenzene	ND		9.9	50
Naphthalene	ND		5.7	20
4-Chloroaniline	ND		27	100
Hexachlorobutadiene	ND		13	50
4-Chloro-3-methylphenol	ND		22	100
2-Methylnaphthalene	ND		3.1	20
Hexachlorocyclopentadiene	ND		25	100
2,4,6-Trichlorophenol	ND		33	150
2,4,5-Trichlorophenol	ND		23	100
2-Chloronaphthalene	ND		1.9	20
2-Nitroaniline	ND		19	100
Dimethyl phthalate	ND		7.7	100
Acenaphthylene	ND		2.3	20
2,6-Dinitrotoluene	ND		19	100
3-Nitroaniline	ND		29	100
Acenaphthene	ND		5.7	20
2,4-Dinitrophenol	ND		210	1000
4-Nitrophenol	ND		260	1000
Dibenzofuran	ND		17	100
2,4-Dinitrotoluene	ND		14	100
Diethyl phthalate	ND		7.2	100
4-Chlorophenyl phenyl ether	ND		16	100

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11301

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-11301/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 2243
Date Prepared: 09/28/2006 0847

Analysis Batch: 580-11394
Prep Batch: 580-11301
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak006321.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Fluorene	ND		2.6	20
4-Nitroaniline	ND		19	100
4,6-Dinitro-2-methylphenol	ND		270	1000
N-Nitrosodiphenylamine	ND		15	50
4-Bromophenyl phenyl ether	ND		10	100
Hexachlorobenzene	ND		11	50
Pentachlorophenol	ND		31	100
Phenanthrene	ND		4.0	20
Anthracene	ND		4.3	20
Di-n-butyl phthalate	37	J	13	200
Fluoranthene	ND		3.1	20
Pyrene	ND		2.7	20
Butyl benzyl phthalate	ND		29	100
3,3'-Dichlorobenzidine	ND		9.1	200
Benzo[a]anthracene	ND		6.5	25
Chrysene	ND		7.5	25
Bis(2-ethylhexyl) phthalate	ND		240	1500
Di-n-octyl phthalate	ND		33	200
Benzofluoranthene	ND		10	40
Benzo[a]pyrene	16	J	8.5	30
Indeno[1,2,3-cd]pyrene	ND		12	40
Dibenz(a,h)anthracene	ND		12	40
Benzo[g,h,i]perylene	ND		7.3	25
Carbazole	ND		33	150
1-Methylnaphthalene	ND		8.7	30

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	110	36 - 145
Phenol-d5	109	38 - 149
Nitrobenzene-d5	106	38 - 141
2-Fluorobiphenyl	108	42 - 140
2,4,6-Tribromophenol	100	28 - 143
Terphenyl-d14	115	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11301

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-11301/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 2308
Date Prepared: 09/28/2006 0847

Analysis Batch: 580-11394
Prep Batch: 580-11301
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak006322.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-11301/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 2333
Date Prepared: 09/28/2006 0847

Analysis Batch: 580-11394
Prep Batch: 580-11301
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak006323.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	101	102	66 - 126	1	26		
Bis(2-chloroethyl)ether	103	106	57 - 122	3	60		
2-Chlorophenol	103	105	65 - 125	1	27		
1,3-Dichlorobenzene	103	105	64 - 124	2	60		
1,4-Dichlorobenzene	102	106	62 - 132	3	32		
Benzyl alcohol	100	99	42 - 147	1	60		
1,2-Dichlorobenzene	105	106	68 - 118	1	60		
2-Methylphenol	105	105	56 - 121	0	25		
Bis(2-chloroisopropyl) ether	97	99	44 - 140	2	60		
3 & 4 Methylphenol	104	106	61 - 126	1	27		
N-Nitrosodi-n-propylamine	100	96	52 - 127	3	28		
Hexachloroethane	107	106	56 - 131	1	60		
Nitrobenzene	102	103	59 - 134	1	60		
Isophorone	105	103	53 - 118	2	60		
2-Nitrophenol	92	91	58 - 128	1	60		
2,4-Dimethylphenol	106	105	58 - 133	1	60		
Benzoic acid	76	88	10 - 130	14	60		
Bis(2-chloroethoxy)methane	104	103	63 - 128	1	60		
2,4-Dichlorophenol	108	108	59 - 124	0	60		
1,2,4-Trichlorobenzene	105	105	63 - 128	0	28		
Naphthalene	103	103	64 - 129	0	26		
4-Chloroaniline	94	93	20 - 181	0	60		
Hexachlorobutadiene	104	106	59 - 134	2	60		
4-Chloro-3-methylphenol	107	106	58 - 128	1	27		
2-Methylnaphthalene	104	103	65 - 125	1	27		
Hexachlorocyclopentadiene	90	87	30 - 132	3	60		
2,4,6-Trichlorophenol	111	111	66 - 131	1	60		
2,4,5-Trichlorophenol	111	112	64 - 124	1	60		
2-Chloronaphthalene	103	103	69 - 129	0	25		
2-Nitroaniline	107	106	58 - 133	1	60		
Dimethyl phthalate	104	106	65 - 125	1	60		
Acenaphthylene	105	105	69 - 129	0	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11301

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-11301/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 2308
Date Prepared: 09/28/2006 0847

Analysis Batch: 580-11394
Prep Batch: 580-11301
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak006322.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-11301/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 2333
Date Prepared: 09/28/2006 0847

Analysis Batch: 580-11394
Prep Batch: 580-11301
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak006323.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	100	99	65 - 125	1	60		
3-Nitroaniline	122	129	80 - 165	6	60		
Acenaphthene	104	105	65 - 130	1	27		
2,4-Dinitrophenol	73	75	53 - 168	3	60	J	J
4-Nitrophenol	96	94	47 - 172	2	33	J	J
Dibenzofuran	104	105	70 - 125	0	60		
2,4-Dinitrotoluene	104	103	57 - 122	1	31		
Diethyl phthalate	102	103	64 - 129	1	26		
4-Chlorophenyl phenyl ether	105	104	65 - 130	1	60		
Fluorene	104	103	68 - 128	1	31		
4-Nitroaniline	131	126	70 - 150	4	60		
4,6-Dinitro-2-methylphenol	60	60	38 - 143	0	60	J	J
N-Nitrosodiphenylamine	108	108	88 - 153	0	60		
4-Bromophenyl phenyl ether	104	107	64 - 134	2	60		
Hexachlorobenzene	104	104	61 - 136	1	60		
Pentachlorophenol	101	102	29 - 124	1	68		
Phenanthrene	104	104	65 - 125	1	28		
Anthracene	107	109	73 - 123	2	27		
Di-n-butyl phthalate	101	103	69 - 124	2	60		
Fluoranthene	109	110	61 - 121	1	36		
Pyrene	111	111	54 - 134	0	31		
Butyl benzyl phthalate	106	108	65 - 140	1	60		
3,3'-Dichlorobenzidine	125	125	73 - 163	0	60		
Benzo[a]anthracene	106	105	64 - 124	2	27		
Chrysene	104	106	71 - 126	2	26		
Bis(2-ethylhexyl) phthalate	107	108	64 - 144	1	60	J	J
Di-n-octyl phthalate	95	98	58 - 148	3	31		
Benzofluoranthene	108	111	57 - 137	3	31		
Benzo[a]pyrene	100	103	68 - 128	3	30		
Indeno[1,2,3-cd]pyrene	99	98	59 - 139	0	29		
Dibenz(a,h)anthracene	98	98	57 - 142	0	30		
Benzo[g,h,i]perylene	98	97	57 - 142	1	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11301

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-11301/2-A	Analysis Batch: 580-11394	Instrument ID: SEA040
Client Matrix:	Solid	Prep Batch: 580-11301	Lab File ID: ak006322.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	09/28/2006 2308		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0847		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-11301/3-A	Analysis Batch: 580-11394	Instrument ID: SEA040
Client Matrix:	Solid	Prep Batch: 580-11301	Lab File ID: ak006323.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	09/28/2006 2333		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0847		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Carbazole	111	110	88 - 158	1	60		
1-Methylnaphthalene	104	104	48 - 148	0	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	98	101	36 - 145
Phenol-d5	100	100	38 - 149
Nitrobenzene-d5	100	98	38 - 141
2-Fluorobiphenyl	101	101	42 - 140
2,4,6-Tribromophenol	103	98	28 - 143
Terphenyl-d14	107	109	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-11301

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-3718-8	Analysis Batch: 580-11394	Instrument ID: SEA040
Client Matrix:	Solid	Prep Batch: 580-11301	Lab File ID: ak006330.D
Dilution:	1.0		Initial Weight/Volume: 10.4909 g
Date Analyzed:	09/29/2006 0223		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0847		Injection Volume:

MSD Lab Sample ID:	580-3718-8	Analysis Batch: 580-11394	Instrument ID: SEA040
Client Matrix:	Solid	Prep Batch: 580-11301	Lab File ID: ak006331.D
Dilution:	1.0		Initial Weight/Volume: 10.5194 g
Date Analyzed:	09/29/2006 0247		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0847		Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Phenol	108	104	66 - 126	4	26		
Bis(2-chloroethyl)ether	106	103	57 - 122	3	60		
2-Chlorophenol	111	107	65 - 125	4	27		
1,3-Dichlorobenzene	108	103	64 - 124	6	60		
1,4-Dichlorobenzene	109	104	62 - 132	5	32		
Benzyl alcohol	113	107	42 - 147	6	60		
1,2-Dichlorobenzene	108	105	68 - 118	3	60		
2-Methylphenol	113	108	56 - 121	5	25		
Bis(2-chloroisopropyl) ether	107	101	44 - 140	6	60		
3 & 4 Methylphenol	116	112	61 - 126	3	27		
N-Nitrosodi-n-propylamine	109	110	52 - 127	1	28		
Hexachloroethane	105	103	56 - 131	3	60		
Nitrobenzene	104	102	59 - 134	2	60		
Isophorone	110	106	53 - 118	5	60		
2-Nitrophenol	94	91	58 - 128	4	60		
2,4-Dimethylphenol	111	106	58 - 133	5	60		
Benzoic acid	83	80	10 - 130	3	60		
Bis(2-chloroethoxy)methane	106	102	63 - 128	4	60		
2,4-Dichlorophenol	114	108	59 - 124	5	60		
1,2,4-Trichlorobenzene	105	102	63 - 128	4	28		
Naphthalene	106	101	64 - 129	5	26		
4-Chloroaniline	91	90	20 - 181	1	60		
Hexachlorobutadiene	106	102	59 - 134	5	60		
4-Chloro-3-methylphenol	115	111	58 - 128	3	27		
2-Methylnaphthalene	108	105	65 - 125	3	27		
Hexachlorocyclopentadiene	54	58	30 - 132	7	60		
2,4,6-Trichlorophenol	119	113	66 - 131	5	60		
2,4,5-Trichlorophenol	115	117	64 - 124	2	60		
2-Chloronaphthalene	103	102	69 - 129	2	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-11301

Method: 8270C
Preparation: 3550B

MS Lab Sample ID: 580-3718-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/29/2006 0223
Date Prepared: 09/28/2006 0847

Analysis Batch: 580-11394
Prep Batch: 580-11301

Instrument ID: SEA040
Lab File ID: ak006330.D
Initial Weight/Volume: 10.4909 g
Final Weight/Volume: 10 mL
Injection Volume:

MSD Lab Sample ID: 580-3718-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/29/2006 0247
Date Prepared: 09/28/2006 0847

Analysis Batch: 580-11394
Prep Batch: 580-11301

Instrument ID: SEA040
Lab File ID: ak006331.D
Initial Weight/Volume: 10.5194 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2-Nitroaniline	112	113	58 - 133	1	60		
Dimethyl phthalate	106	104	65 - 125	2	60		
Acenaphthylene	108	107	69 - 129	2	28		
2,6-Dinitrotoluene	100	99	65 - 125	1	60		
3-Nitroaniline	140	134	80 - 165	5	60		
Acenaphthene	105	103	65 - 130	2	27		
2,4-Dinitrophenol	67	69	53 - 168	2	60	J	J
4-Nitrophenol	99	98	47 - 172	1	33	J	J
Dibenzofuran	105	104	70 - 125	1	60		
2,4-Dinitrotoluene	101	101	57 - 122	1	31		
Diethyl phthalate	107	105	64 - 129	2	26		
4-Chlorophenyl phenyl ether	106	105	65 - 130	2	60		
Fluorene	107	106	68 - 128	1	31		
4-Nitroaniline	138	139	70 - 150	0	60		
4,6-Dinitro-2-methylphenol	44	46	38 - 143	6	60	J	J
N-Nitrosodiphenylamine	110	107	88 - 153	4	60		
4-Bromophenyl phenyl ether	107	104	64 - 134	3	60		
Hexachlorobenzene	104	101	61 - 136	2	60		
Pentachlorophenol	119	111	29 - 124	8	68		
Phenanthrene	105	101	65 - 125	4	28		
Anthracene	111	108	73 - 123	3	27		
Di-n-butyl phthalate	105	100	69 - 124	5	60		
Fluoranthene	114	110	61 - 121	4	36		
Pyrene	114	109	54 - 134	5	31		
Butyl benzyl phthalate	124	120	65 - 140	3	60		
3,3'-Dichlorobenzidine	142	137	73 - 163	4	60		
Benzo[a]anthracene	110	107	64 - 124	3	27		
Chrysene	106	105	71 - 126	1	26		
Bis(2-ethylhexyl) phthalate	133	124	64 - 144	8	60	J	J

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-11301

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-3718-8	Analysis Batch:	580-11394	Instrument ID:	SEA040
Client Matrix:	Solid	Prep Batch:	580-11301	Lab File ID:	ak006330.D
Dilution:	1.0			Initial Weight/Volume:	10.4909 g
Date Analyzed:	09/29/2006 0223			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0847			Injection Volume:	

MSD Lab Sample ID:	580-3718-8	Analysis Batch:	580-11394	Instrument ID:	SEA040
Client Matrix:	Solid	Prep Batch:	580-11301	Lab File ID:	ak006331.D
Dilution:	1.0			Initial Weight/Volume:	10.5194 g
Date Analyzed:	09/29/2006 0247			Final Weight/Volume:	10 mL
Date Prepared:	09/28/2006 0847			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Di-n-octyl phthalate	127	122	58 - 148	4	31		
Benzofluoranthene	109	109	57 - 137	0	31		
Benzo[a]pyrene	105	103	68 - 128	2	30		
Indeno[1,2,3-cd]pyrene	111	103	59 - 139	8	29		
Dibenz(a,h)anthracene	110	103	57 - 142	6	30		
Benzo[g,h,i]perylene	106	99	57 - 142	7	28		
Carbazole	123	118	88 - 158	4	60		
1-Methylnaphthalene	107	104	48 - 148	3	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	108	105	36 - 145
Phenol-d5	108	103	38 - 149
Nitrobenzene-d5	103	98	38 - 141
2-Fluorobiphenyl	98	97	42 - 140
2,4,6-Tribromophenol	110	106	28 - 143
Terphenyl-d14	113	106	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11302

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-11302/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/29/2006 0325
Date Prepared: 09/28/2006 0900

Analysis Batch: 580-11419
Prep Batch: 580-11302
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP02385.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Benzo[a]anthracene	ND		1.7	5.0
Chrysene	ND		0.40	5.0
Benzofluoranthene	4.3	J	0.63	10
Benzo[a]pyrene	2.2	J	0.40	5.0
Indeno[1,2,3-cd]pyrene	0.71	J	0.25	5.0
Dibenz(a,h)anthracene	2.1	J	0.22	5.0
Benzo[g,h,i]perylene	2.3	J	0.24	5.0
Benzo[b]fluoranthene	2.4	J	0.25	5.0
Benzo[k]fluoranthene	2.2	J	0.28	5.0

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	133	38 - 141
2-Fluorobiphenyl	119	42 - 140
Terphenyl-d14	103	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11302

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-11302/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/29/2006 0326
Date Prepared: 09/28/2006 0900

Analysis Batch: 580-11419
Prep Batch: 580-11302
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP02385.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Benzo[a]anthracene	ND		1.7	5.0
Chrysene	ND		0.40	5.0
Benzofluoranthene	4.3	J	0.63	10
Benzo[a]pyrene	2.3	J	0.40	5.0
Indeno[1,2,3-cd]pyrene	1.6	J	0.25	5.0
Dibenz(a,h)anthracene	2.9	J	0.22	5.0
Benzo[g,h,i]perylene	0.85	J	0.24	5.0
Benzo[b]fluoranthene	2.5	J	0.25	5.0
Benzo[k]fluoranthene	1.9	J	0.28	5.0

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	133	38 - 141
2-Fluorobiphenyl	116	42 - 140
Terphenyl-d14	112	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11302

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-11302/2-A	Analysis Batch: 580-11419	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-11302	Lab File ID: HP02386.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	09/29/2006 0352		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0900		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-11302/3-A	Analysis Batch: 580-11419	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-11302	Lab File ID: HP02387.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	09/29/2006 0419		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0900		Injection Volume:

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzo[a]anthracene	97	101	64 - 124	4	27		
Chrysene	99	99	71 - 126	0	26		
Benzofluoranthene	98	102	57 - 137	4	31		
Benzo[a]pyrene	92	94	68 - 128	3	30		
Indeno[1,2,3-cd]pyrene	77	73	59 - 139	6	29		
Dibenz(a,h)anthracene	81	80	57 - 142	1	30		
Benzo[g,h,i]perylene	81	74	57 - 142	8	28		
Benzo[b]fluoranthene	95	100	66 - 136	5	31		
Benzo[k]fluoranthene	101	103	63 - 143	3	31		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	120	121	38 - 141
2-Fluorobiphenyl	102	100	42 - 140
Terphenyl-d14	96	99	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-11302

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-3718-8	Analysis Batch: 580-11419	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-11302	Lab File ID: HP02394.D
Dilution:	1.0		Initial Weight/Volume: 10.4909 g
Date Analyzed:	09/29/2006 0731		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0900		Injection Volume:

MSD Lab Sample ID:	580-3718-8	Analysis Batch: 580-11419	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-11302	Lab File ID: HP02395.D
Dilution:	1.0		Initial Weight/Volume: 10.5194 g
Date Analyzed:	09/29/2006 0758		Final Weight/Volume: 10 mL
Date Prepared:	09/28/2006 0900		Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzo[a]anthracene	103	105	64 - 124	2	27		
Chrysene	100	102	71 - 126	1	26		
Benzofluoranthene	96	103	57 - 137	7	31	B	B
Benzo[a]pyrene	95	103	68 - 128	7	30	B	B
Indeno[1,2,3-cd]pyrene	102	89	59 - 139	14	29	B	B
Dibenz(a,h)anthracene	99	89	57 - 142	12	30	B	B
Benzo[g,h,i]perylene	102	71	57 - 142	36	28	B	B F
Benzo[b]fluoranthene	96	105	66 - 136	8	31	B	B
Benzo[k]fluoranthene	95	102	63 - 143	6	31	B	B

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Nitrobenzene-d5	121	123	38 - 141
2-Fluorobiphenyl	101	96	42 - 140
Terphenyl-d14	99	80	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11336

Method: NWTPH-Gx
Preparation: 5035

Lab Sample ID: MB 580-11336/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1524
Date Prepared: 09/28/2006 1514

Analysis Batch: 580-11389
Prep Batch: 580-11336
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS167497.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Gasoline	ND		0.26	4.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	91	50 - 150
Ethylbenzene-d10	105	50 - 150
Fluorobenzene (Surr)	84	50 - 150
Toluene-d8 (Surr)	105	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11336

Method: NWTPH-Gx
Preparation: 5035

LCS Lab Sample ID: LCS 580-11336/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1547
Date Prepared: 09/28/2006 1514

Analysis Batch: 580-11389
Prep Batch: 580-11336
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS167498.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-11336/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1609
Date Prepared: 09/28/2006 1514

Analysis Batch: 580-11389
Prep Batch: 580-11336
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS167499.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	90	89	68 - 120	1	10		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	101	101	50 - 150
Trifluorotoluene (Surr)	92	92	50 - 150
Ethylbenzene-d10	105	105	50 - 150
Fluorobenzene (Surr)	93	93	50 - 150
Toluene-d8 (Surr)	100	100	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11401

Method: NWTPH-Gx
Preparation: 5030B

Lab Sample ID: MB 580-11401/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1235
Date Prepared: 09/28/2006 1235

Analysis Batch: 580-11401
Prep Batch: N/A
Units: mg/L

Instrument ID: SEA041
Lab File ID: GX0003038.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Gasoline	ND		0.0077	0.050

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	95	50 - 150
Ethylbenzene-d10	102	50 - 150
Fluorobenzene (Surr)	95	50 - 150
Toluene-d8 (Surr)	103	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11401

Method: NWTPH-Gx
Preparation: 5030B

LCS Lab Sample ID: LCS 580-11401/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1343
Date Prepared: 09/28/2006 1343

Analysis Batch: 580-11401
Prep Batch: N/A
Units: mg/L

Instrument ID: SEA041
Lab File ID: GX0003041.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-11401/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1405
Date Prepared: 09/28/2006 1405

Analysis Batch: 580-11401
Prep Batch: N/A
Units: mg/L

Instrument ID: SEA041
Lab File ID: GX0003042.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	93	91	79 - 110	2	8		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	104	50 - 150
Trifluorotoluene (Surr)	97	93	50 - 150
Ethylbenzene-d10	103	103	50 - 150
Fluorobenzene (Surr)	106	107	50 - 150
Toluene-d8 (Surr)	103	100	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11237

Method: 8082
Preparation: 3510C

Lab Sample ID: MB 580-11237/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1839
Date Prepared: 09/27/2006 0802

Analysis Batch: 580-11379
Prep Batch: 580-11237
Units: ug/L

Instrument ID: SEA034
Lab File ID: PCB3415.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	ND		0.050	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	113	32 - 134
DCB Decachlorobiphenyl	79	55 - 128

Method Blank - Batch: 580-11237

Method: 8082
Preparation: 3510C

Lab Sample ID: MB 580-11237/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1839
Date Prepared: 09/27/2006 0802

Analysis Batch: 580-11379
Prep Batch: 580-11237
Units: ug/L

Instrument ID: SEA034
Lab File ID: PCB3415.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: SECONDARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.080	0.10
PCB-1221	ND		0.080	0.10
PCB-1232	ND		0.080	0.10
PCB-1242	ND		0.080	0.10
PCB-1248	ND		0.080	0.10
PCB-1254	ND		0.050	0.10
PCB-1260	ND		0.050	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	108	32 - 134
DCB Decachlorobiphenyl	86	55 - 128

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11237

Method: 8082
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-11237/2-A	Analysis Batch: 580-11379	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-11237	Lab File ID: PCB3416.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	09/28/2006 1903		Final Weight/Volume: 10 mL
Date Prepared:	09/27/2006 0802		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-11237/3-A	Analysis Batch: 580-11379	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-11237	Lab File ID: PCB3417.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	09/28/2006 1927		Final Weight/Volume: 10 mL
Date Prepared:	09/27/2006 0802		Injection Volume:
			Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	115	121	44 - 127	5	27		
PCB-1260	108	116	53 - 130	7	22		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	118	124	32 - 134
DCB Decachlorobiphenyl	81	90	55 - 128

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11237

Method: 8082
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-11237/2-A	Analysis Batch: 580-11379	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-11237	Lab File ID: PCB3416.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	09/28/2006 1903		Final Weight/Volume: 10 mL
Date Prepared:	09/27/2006 0802		Injection Volume:
			Column ID: SECONDARY

LCSD Lab Sample ID:	LCSD 580-11237/3-A	Analysis Batch: 580-11379	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-11237	Lab File ID: PCB3417.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	09/28/2006 1927		Final Weight/Volume: 10 mL
Date Prepared:	09/27/2006 0802		Injection Volume:
			Column ID: SECONDARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	112	119	44 - 127	6	27		
PCB-1260	110	119	53 - 130	7	22		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	109	116	32 - 134
DCB Decachlorobiphenyl	88	97	55 - 128

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11268

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-11268/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/03/2006 0539
Date Prepared: 09/27/2006 1350

Analysis Batch: 580-11604
Prep Batch: 580-11268
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB3552.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.0058	0.010
PCB-1221	ND		0.0058	0.010
PCB-1232	ND		0.0058	0.010
PCB-1242	ND		0.0058	0.010
PCB-1248	ND		0.0058	0.010
PCB-1254	ND		0.0015	0.010
PCB-1260	ND		0.0015	0.010

Surrogate	% Rec		Acceptance Limits
Tetrachloro-m-xylene	125	X	60 - 123
DCB Decachlorobiphenyl	128	X	65 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11268

Method: 8082
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-11268/2-A	Analysis Batch: 580-11604	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-11268	Lab File ID: PCB3553.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	10/03/2006 0603		Final Weight/Volume: 10 mL
Date Prepared:	09/27/2006 1350		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-11268/3-A	Analysis Batch: 580-11604	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-11268	Lab File ID: PCB3554.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	10/03/2006 0627		Final Weight/Volume: 10 mL
Date Prepared:	09/27/2006 1350		Injection Volume:
			Column ID: PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	145	136	57 - 128	7	8	*	*
PCB-1260	137	131	65 - 132	5	8	*	

Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits
Tetrachloro-m-xylene	130	X	124	X	60 - 123
DCB Decachlorobiphenyl	131	X	129	X	65 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-11268

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	580-3718-8	Analysis Batch: 580-11604	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-11268	Lab File ID: PCB3565.D
Dilution:	1.0		Initial Weight/Volume: 10.1025 g
Date Analyzed:	10/03/2006 1048		Final Weight/Volume: 10 mL
Date Prepared:	09/27/2006 1350		Injection Volume:
			Column ID: PRIMARY
MSD Lab Sample ID:	580-3718-8	Analysis Batch: 580-11604	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-11268	Lab File ID: PCB3566.D
Dilution:	1.0		Initial Weight/Volume: 10.0502 g
Date Analyzed:	10/03/2006 1111		Final Weight/Volume: 10 mL
Date Prepared:	09/27/2006 1350		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	140	135	57 - 128	3	8	F	F
PCB-1260	116	114	65 - 132	1	8		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	120	115	60 - 123
DCB Decachlorobiphenyl	114	112	65 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11625

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-11625/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/05/2006 0014
Date Prepared: 10/04/2006 1449

Analysis Batch: 580-11666
Prep Batch: 580-11625
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB3654.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.0058	0.010
PCB-1221	ND		0.0058	0.010
PCB-1232	ND		0.0058	0.010
PCB-1242	ND		0.0058	0.010
PCB-1248	ND		0.0058	0.010
PCB-1254	ND		0.0015	0.010
PCB-1260	ND		0.0015	0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	101	60 - 123
DCB Decachlorobiphenyl	103	65 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11625

Method: 8082
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-11625/2-A	Analysis Batch: 580-11666	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-11625	Lab File ID: PCB3655.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	10/05/2006 0038		Final Weight/Volume: 10 mL
Date Prepared:	10/04/2006 1449		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-11625/3-A	Analysis Batch: 580-11666	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-11625	Lab File ID: PCB3656.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	10/05/2006 0101		Final Weight/Volume: 10 mL
Date Prepared:	10/04/2006 1449		Injection Volume:
			Column ID: PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	82	83	57 - 128	1	8		
PCB-1260	86	84	65 - 132	3	8		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	96	100	60 - 123
DCB Decachlorobiphenyl	110	103	65 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-11625

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	580-3718-4	Analysis Batch: 580-11666	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-11625	Lab File ID: PCB3679.D
Dilution:	1.0		Initial Weight/Volume: 10.4003 g
Date Analyzed:	10/05/2006 1231		Final Weight/Volume: 10 mL
Date Prepared:	10/04/2006 1449		Injection Volume:
			Column ID: PRIMARY
MSD Lab Sample ID:	580-3718-4	Analysis Batch: 580-11666	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-11625	Lab File ID: PCB3680.D
Dilution:	1.0		Initial Weight/Volume: 10.1162 g
Date Analyzed:	10/05/2006 1254		Final Weight/Volume: 10 mL
Date Prepared:	10/04/2006 1449		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	75	87	57 - 128	15	8		F
PCB-1260	69	77	65 - 132	30	8		F

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	77	97	60 - 123
DCB Decachlorobiphenyl	74	98	65 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11251

Method: NWTPH-Dx
Preparation: 3510C

Lab Sample ID: MB 580-11251/1-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1126
Date Prepared: 09/27/2006 1049

Analysis Batch: 580-11354
Prep Batch: 580-11251
Units: mg/L

Instrument ID: SEA016
Lab File ID: EP19668.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 5 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Motor Oil (>C24-C36)	ND		0.060	0.50
#2 Diesel (C10-C24)	ND		0.032	0.25

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	107	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11251

Method: NWTPH-Dx
Preparation: 3510C

LCS Lab Sample ID: LCS 580-11251/2-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1148
Date Prepared: 09/27/2006 1049

Analysis Batch: 580-11354
Prep Batch: 580-11251
Units: mg/L

Instrument ID: SEA016
Lab File ID: EP19669.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 5 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-11251/3-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1214
Date Prepared: 09/27/2006 1049

Analysis Batch: 580-11354
Prep Batch: 580-11251
Units: mg/L

Instrument ID: SEA016
Lab File ID: EP19670.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 5 mL
Injection Volume:

		% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Motor Oil (>C24-C36)	139	129	70 - 130	7	30	*	
#2 Diesel (C10-C24)	114	107	70 - 130	7	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	126	114	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11267

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-11267/1-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 0955
Date Prepared: 09/27/2006 1223

Analysis Batch: 580-11356
Prep Batch: 580-11267
Units: mg/Kg

Instrument ID: SEA015
Lab File ID: PL13965.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Motor Oil (>C24-C36)	ND		6.0	50
#2 Diesel (C10-C24)	ND		6.0	25

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	84	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11267

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID: LCS 580-11267/2-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1015
Date Prepared: 09/27/2006 1223

Analysis Batch: 580-11356
Prep Batch: 580-11267
Units: mg/Kg

Instrument ID: SEA015
Lab File ID: PL13966.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-11267/3-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1040
Date Prepared: 09/27/2006 1223

Analysis Batch: 580-11356
Prep Batch: 580-11267
Units: mg/Kg

Instrument ID: SEA015
Lab File ID: PL13967.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Motor Oil (>C24-C36)	87	80	70 - 125	8	17		
#2 Diesel (C10-C24)	78	76	64 - 127	2	16		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	84	78	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11367

Method: 6010B
Preparation: 3005A
Total Recoverable

Lab Sample ID: MB 580-11367/12-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/29/2006 1654
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11434
Prep Batch: 580-11367
Units: mg/L

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Barium	0.00033	J	0.00016	0.0050
Chromium	ND		0.00063	0.010
Selenium	ND		0.0044	0.050
Silver	ND		0.00083	0.010

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11367

Method: 6010B
Preparation: 3005A
Total Recoverable

LCS Lab Sample ID: LCS 580-11367/13-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/29/2006 1719
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11434
Prep Batch: 580-11367
Units: mg/L

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-11367/14-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/29/2006 1723
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11434
Prep Batch: 580-11367
Units: mg/L

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Barium	100	102	80 - 120	2	20		
Chromium	101	103	80 - 120	2	20		
Selenium	100	101	80 - 120	1	20		
Silver	96	98	80 - 120	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-11367

Method: 6010B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	580-3718-3	Analysis Batch: 580-11434	Instrument ID: SEA027
Client Matrix:	Water	Prep Batch: 580-11367	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 50 mL
Date Analyzed:	09/29/2006 1705		Final Weight/Volume: 50 mL
Date Prepared:	10/29/2006 0913		

MSD Lab Sample ID:	580-3718-3	Analysis Batch: 580-11434	Instrument ID: SEA027
Client Matrix:	Water	Prep Batch: 580-11367	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 50 mL
Date Analyzed:	09/29/2006 1709		Final Weight/Volume: 50 mL
Date Prepared:	10/29/2006 0913		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Barium	104	102	75 - 125	1	20		
Chromium	105	103	75 - 125	2	20		
Selenium	103	101	75 - 125	2	20		
Silver	100	99	75 - 125	1	20		

Duplicate - Batch: 580-11367

Method: 6010B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	580-3718-3	Analysis Batch: 580-11434	Instrument ID: SEA027
Client Matrix:	Water	Prep Batch: 580-11367	Lab File ID: N/A
Dilution:	1.0	Units: mg/L	Initial Weight/Volume: 50 mL
Date Analyzed:	09/29/2006 1702		Final Weight/Volume: 50 mL
Date Prepared:	10/29/2006 0913		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Barium	0.0412	0.0419	2	20	
Chromium	0.000143	0.000267	NC	20	
Selenium	-0.0342	-0.0367	NC	20	
Silver	0.0000554	0.000117	NC	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11375

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-11375/19-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/29/2006 1834
Date Prepared: 09/29/2006 1006

Analysis Batch: 580-11614
Prep Batch: 580-11375
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Barium	ND		0.0056	0.25
Chromium	ND		0.011	0.50
Selenium	ND		0.21	2.5
Silver	ND		0.015	0.50

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11375

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-11375/20-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/29/2006 1859
Date Prepared: 09/29/2006 1006

Analysis Batch: 580-11614
Prep Batch: 580-11375
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-11375/21-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/29/2006 1902
Date Prepared: 09/29/2006 1006

Analysis Batch: 580-11614
Prep Batch: 580-11375
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Barium	101	98	80 - 120	3	35		
Chromium	101	98	80 - 120	3	35		
Selenium	97	92	80 - 120	5	35		
Silver	95	92	80 - 120	3	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11367

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: MB 580-11367/12-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/29/2006 1203
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11443
Prep Batch: 580-11367
Units: mg/L

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Lead	0.000052	J	0.0000031	0.00040
Arsenic	ND		0.000073	0.00040
Cadmium	ND		0.0000074	0.00040

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11367

Method: 6020
Preparation: 3005A
Total Recoverable

LCS Lab Sample ID: LCS 580-11367/13-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 09/29/2006 1231
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11443
Prep Batch: 580-11367
Units: mg/L

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-11367/14-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 09/29/2006 1235
Date Prepared: 10/29/2006 0913

Analysis Batch: 580-11443
Prep Batch: 580-11367
Units: mg/L

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	96	96	80 - 120	0	20		
Lead	99	99	80 - 120	0	20		
Cadmium	100	93	80 - 120	7	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-11367

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	580-3718-3	Analysis Batch: 580-11443	Instrument ID: SEA026
Client Matrix:	Water	Prep Batch: 580-11367	Lab File ID: N/A
Dilution:	50		Initial Weight/Volume: 50 mL
Date Analyzed:	09/29/2006 1219		Final Weight/Volume: 50 mL
Date Prepared:	10/29/2006 0913		

MSD Lab Sample ID:	580-3718-3	Analysis Batch: 580-11443	Instrument ID: SEA026
Client Matrix:	Water	Prep Batch: 580-11367	Lab File ID: N/A
Dilution:	50		Initial Weight/Volume: 50 mL
Date Analyzed:	09/29/2006 1223		Final Weight/Volume: 50 mL
Date Prepared:	10/29/2006 0913		

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	96	96	75 - 125	1	20		
Lead	101	98	75 - 125	3	20	B	B
Cadmium	96	92	75 - 125	4	20		

Duplicate - Batch: 580-11367

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	580-3718-3	Analysis Batch: 580-11443	Instrument ID: SEA026
Client Matrix:	Water	Prep Batch: 580-11367	Lab File ID: N/A
Dilution:	5.0	Units: mg/L	Initial Weight/Volume: 50 mL
Date Analyzed:	09/29/2006 1215		Final Weight/Volume: 50 mL
Date Prepared:	10/29/2006 0913		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	0.000165	0.000260	NC	20	
Lead	0.0000800 J	0.0000650	21	20	J B
Cadmium	0.00000500	0.0000100	NC	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11375

Method: 6020
Preparation: 3050B

Lab Sample ID: MB 580-11375/19-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/29/2006 1434
Date Prepared: 09/29/2006 1006

Analysis Batch: 580-11444
Prep Batch: 580-11375
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Lead	0.0025	J	0.00017	0.020
Arsenic	ND		0.0036	0.020
Cadmium	ND		0.00040	0.020

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11375

Method: 6020
Preparation: 3050B

LCS Lab Sample ID: LCS 580-11375/20-A
Client Matrix: Solid
Dilution: 50
Date Analyzed: 09/29/2006 1506
Date Prepared: 09/29/2006 1006

Analysis Batch: 580-11444
Prep Batch: 580-11375
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-11375/21-A
Client Matrix: Solid
Dilution: 50
Date Analyzed: 09/29/2006 1510
Date Prepared: 09/29/2006 1006

Analysis Batch: 580-11444
Prep Batch: 580-11375
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	94	94	80 - 120	0	35		
Lead	98	97	80 - 120	1	35		
Cadmium	98	90	80 - 120	8	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11309

Method: 7470A
Preparation: 7470A

Lab Sample ID: MB 580-11309/11-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1535
Date Prepared: 09/28/2006 0948

Analysis Batch: 580-11347
Prep Batch: 580-11309
Units: mg/L

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Mercury	ND		0.000055	0.00020

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11309

Method: 7470A
Preparation: 7470A

LCS Lab Sample ID: LCS 580-11309/12-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1544
Date Prepared: 09/28/2006 0948

Analysis Batch: 580-11347
Prep Batch: 580-11309
Units: mg/L

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-11309/13-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/28/2006 1549
Date Prepared: 09/28/2006 0948

Analysis Batch: 580-11347
Prep Batch: 580-11309
Units: mg/L

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Mercury	99	99	75 - 125	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-11309

Method: 7470A
Preparation: 7470A

MS Lab Sample ID:	580-3718-3	Analysis Batch:	580-11347	Instrument ID:	SEA029
Client Matrix:	Water	Prep Batch:	580-11309	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	09/28/2006 1441			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0948				

MSD Lab Sample ID:	580-3718-3	Analysis Batch:	580-11347	Instrument ID:	SEA029
Client Matrix:	Water	Prep Batch:	580-11309	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	09/28/2006 1447			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0948				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	92	95	75 - 125	3	20		

Duplicate - Batch: 580-11309

Method: 7470A
Preparation: 7470A

Lab Sample ID:	580-3718-3	Analysis Batch:	580-11347	Instrument ID:	SEA029
Client Matrix:	Water	Prep Batch:	580-11309	Lab File ID:	N/A
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	50 mL
Date Analyzed:	09/28/2006 1436			Final Weight/Volume:	50 mL
Date Prepared:	09/28/2006 0948				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.000135	J	-0.000154	NC	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-3718-1

Method Blank - Batch: 580-11295

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 580-11295/20-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1202
Date Prepared: 09/28/2006 0826

Analysis Batch: 580-11346
Prep Batch: 580-11295
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Mercury	ND		0.0090	0.020

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-11295

Method: 7471A
Preparation: 7471A

LCS Lab Sample ID: LCS 580-11295/21-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1104
Date Prepared: 09/28/2006 0826

Analysis Batch: 580-11346
Prep Batch: 580-11295
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-11295/22-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2006 1109
Date Prepared: 09/28/2006 0826

Analysis Batch: 580-11346
Prep Batch: 580-11295
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Mercury	109	105	75 - 125	3	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-3718-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate exceeds the control limits
GC VOA		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate exceeds the control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
Metals		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GEI	KEVIN BROOM	9-25-06	22108
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
	253-383-4940	3718	
City / State / Zip Code	Site Contact	Lab Contact	Analysis (Attach list if more space is needed)
TACOMA	ALEX FLINK		
Project Name and Location (State)	Carrier/Waybill Number		
RANTS GROUP WA			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	MeOH	NWTPH-Dx	NWTPH-Gx	VOCs	MTCA Metals	SVOCs	CPAHs	PCBs	HOLD
1 DP04-060925-010	9-25-06	945				X	1						1								
2 DP04-060925-040		950				X	1						1								
3 DP04-060925-W		1000		X			3		1	7											
4 DP03-060925-010		1050				X	1						1								
5 DP02-060925-010		1200				X	1						1								
6 DP01-060925-010		1245				X	1						1								
7 DP01-060925-W		115		X			3		1	7											
8 DP09-060925-010		240				X	1						1								
9 DP09-060925-W		245		X			3		1	7											
10 DP05-060925-015		345				X	1						1								

Special Instructions/ Conditions of Receipt

(1) ALL NWTPH-DX WITH SILICA GEL CLEANUP

Page 239 of 244

Cooler	Possible Hazard Identification	Sample Disposal	(A fee may be assessed if samples are retained longer than 1 month)
☒ Yes ☐ No Cooler Temp: ____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown	☐ Return To Client ☒ Archive For 1 Months	☐ Disposal By Lab

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☒ 5 Days ~~☐ 10 Days~~ (K7) ☐ 15 Days ☐ Other ____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Kevin Broom	9/26/06	0840	R Thomas	9-26-06	9:35
2.						
3.						

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GEO ENGINEERS	KEVIN BROOM	9-26-06	22109
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of
	253-383-4940	3718	
City / State / Zip Code	Site Contact	Lab Contact	
TACOMA / WA	ALEX FLINK		
Project Name and Location (State)	Carrier/Waybill Number		
RANTS GROUP OLYMPIA, WA			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	METHANOL	Analysis: NWTPH-Dx ①	NWTPH-Gx	VOC's	SVOC's	METAL METALS	CPAH's	PCB's	H2O
11 DP06-060926-030	9-26	900				X	1						1	X	X	X	X	X	X	X	
12 DP10-060926-020		1010				X	1						1	X	X	X	X	X	X	X	
13 DP10-060926-W		1030		X			3		1	7				X	X	X	X	X	X	X	
14 DP10-060926-WDUP		1035		X			3		1	7				X	X	X	X	X	X	X	
15 DP07-060926-045		1120				X	1						1	X	X	X	X	X	X	X	
16 DP07-060926-045DUP		1125				X	1						1	X	X	X	X	X	X	X	
17 DP08-060926-010		115				X	1						1	X	X	X	X	X	X	X	
~~18 DP08-060926-DUP~~		~~1130~~				~~X~~								~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
18 DP07-060926-W		1145																			

Special Instructions/ Conditions of Receipt

① ALL NWTPH-Dx WITH SILICA GEL CLEAN UP

Added KR 9/29/06

Cooler	Possible Hazard Identification	Sample Disposal	(A fee may be assessed if samples are retained longer than 1 month)
☒ Yes ☐ No Cooler Temp:_____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown	☐ Return To Client ☒ Archive For 1 Months	☐ Disposal By Lab

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☒ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.		9-26-06	508PM	K Hasle ✓	9/26/06	508
2.						
3.						

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

LOGIN SAMPLE RECEIPT CHECK LIST

Client: GeoEngineers Inc

Job Number: 580-3718-1

Login Number: 3718

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

ANALYTICAL REPORT

Job Number: 580-3718-2

Job Description: Rants Group-0415-052-01

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Mgmt. Assistant
hcurbow@stl-inc.com
10/23/2006
Revision: 1

Project Manager: Heather Curbow

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EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-3718-2

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-3718-2	**DP04-060925-040**					
Hexavalent chromium		0.12	J B	0.26	mg/Kg	6010B

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-3718-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-3718-2	DP04-060925-040	Solid	09/25/2006 0950	09/26/2006 1139

Client: GeoEngineers Inc

Job Number: 580-3718-2

Client Sample ID: DP04-060925-040

Lab Sample ID:	580-3718-2		Date Sampled: 09/25/2006 0950
Client Matrix:	Solid	% Moisture: 27.3	Date Received: 09/26/2006 1139

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-12170		Instrument ID:	SEA027
Preparation:	7195	Prep Batch: 580-12131		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	5.1970 g
Date Analyzed:	10/20/2006 1453			Final Weight/Volume:	50 mL
Date Prepared:	10/19/2006 1441				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Hexavalent chromium		0.12	J B	0.0028	0.26

Client: GeoEngineers Inc

Job Number: 580-3718-2

Method Blank - Batch: 580-12131

Method: 6010B
Preparation: 7195

Lab Sample ID: MB 580-12131/9-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/20/2006 1435
Date Prepared: 10/19/2006 1441

Analysis Batch: 580-12170
Prep Batch: 580-12131
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Hexavalent chromium	0.0055	J	0.0021	0.20

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-12131

Method: 6010B
Preparation: 7195

LCS Lab Sample ID: LCS 580-12131/10-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/20/2006 1437
Date Prepared: 10/19/2006 1441

Analysis Batch: 580-12170
Prep Batch: 580-12131
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-12131/11-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/20/2006 1440
Date Prepared: 10/19/2006 1441

Analysis Batch: 580-12170
Prep Batch: 580-12131
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Hexavalent chromium	89	86	80 - 120	2	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-3718-2

Lab Section	Qualifier	Description
Metals		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GEI	KEVIN BROOM	9-25-06	22108
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
	253-383-4940	3718	
City / State / Zip Code	Site Contact	Lab Contact	Analysis (Attach list if more space is needed)
TACOMA	ALEX FLINK		
Project Name and Location (State)	Carrier/Waybill Number		
RANTS GROUP WA			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	MeOH	(1) NWTPH-Dx	NWTPH-Gx	VOCs	MTCA Metals	SVOCs	CPAHs	PCBs	HOLD	Special Instructions/ Conditions of Receipt
1 DP04-060925-010	9-25-06	945				X	1						1									(1) ALL NWTPH-Dx WITH SILICA GEL CLEANUP
2 DP04-060925-040		950				X	1						1									
3 DP04-060925-W		1000		X			3		1	7												
4 ~~B668~~ DP03-060925-010		1050				X	1						1									
5 DP02-060925-010		1200				X	1						1									
6 DP01-060925-010		1245				X	1						1									
7 DP01-060925-W		115		X			3		1	7												
8 DP09-060925-010		240				X	1						1									
9 DP09-060925-W		245		X			3		1	7												
10 DP05-060925-015		345				X	1						1									

Cooler: [X] Yes [ ] No Cooler Temp: _____

Possible Hazard Identification: [ ] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [X] Unknown

Sample Disposal: [ ] Return To Client [ ] Disposal By Lab [X] Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): [ ] 24 Hours [ ] 48 Hours [X] 5 Days [ ] ~~10~~ 7 Days [ ] 15 Days [ ] Other _____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Kevin Broom	9/26/06	0840		9-26-06	9:35
2.						
3.						

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GEO ENGINEERS	KEVIN BROOM	9-26-06	22109
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of
	253-383-4940	3718	
City TACOMA	**State** WA	**Zip Code**	**Site Contact** ALEX FLINK	**Lab Contact**
Project Name and Location (State) RANTS GROUP OLYMPIA, WA	**Carrier/Waybill Number**	
Contract/Purchase Order/Quote No.	

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	METHANOL	Analysis (Attach list if more space is needed): NWTPH-Dx ①	NWTPH-Gx	VOC's	SVOC's	METALS METHOD	CPAH's	PCB's	HOLD	Special Instructions/ Conditions of Receipt
11 DP06-060926-030	9-26	900				X	1						1									① ALL NWTPH-Dx WERE SILICA GEL CLEAN UP
12 DP10-060926-020		1010				X	1						1									
13 DP10-060926-W		1030		X			3		1	7												
14 DP10-060926-WDUP		1035		X			3		1	7												
15 DP07-060926-045		1120				X	1						1									
16 DP07-060926-045DUP		1125				X	1						1									
17 DP08-060926-010		115				X	1						1									
~~DP08-060926-DUP~~	~~9-26~~	~~1130~~				~~X~~																
18 DP07-060926-W		1145																				Added KR 9/29/06

Cooler	Possible Hazard Identification	Sample Disposal	(A fee may be assessed if samples are retained longer than 1 month)
☒ Yes ☐ No Cooler Temp:_____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown	☐ Return To Client ☒ Archive For 1 Months	

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☒ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	9-26-06	508PM	1. Received By	9/26/06	508
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

LOGIN SAMPLE RECEIPT CHECK LIST

Client: GeoEngineers Inc

Job Number: 580-3718-2

Login Number: 3718

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

ANALYTICAL REPORT

Job Number: 580-4641-1

Job Description: Port of Olympia – HOCM: 0615-033-00

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
hcurbow@stl-inc.com
01/23/2007

Project Manager: Heather Curbow

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Case Narrative for job: 580-J4641-1

Client: GeoEngineers Inc
Date: 01/23/2007

5035/8260B:
Several analytes were outside QC limits in either the LCS and or LCSD. The individual response of each analyte is influenced by the increased methanol (necessary to obtain requied RL of soil extracts) as indicated by acceptable recoveries in the water LCS/LCSD which is prepared identcally, less the methanol. Minimal outliers are expected in full volatile list analyses. No further action taken.

The relative percent difference (RPD) for Dichlorobromomethane between the LCS and the LCSD associated with batch 580-14661 exceeded the QC acceptance limits. The recovery of this compound in both the LCS and LCSD was within quality control limits. No further action was taken on this outlier.

[redacted]
The recovery of several analytes exceeded quality control limits in the LCS and LCSD. Minimal outliers are expected in full volatile list analyses. The method blank and surrogate recoveries were within control limits. No further action was taken on this outlier.

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-2	**MW2-070102-020**					
Naphthalene		61	J	120	ug/Kg	8260B
Naphthalene		3.0		2.2	ug/Kg	8270C
Acenaphthylene		2.9		2.2	ug/Kg	8270C
Acenaphthene		2.2		2.2	ug/Kg	8270C
Pentachlorophenol		13		11	ug/Kg	8270C
Phenanthrene		21		2.2	ug/Kg	8270C
Anthracene		6.7		2.2	ug/Kg	8270C
Fluoranthene		37		2.2	ug/Kg	8270C
Pyrene		41		2.2	ug/Kg	8270C
Butyl benzyl phthalate		23		11	ug/Kg	8270C
Benzo[a]anthracene		21		2.7	ug/Kg	8270C
Chrysene		29		2.7	ug/Kg	8270C
Benzofluoranthene		47		4.4	ug/Kg	8270C
Benzo[a]pyrene		25		3.3	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		21		4.4	ug/Kg	8270C
Benzo[g,h,i]perylene		20		2.7	ug/Kg	8270C
Benzo[b]fluoranthene		36		2.2	ug/Kg	8270C
Benzo[k]fluoranthene		12		2.7	ug/Kg	8270C
Gasoline		2.5	J B	12	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		68		53	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		11	J B	26	mg/Kg	NWTPH-Dx
Barium		42	B	0.27	mg/Kg	6010B
Chromium		16		0.55	mg/Kg	6010B
Lead		8.8		0.82	mg/Kg	6010B
Selenium		0.68	J B	2.7	mg/Kg	6010B
Arsenic		3.1		0.22	mg/Kg	6020
Mercury		0.028		0.019	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-5	**MW2-070102-080**					
Phenanthrene		2.5		2.2	ug/Kg	8270C
Fluoranthene		5.0		2.2	ug/Kg	8270C
Pyrene		6.1		2.2	ug/Kg	8270C
Benzo[a]anthracene		2.9		2.7	ug/Kg	8270C
Chrysene		5.2		2.7	ug/Kg	8270C
Benzofluoranthene		11		4.3	ug/Kg	8270C
Benzo[a]pyrene		6.3		3.3	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		7.3		4.3	ug/Kg	8270C
Benzo[g,h,i]perylene		6.2		2.7	ug/Kg	8270C
Benzo[b]fluoranthene		8.7		2.2	ug/Kg	8270C
Gasoline		9.8	B	8.7	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		28	J	53	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		10	J B	26	mg/Kg	NWTPH-Dx
Barium		97	B	0.25	mg/Kg	6010B
Chromium		16		0.51	mg/Kg	6010B
Lead		7.0		0.76	mg/Kg	6010B
Selenium		2.1	J B	2.5	mg/Kg	6010B
Arsenic		3.6		0.20	mg/Kg	6020

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-6	**DP12-070102-000**					
Naphthalene		22	J	41	ug/Kg	8260B
Naphthalene		22		2.1	ug/Kg	8270C
2-Methylnaphthalene		49		2.1	ug/Kg	8270C
Acenaphthylene		9.7		2.1	ug/Kg	8270C
Acenaphthene		2.4		2.1	ug/Kg	8270C
Fluorene		5.2		2.1	ug/Kg	8270C
Pentachlorophenol		26		10	ug/Kg	8270C
Phenanthrene		55		2.1	ug/Kg	8270C
Anthracene		12		2.1	ug/Kg	8270C
Fluoranthene		50		2.1	ug/Kg	8270C
Pyrene		65		2.1	ug/Kg	8270C
Benzo[a]anthracene		24		2.6	ug/Kg	8270C
Chrysene		32		2.6	ug/Kg	8270C
Benzofluoranthene		40		4.2	ug/Kg	8270C
Benzo[a]pyrene		30		3.1	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		25		4.2	ug/Kg	8270C
Dibenz(a,h)anthracene		11		4.2	ug/Kg	8270C
Benzo[g,h,i]perylene		43		2.6	ug/Kg	8270C
1-Methylnaphthalene		18		3.1	ug/Kg	8270C
Benzo[b]fluoranthene		42		2.1	ug/Kg	8270C
Benzo[k]fluoranthene		13		2.6	ug/Kg	8270C
Gasoline		0.92	J B	4.1	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		290		51	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		43	B	25	mg/Kg	NWTPH-Dx
Barium		70	B	0.26	mg/Kg	6010B
Chromium		24		0.53	mg/Kg	6010B
Lead		17		0.79	mg/Kg	6010B
Selenium		2.1	J B	2.6	mg/Kg	6010B
Arsenic		4.1		0.21	mg/Kg	6020
Mercury		0.016		0.015	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-8	**DP12-070102-080**					
Phenanthrene		3.5		2.8	ug/Kg	8270C
Fluoranthene		8.0		2.8	ug/Kg	8270C
Pyrene		8.3		2.8	ug/Kg	8270C
Benzo[a]anthracene		4.7		3.5	ug/Kg	8270C
Chrysene		4.2		3.5	ug/Kg	8270C
Benzofluoranthene		6.2		5.6	ug/Kg	8270C
Benzo[a]pyrene		6.1		4.2	ug/Kg	8270C
Benzo[g,h,i]perylene		5.5		3.5	ug/Kg	8270C
Benzo[b]fluoranthene		4.4		2.8	ug/Kg	8270C
Gasoline		1.0	J B	5.1	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		69	J	72	mg/Kg	NWTPH-Dx
Barium		33	B	0.34	mg/Kg	6010B
Chromium		36		0.69	mg/Kg	6010B
Lead		17		1.0	mg/Kg	6010B
Selenium		0.99	J B	3.4	mg/Kg	6010B
Arsenic		4.1		0.28	mg/Kg	6020
Mercury		0.021	J	0.027	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-9	**DP11-070102-000**					
Benzene		6.4	J	10	ug/Kg	8260B
Toluene		17	J	51	ug/Kg	8260B
Naphthalene		64		51	ug/Kg	8260B
Naphthalene		210		2.2	ug/Kg	8270C
2-Methylnaphthalene		150		2.2	ug/Kg	8270C
Acenaphthylene		68		2.2	ug/Kg	8270C
Acenaphthene		140		2.2	ug/Kg	8270C
Dibenzofuran		39		11	ug/Kg	8270C
Fluorene		240		2.2	ug/Kg	8270C
Pentachlorophenol		36		11	ug/Kg	8270C
Phenanthrene		1600		22	ug/Kg	8270C
Anthracene		400		22	ug/Kg	8270C
Fluoranthene		1300		22	ug/Kg	8270C
Pyrene		1700		22	ug/Kg	8270C
Benzo[a]anthracene		740		27	ug/Kg	8270C
Chrysene		750		27	ug/Kg	8270C
Benzofluoranthene		910		44	ug/Kg	8270C
Benzo[a]pyrene		780		33	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		460		44	ug/Kg	8270C
Dibenz(a,h)anthracene		67		4.4	ug/Kg	8270C
Benzo[g,h,i]perylene		440		27	ug/Kg	8270C
Carbazole		69		16	ug/Kg	8270C
1-Methylnaphthalene		99		3.3	ug/Kg	8270C
Benzo[b]fluoranthene		710		22	ug/Kg	8270C
Benzo[k]fluoranthene		220		2.7	ug/Kg	8270C
Gasoline		7.6	B	5.1	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		160		55	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		51	B	28	mg/Kg	NWTPH-Dx
Barium		56	B	0.25	mg/Kg	6010B
Chromium		19		0.50	mg/Kg	6010B
Lead		8.2		0.75	mg/Kg	6010B
Selenium		1.2	J B	2.5	mg/Kg	6010B
Arsenic		2.8		0.20	mg/Kg	6020

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-13	**DP11-070102-080**					
1,3,5-Trimethylbenzene		130	J	330	ug/Kg	8260B
1,2,4-Trimethylbenzene		160	J	330	ug/Kg	8260B
4-Isopropyltoluene		720		330	ug/Kg	8260B
Naphthalene		260	J	330	ug/Kg	8260B
3 & 4 Methylphenol		160		110	ug/Kg	8270C
Naphthalene		130		11	ug/Kg	8270C
2-Methylnaphthalene		89		11	ug/Kg	8270C
Acenaphthylene		33		11	ug/Kg	8270C
Fluorene		27		11	ug/Kg	8270C
Pentachlorophenol		120		53	ug/Kg	8270C
Phenanthrene		240		11	ug/Kg	8270C
Anthracene		31		11	ug/Kg	8270C
Di-n-butyl phthalate		200		110	ug/Kg	8270C
Fluoranthene		230		11	ug/Kg	8270C
Pyrene		230		11	ug/Kg	8270C
Benzo[a]anthracene		110		13	ug/Kg	8270C
Chrysene		170		13	ug/Kg	8270C
Benzofluoranthene		230		21	ug/Kg	8270C
Benzo[a]pyrene		120		16	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		100		21	ug/Kg	8270C
Benzo[g,h,i]perylene		110		13	ug/Kg	8270C
1-Methylnaphthalene		48		16	ug/Kg	8270C
Benzo[b]fluoranthene		240		11	ug/Kg	8270C
Benzo[k]fluoranthene		54		13	ug/Kg	8270C
Gasoline		13	J B	33	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		1000		250	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		220	B	130	mg/Kg	NWTPH-Dx
Barium		97	B	1.2	mg/Kg	6010B
Chromium		8.8		2.4	mg/Kg	6010B
Lead		2500		3.7	mg/Kg	6010B
Selenium		4.0	J B	12	mg/Kg	6010B
Silver		0.66	J	2.4	mg/Kg	6010B
Arsenic		14		0.98	mg/Kg	6020

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-14	**MW4-070102-020**					
Toluene		43	J	61	ug/Kg	8260B
1,3,5-Trimethylbenzene		27	J	61	ug/Kg	8260B
1,2,4-Trimethylbenzene		28	J	61	ug/Kg	8260B
4-Isopropyltoluene		31	J	61	ug/Kg	8260B
Naphthalene		34	J	61	ug/Kg	8260B
Naphthalene		39		2.4	ug/Kg	8270C
4-Chloroaniline		18		12	ug/Kg	8270C
2-Methylnaphthalene		8.0		2.4	ug/Kg	8270C
Acenaphthylene		18		2.4	ug/Kg	8270C
Acenaphthene		5.0		2.4	ug/Kg	8270C
Diethyl phthalate		16		12	ug/Kg	8270C
Fluorene		10		2.4	ug/Kg	8270C
Phenanthrene		98		2.4	ug/Kg	8270C
Anthracene		16		2.4	ug/Kg	8270C
Di-n-butyl phthalate		340		120	ug/Kg	8270C
Fluoranthene		130		2.4	ug/Kg	8270C
Pyrene		140		2.4	ug/Kg	8270C
Butyl benzyl phthalate		65		12	ug/Kg	8270C
Benzo[a]anthracene		53		3.0	ug/Kg	8270C
Chrysene		57		3.0	ug/Kg	8270C
Bis(2-ethylhexyl) phthalate		530000		450000	ug/Kg	8270C
Benzofluoranthene		170		4.8	ug/Kg	8270C
Benzo[a]pyrene		82		3.6	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		66		4.8	ug/Kg	8270C
Benzo[g,h,i]perylene		56		3.0	ug/Kg	8270C
1-Methylnaphthalene		4.7		3.6	ug/Kg	8270C
Benzo[b]fluoranthene		98		2.4	ug/Kg	8270C
Benzo[k]fluoranthene		37		3.0	ug/Kg	8270C
Gasoline		3.0	J B	6.1	mg/Kg	NWTPH-Gx
PCB-1260		0.058	J	0.12	mg/Kg	8082
Motor Oil (>C24-C36)		730		61	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		110	B	31	mg/Kg	NWTPH-Dx
Barium		57	B	0.30	mg/Kg	6010B
Cadmium		0.12	J	0.30	mg/Kg	6010B
Chromium		18		0.60	mg/Kg	6010B
Lead		85		0.90	mg/Kg	6010B
Selenium		1.7	J B	3.0	mg/Kg	6010B
Arsenic		3.4		0.24	mg/Kg	6020
Mercury		0.032		0.018	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-20	**MW4-070102-140**					
4-Isopropyltoluene		37	J	56	ug/Kg	8260B
3 & 4 Methylphenol		46		25	ug/Kg	8270C
Gasoline		0.73	J B	5.6	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		15	J	58	mg/Kg	NWTPH-Dx
Barium		9.6	B	0.28	mg/Kg	6010B
Chromium		15		0.56	mg/Kg	6010B
Lead		1.8		0.84	mg/Kg	6010B
Selenium		1.6	J B	2.8	mg/Kg	6010B
Arsenic		2.4		0.22	mg/Kg	6020
580-4641-22	**MW1-070102-040**					
Phenanthrene		4.6		2.0	ug/Kg	8270C
Fluoranthene		7.6		2.0	ug/Kg	8270C
Pyrene		9.5		2.0	ug/Kg	8270C
Benzo[a]anthracene		3.9		2.6	ug/Kg	8270C
Chrysene		4.9		2.6	ug/Kg	8270C
Benzofluoranthene		8.3		4.1	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		4.8		4.1	ug/Kg	8270C
Benzo[g,h,i]perylene		4.4		2.6	ug/Kg	8270C
Benzo[b]fluoranthene		8.5		2.0	ug/Kg	8270C
Benzo[k]fluoranthene		6.0		2.6	ug/Kg	8270C
Motor Oil (>C24-C36)		7.1	J	50	mg/Kg	NWTPH-Dx
Barium		59	B	0.24	mg/Kg	6010B
Chromium		18		0.48	mg/Kg	6010B
Lead		2.7		0.73	mg/Kg	6010B
Selenium		1.8	J B	2.4	mg/Kg	6010B
Arsenic		1.9		0.19	mg/Kg	6020
Mercury		0.016		0.015	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-24	**MW1-070102-100**					
4-Isopropyltoluene		29	J	56	ug/Kg	8260B
Phenanthrene		4.8		2.2	ug/Kg	8270C
Fluoranthene		7.9		2.2	ug/Kg	8270C
Pyrene		9.3		2.2	ug/Kg	8270C
Benzo[a]anthracene		3.9		2.8	ug/Kg	8270C
Chrysene		4.5		2.8	ug/Kg	8270C
Benzofluoranthene		6.7		4.5	ug/Kg	8270C
Benzo[a]pyrene		6.1		3.3	ug/Kg	8270C
Benzo[b]fluoranthene		5.3		2.2	ug/Kg	8270C
Barium		39	B	0.22	mg/Kg	6010B
Chromium		18		0.44	mg/Kg	6010B
Lead		4.2		0.66	mg/Kg	6010B
Selenium		1.5	J B	2.2	mg/Kg	6010B
Arsenic		2.0		0.18	mg/Kg	6020
580-4641-27	**MW3-070102-040**					
Acenaphthylene		3.5		2.1	ug/Kg	8270C
Phenanthrene		17		2.1	ug/Kg	8270C
Anthracene		4.0		2.1	ug/Kg	8270C
Fluoranthene		24		2.1	ug/Kg	8270C
Pyrene		28		2.1	ug/Kg	8270C
Benzo[a]anthracene		12		2.6	ug/Kg	8270C
Chrysene		11		2.6	ug/Kg	8270C
Benzofluoranthene		18		4.1	ug/Kg	8270C
Benzo[a]pyrene		14		3.1	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		8.1		4.1	ug/Kg	8270C
Benzo[g,h,i]perylene		6.2		2.6	ug/Kg	8270C
Benzo[b]fluoranthene		14		2.1	ug/Kg	8270C
Benzo[k]fluoranthene		4.5		2.6	ug/Kg	8270C
Motor Oil (>C24-C36)		22	J	53	mg/Kg	NWTPH-Dx
Barium		58	B	0.25	mg/Kg	6010B
Chromium		17		0.50	mg/Kg	6010B
Lead		1.8		0.75	mg/Kg	6010B
Selenium		1.4	J B	2.5	mg/Kg	6010B
Arsenic		1.8		0.20	mg/Kg	6020

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4641-28	**MW3-070102-080**					
Gasoline		1.3	J B	6.5	mg/Kg	NWTPH-Gx
Barium		49	B	0.27	mg/Kg	6010B
Chromium		19		0.55	mg/Kg	6010B
Lead		1.4		0.82	mg/Kg	6010B
Selenium		1.7	J B	2.7	mg/Kg	6010B
Arsenic		1.8		0.22	mg/Kg	6020
Mercury		0.018		0.014	mg/Kg	7471A

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-4641-2	MW2-070102-020	Solid	01/02/2007 0920	01/03/2007 1345
580-4641-5	MW2-070102-080	Solid	01/02/2007 0905	01/03/2007 1345
580-4641-6	DP12-070102-000	Solid	01/02/2007 1020	01/03/2007 1345
580-4641-8	DP12-070102-080	Solid	01/02/2007 1030	01/03/2007 1345
580-4641-9	DP11-070102-000	Solid	01/02/2007 1105	01/03/2007 1345
580-4641-13	DP11-070102-080	Solid	01/02/2007 1125	01/03/2007 1345
580-4641-14	MW4-070102-020	Solid	01/02/2007 1150	01/03/2007 1345
580-4641-20	MW4-070102-140	Solid	01/02/2007 1215	01/03/2007 1345
580-4641-22	MW1-070102-040	Solid	01/02/2007 1310	01/03/2007 1345
580-4641-24	MW1-070102-100	Solid	01/02/2007 1320	01/03/2007 1345
580-4641-27	MW3-070102-040	Solid	01/02/2007 1425	01/03/2007 1345
580-4641-28	MW3-070102-080	Solid	01/02/2007 1430	01/03/2007 1345

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-020**

Lab Sample ID: 580-4641-2 | Date Sampled: 01/02/2007 0920
Client Matrix: Solid | % Moisture: 11.2 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003553.D
Dilution: 1.0 | Initial Weight/Volume: 3.61 g
Date Analyzed: 01/09/2007 1444 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		17	120
Chloromethane		ND		23	120
Vinyl chloride		ND		16	50
Bromomethane		ND	*	87	620
Chloroethane		ND		90	620
Trichlorofluoromethane		ND		12	120
1,1-Dichloroethene		ND		17	50
Methylene Chloride		ND		19	120
trans-1,2-Dichloroethene		ND		13	120
1,1-Dichloroethane		ND		30	120
2,2-Dichloropropane		ND		15	120
cis-1,2-Dichloroethene		ND		19	120
Chlorobromomethane		ND		15	120
Chloroform		ND		12	120
1,1,1-Trichloroethane		ND		12	50
Carbon tetrachloride		ND		9.4	50
1,1-Dichloropropene		ND		9.7	120
Benzene		ND		8.7	25
1,2-Dichloroethane		ND		25	120
Trichloroethene		ND		9.4	50
1,2-Dichloropropane		ND		7.8	25
Dibromomethane		ND		23	120
Dichlorobromomethane		ND	*	8.7	120
cis-1,3-Dichloropropene		ND	*	8.7	120
Toluene		ND		23	120
trans-1,3-Dichloropropene		ND	*	8.7	120
1,1,2-Trichloroethane		ND		11	120
Tetrachloroethene		ND		23	78
1,3-Dichloropropane		ND		13	50
Chlorodibromomethane		ND	*	7.8	120
Ethylene Dibromide		ND	*	21	120
Chlorobenzene		ND		37	120
Ethylbenzene		ND		22	120
1,1,1,2-Tetrachloroethane		ND	*	12	120
1,1,2,2-Tetrachloroethane		ND		7.5	25
m-Xylene & p-Xylene		ND		47	120
o-Xylene		ND		22	120
Styrene		ND	*	10	120
Bromoform		ND		8.7	120
Isopropylbenzene		ND		19	120
Bromobenzene		ND		11	120
N-Propylbenzene		ND		22	120
1,2,3-Trichloropropane		ND		22	120

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-020**

Lab Sample ID:	580-4641-2			Date Sampled:	01/02/2007 0920
Client Matrix:	Solid	% Moisture:	11.2	Date Received:	01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-14661		Instrument ID:	SEA043
Preparation:	5035	Prep Batch: 580-14608		Lab File ID:	VB0003553.D
Dilution:	1.0			Initial Weight/Volume:	3.61 g
Date Analyzed:	01/09/2007 1444			Final Weight/Volume:	400 mL
Date Prepared:	01/09/2007 0850				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		18	120
1,3,5-Trimethylbenzene		ND		19	120
4-Chlorotoluene		ND		11	120
tert-Butylbenzene		ND		11	120
1,2,4-Trimethylbenzene		ND		22	120
sec-Butylbenzene		ND		5.0	120
1,3-Dichlorobenzene		ND		13	120
4-Isopropyltoluene		ND		8.7	120
1,4-Dichlorobenzene		ND		6.2	120
n-Butylbenzene		ND		7.5	120
1,2-Dichlorobenzene		ND		11	120
1,2-Dibromo-3-Chloropropane		ND		27	120
1,2,4-Trichlorobenzene		ND		12	120
1,2,3-Trichlorobenzene		ND		15	120
Hexachlorobutadiene		ND		21	120
Naphthalene		61	J	8.1	120

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	96	75 - 125
Toluene-d8 (Surr)	93	75 - 125
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	82	75 - 125
Trifluorotoluene (Surr)	109	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-080**

Lab Sample ID: 580-4641-5 | Date Sampled: 01/02/2007 0905
Client Matrix: Solid | % Moisture: 11.5 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003555.D
Dilution: 1.0 | Initial Weight/Volume: 5.21 g
Date Analyzed: 01/09/2007 1508 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		12	87
Chloromethane		ND		16	87
Vinyl chloride		ND		11	35
Bromomethane		ND	*	61	430
Chloroethane		ND		63	430
Trichlorofluoromethane		ND		8.2	87
1,1-Dichloroethene		ND		11	35
Methylene Chloride		ND		13	87
trans-1,2-Dichloroethene		ND		9.3	87
1,1-Dichloroethane		ND		21	87
2,2-Dichloropropane		ND		10	87
cis-1,2-Dichloroethene		ND		13	87
Chlorobromomethane		ND		10	87
Chloroform		ND		8.2	87
1,1,1-Trichloroethane		ND		8.5	35
Carbon tetrachloride		ND		6.5	35
1,1-Dichloropropene		ND		6.7	87
Benzene		ND		6.1	17
1,2-Dichloroethane		ND		18	87
Trichloroethene		ND		6.5	35
1,2-Dichloropropane		ND		5.4	17
Dibromomethane		ND		16	87
Dichlorobromomethane		ND	*	6.1	87
cis-1,3-Dichloropropene		ND	*	6.1	87
Toluene		ND		16	87
trans-1,3-Dichloropropene		ND	*	6.1	87
1,1,2-Trichloroethane		ND		7.8	87
Tetrachloroethene		ND		16	54
1,3-Dichloropropane		ND		9.1	35
Chlorodibromomethane		ND	*	5.4	87
Ethylene Dibromide		ND	*	14	87
Chlorobenzene		ND		26	87
Ethylbenzene		ND		16	87
1,1,1,2-Tetrachloroethane		ND	*	8.2	87
1,1,2,2-Tetrachloroethane		ND		5.2	17
m-Xylene & p-Xylene		ND		33	87
o-Xylene		ND		16	87
Styrene		ND	*	6.9	87
Bromoform		ND		6.1	87
Isopropylbenzene		ND		13	87
Bromobenzene		ND		7.8	87
N-Propylbenzene		ND		15	87
1,2,3-Trichloropropane		ND		15	87

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-080**

Lab Sample ID: 580-4641-5 | Date Sampled: 01/02/2007 0905
Client Matrix: Solid | % Moisture: 11.5 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003555.D
Dilution: 1.0 | Initial Weight/Volume: 5.21 g
Date Analyzed: 01/09/2007 1508 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		13	87
1,3,5-Trimethylbenzene		ND		13	87
4-Chlorotoluene		ND		7.6	87
tert-Butylbenzene		ND		7.4	87
1,2,4-Trimethylbenzene		ND		15	87
sec-Butylbenzene		ND		3.5	87
1,3-Dichlorobenzene		ND		8.9	87
4-Isopropyltoluene		ND		6.1	87
1,4-Dichlorobenzene		ND		4.3	87
n-Butylbenzene		ND		5.2	87
1,2-Dichlorobenzene		ND		7.4	87
1,2-Dibromo-3-Chloropropane		ND		19	87
1,2,4-Trichlorobenzene		ND		8.5	87
1,2,3-Trichlorobenzene		ND		10	87
Hexachlorobutadiene		ND		14	87
Naphthalene		ND		5.6	87

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	95	75 - 125
Toluene-d8 (Surr)	92	75 - 125
Ethylbenzene-d10	85	75 - 125
4-Bromofluorobenzene (Surr)	76	75 - 125
Trifluorotoluene (Surr)	104	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP12-070102-000**

Lab Sample ID: 580-4641-6 | Date Sampled: 01/02/2007 1020
Client Matrix: Solid | % Moisture: 5.5 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003557.D
Dilution: 1.0 | Initial Weight/Volume: 10.32 g
Date Analyzed: 01/09/2007 1533 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		5.7	41
Chloromethane		ND		7.5	41
Vinyl chloride		ND		5.3	16
Bromomethane		ND	*	29	210
Chloroethane		ND		30	210
Trichlorofluoromethane		ND		3.9	41
1,1-Dichloroethene		ND		5.4	16
Methylene Chloride		ND		6.3	41
trans-1,2-Dichloroethene		ND		4.4	41
1,1-Dichloroethane		ND		9.7	41
2,2-Dichloropropane		ND		4.8	41
cis-1,2-Dichloroethene		ND		6.2	41
Chlorobromomethane		ND		4.9	41
Chloroform		ND		3.9	41
1,1,1-Trichloroethane		ND		4.0	16
Carbon tetrachloride		ND		3.1	16
1,1-Dichloropropene		ND		3.2	41
Benzene		ND		2.9	8.2
1,2-Dichloroethane		ND		8.3	41
Trichloroethene		ND		3.1	16
1,2-Dichloropropane		ND		2.6	8.2
Dibromomethane		ND		7.5	41
Dichlorobromomethane		ND	*	2.9	41
cis-1,3-Dichloropropene		ND	*	2.9	41
Toluene		ND		7.6	41
trans-1,3-Dichloropropene		ND	*	2.9	41
1,1,2-Trichloroethane		ND		3.7	41
Tetrachloroethene		ND		7.5	26
1,3-Dichloropropane		ND		4.3	16
Chlorodibromomethane		ND	*	2.6	41
Ethylene Dibromide		ND	*	6.8	41
Chlorobenzene		ND		12	41
Ethylbenzene		ND		7.4	41
1,1,1,2-Tetrachloroethane		ND	*	3.9	41
1,1,2,2-Tetrachloroethane		ND		2.5	8.2
m-Xylene & p-Xylene		ND		15	41
o-Xylene		ND		7.4	41
Styrene		ND	*	3.3	41
Bromoform		ND		2.9	41
Isopropylbenzene		ND		6.3	41
Bromobenzene		ND		3.7	41
N-Propylbenzene		ND		7.1	41
1,2,3-Trichloropropane		ND		7.3	41

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP12-070102-000**

Lab Sample ID:	580-4641-6			Date Sampled:	01/02/2007 1020
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-14661		Instrument ID:	SEA043
Preparation:	5035	Prep Batch: 580-14608		Lab File ID:	VB0003557.D
Dilution:	1.0			Initial Weight/Volume:	10.32 g
Date Analyzed:	01/09/2007 1533			Final Weight/Volume:	400 mL
Date Prepared:	01/09/2007 0850				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		5.9	41
1,3,5-Trimethylbenzene		ND		6.2	41
4-Chlorotoluene		ND		3.6	41
tert-Butylbenzene		ND		3.5	41
1,2,4-Trimethylbenzene		ND		7.1	41
sec-Butylbenzene		ND		1.6	41
1,3-Dichlorobenzene		ND		4.2	41
4-Isopropyltoluene		ND		2.9	41
1,4-Dichlorobenzene		ND		2.1	41
n-Butylbenzene		ND		2.5	41
1,2-Dichlorobenzene		ND		3.5	41
1,2-Dibromo-3-Chloropropane		ND		9.0	41
1,2,4-Trichlorobenzene		ND		4.0	41
1,2,3-Trichlorobenzene		ND		4.9	41
Hexachlorobutadiene		ND		6.8	41
Naphthalene		22	J	2.7	41

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	94	75 - 125
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	83	75 - 125
Trifluorotoluene (Surr)	106	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP12-070102-080**

Lab Sample ID: 580-4641-8 | Date Sampled: 01/02/2007 1030
Client Matrix: Solid | % Moisture: 31.6 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003559.D
Dilution: 1.0 | Initial Weight/Volume: 11.36 g
Date Analyzed: 01/09/2007 1557 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		7.2	51
Chloromethane		ND		9.4	51
Vinyl chloride		ND		6.7	21
Bromomethane		ND	*	36	260
Chloroethane		ND		37	260
Trichlorofluoromethane		ND		4.9	51
1,1-Dichloroethene		ND		6.8	21
Methylene Chloride		ND		7.9	51
trans-1,2-Dichloroethene		ND		5.5	51
1,1-Dichloroethane		ND		12	51
2,2-Dichloropropane		ND		6.1	51
cis-1,2-Dichloroethene		ND		7.7	51
Chlorobromomethane		ND		6.2	51
Chloroform		ND		4.9	51
1,1,1-Trichloroethane		ND		5.0	21
Carbon tetrachloride		ND		3.9	21
1,1-Dichloropropene		ND		4.0	51
Benzene		ND		3.6	10
1,2-Dichloroethane		ND		10	51
Trichloroethene		ND		3.9	21
1,2-Dichloropropane		ND		3.2	10
Dibromomethane		ND		9.4	51
Dichlorobromomethane		ND	*	3.6	51
cis-1,3-Dichloropropene		ND	*	3.6	51
Toluene		ND		9.5	51
trans-1,3-Dichloropropene		ND	*	3.6	51
1,1,2-Trichloroethane		ND		4.6	51
Tetrachloroethene		ND		9.4	32
1,3-Dichloropropane		ND		5.4	21
Chlorodibromomethane		ND	*	3.2	51
Ethylene Dibromide		ND	*	8.5	51
Chlorobenzene		ND		15	51
Ethylbenzene		ND		9.3	51
1,1,1,2-Tetrachloroethane		ND	*	4.9	51
1,1,2,2-Tetrachloroethane		ND		3.1	10
m-Xylene & p-Xylene		ND		19	51
o-Xylene		ND		9.3	51
Styrene		ND	*	4.1	51
Bromoform		ND		3.6	51
Isopropylbenzene		ND		7.9	51
Bromobenzene		ND		4.6	51
N-Propylbenzene		ND		8.9	51
1,2,3-Trichloropropane		ND		9.1	51

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP12-070102-080**

Lab Sample ID: 580-4641-8 | Date Sampled: 01/02/2007 1030
Client Matrix: Solid | % Moisture: 31.6 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003559.D
Dilution: 1.0 | Initial Weight/Volume: 11.36 g
Date Analyzed: 01/09/2007 1557 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		7.5	51
1,3,5-Trimethylbenzene		ND		7.7	51
4-Chlorotoluene		ND		4.5	51
tert-Butylbenzene		ND		4.4	51
1,2,4-Trimethylbenzene		ND		8.9	51
sec-Butylbenzene		ND		2.1	51
1,3-Dichlorobenzene		ND		5.3	51
4-Isopropyltoluene		ND		3.6	51
1,4-Dichlorobenzene		ND		2.6	51
n-Butylbenzene		ND		3.1	51
1,2-Dichlorobenzene		ND		4.4	51
1,2-Dibromo-3-Chloropropane		ND		11	51
1,2,4-Trichlorobenzene		ND		5.0	51
1,2,3-Trichlorobenzene		ND		6.2	51
Hexachlorobutadiene		ND		8.5	51
Naphthalene		ND		3.3	51

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	95	75 - 125
Toluene-d8 (Surr)	94	75 - 125
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	86	75 - 125
Trifluorotoluene (Surr)	98	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-000**

Lab Sample ID: 580-4641-9 | Date Sampled: 01/02/2007 1105
Client Matrix: Solid | % Moisture: 12.4 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003561.D
Dilution: 1.0 | Initial Weight/Volume: 8.98 g
Date Analyzed: 01/09/2007 1621 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		7.1	51
Chloromethane		ND		9.3	51
Vinyl chloride		ND		6.6	20
Bromomethane		ND	*	36	250
Chloroethane		ND		37	250
Trichlorofluoromethane		ND		4.8	51
1,1-Dichloroethene		ND		6.7	20
Methylene Chloride		ND		7.8	51
trans-1,2-Dichloroethene		ND		5.5	51
1,1-Dichloroethane		ND		12	51
2,2-Dichloropropane		ND		6.0	51
cis-1,2-Dichloroethene		ND		7.6	51
Chlorobromomethane		ND		6.1	51
Chloroform		ND		4.8	51
1,1,1-Trichloroethane		ND		5.0	20
Carbon tetrachloride		ND		3.8	20
1,1-Dichloropropene		ND		3.9	51
Benzene		6.4	J	3.6	10
1,2-Dichloroethane		ND		10	51
Trichloroethene		ND		3.8	20
1,2-Dichloropropane		ND		3.2	10
Dibromomethane		ND		9.3	51
Dichlorobromomethane		ND	*	3.6	51
cis-1,3-Dichloropropene		ND	*	3.6	51
Toluene		17	J	9.4	51
trans-1,3-Dichloropropene		ND	*	3.6	51
1,1,2-Trichloroethane		ND		4.6	51
Tetrachloroethene		ND		9.3	32
1,3-Dichloropropane		ND		5.3	20
Chlorodibromomethane		ND	*	3.2	51
Ethylene Dibromide		ND	*	8.4	51
Chlorobenzene		ND		15	51
Ethylbenzene		ND		9.2	51
1,1,1,2-Tetrachloroethane		ND	*	4.8	51
1,1,2,2-Tetrachloroethane		ND		3.1	10
m-Xylene & p-Xylene		ND		19	51
o-Xylene		ND		9.2	51
Styrene		ND	*	4.1	51
Bromoform		ND		3.6	51
Isopropylbenzene		ND		7.8	51
Bromobenzene		ND		4.6	51
N-Propylbenzene		ND		8.8	51
1,2,3-Trichloropropane		ND		9.0	51

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-000**

Lab Sample ID: 580-4641-9 | Date Sampled: 01/02/2007 1105
Client Matrix: Solid | % Moisture: 12.4 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003561.D
Dilution: 1.0 | Initial Weight/Volume: 8.98 g
Date Analyzed: 01/09/2007 1621 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		7.4	51
1,3,5-Trimethylbenzene		ND		7.6	51
4-Chlorotoluene		ND		4.4	51
tert-Butylbenzene		ND		4.3	51
1,2,4-Trimethylbenzene		ND		8.8	51
sec-Butylbenzene		ND		2.0	51
1,3-Dichlorobenzene		ND		5.2	51
4-Isopropyltoluene		ND		3.6	51
1,4-Dichlorobenzene		ND		2.5	51
n-Butylbenzene		ND		3.1	51
1,2-Dichlorobenzene		ND		4.3	51
1,2-Dibromo-3-Chloropropane		ND		11	51
1,2,4-Trichlorobenzene		ND		5.0	51
1,2,3-Trichlorobenzene		ND		6.1	51
Hexachlorobutadiene		ND		8.4	51
Naphthalene		64		3.3	51

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	96	75 - 125
Toluene-d8 (Surr)	94	75 - 125
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	83	75 - 125
Trifluorotoluene (Surr)	106	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-080**

Lab Sample ID: 580-4641-13 | Date Sampled: 01/02/2007 1125
Client Matrix: Solid | % Moisture: 81.4 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003563.D
Dilution: 1.0 | Initial Weight/Volume: 6.48 g
Date Analyzed: 01/09/2007 1645 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		47	330
Chloromethane		ND		61	330
Vinyl chloride		ND		43	130
Bromomethane		ND	*	230	1700
Chloroethane		ND		240	1700
Trichlorofluoromethane		ND		32	330
1,1-Dichloroethene		ND		44	130
Methylene Chloride		ND		51	330
trans-1,2-Dichloroethene		ND		36	330
1,1-Dichloroethane		ND		79	330
2,2-Dichloropropane		ND		39	330
cis-1,2-Dichloroethene		ND		50	330
Chlorobromomethane		ND		40	330
Chloroform		ND		32	330
1,1,1-Trichloroethane		ND		32	130
Carbon tetrachloride		ND		25	130
1,1-Dichloropropene		ND		26	330
Benzene		ND		23	67
1,2-Dichloroethane		ND		67	330
Trichloroethene		ND		25	130
1,2-Dichloropropane		ND		21	67
Dibromomethane		ND		61	330
Dichlorobromomethane		ND	*	23	330
cis-1,3-Dichloropropene		ND	*	23	330
Toluene		ND		62	330
trans-1,3-Dichloropropene		ND	*	23	330
1,1,2-Trichloroethane		ND		30	330
Tetrachloroethene		ND		61	210
1,3-Dichloropropane		ND		35	130
Chlorodibromomethane		ND	*	21	330
Ethylene Dibromide		ND	*	55	330
Chlorobenzene		ND		100	330
Ethylbenzene		ND		60	330
1,1,1,2-Tetrachloroethane		ND	*	32	330
1,1,2,2-Tetrachloroethane		ND		20	67
m-Xylene & p-Xylene		ND		120	330
o-Xylene		ND		60	330
Styrene		ND	*	27	330
Bromoform		ND		23	330
Isopropylbenzene		ND		51	330
Bromobenzene		ND		30	330
N-Propylbenzene		ND		57	330
1,2,3-Trichloropropane		ND		59	330

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-080**

Lab Sample ID: 580-4641-13 | Date Sampled: 01/02/2007 1125
Client Matrix: Solid | % Moisture: 81.4 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003563.D
Dilution: 1.0 | Initial Weight/Volume: 6.48 g
Date Analyzed: 01/09/2007 1645 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		48	330
1,3,5-Trimethylbenzene		130	J	50	330
4-Chlorotoluene		ND		29	330
tert-Butylbenzene		ND		28	330
1,2,4-Trimethylbenzene		160	J	57	330
sec-Butylbenzene		ND		13	330
1,3-Dichlorobenzene		ND		34	330
4-Isopropyltoluene		720		23	330
1,4-Dichlorobenzene		ND		17	330
n-Butylbenzene		ND		20	330
1,2-Dichlorobenzene		ND		28	330
1,2-Dibromo-3-Chloropropane		ND		73	330
1,2,4-Trichlorobenzene		ND		32	330
1,2,3-Trichlorobenzene		ND		40	330
Hexachlorobutadiene		ND		55	330
Naphthalene		260	J	22	330

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	95	75 - 125
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	80	75 - 125
Trifluorotoluene (Surr)	77	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-020**

Lab Sample ID: 580-4641-14 | Date Sampled: 01/02/2007 1150
Client Matrix: Solid | % Moisture: 18.7 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003565.D
Dilution: 1.0 | Initial Weight/Volume: 8.10 g
Date Analyzed: 01/09/2007 1710 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		8.5	61
Chloromethane		ND		11	61
Vinyl chloride		ND		7.9	24
Bromomethane		ND	*	43	300
Chloroethane		ND		44	300
Trichlorofluoromethane		ND		5.8	61
1,1-Dichloroethene		ND		8.1	24
Methylene Chloride		ND		9.3	61
trans-1,2-Dichloroethene		ND		6.5	61
1,1-Dichloroethane		ND		14	61
2,2-Dichloropropane		ND		7.1	61
cis-1,2-Dichloroethene		ND		9.1	61
Chlorobromomethane		ND		7.3	61
Chloroform		ND		5.8	61
1,1,1-Trichloroethane		ND		5.9	24
Carbon tetrachloride		ND		4.6	24
1,1-Dichloropropene		ND		4.7	61
Benzene		ND		4.3	12
1,2-Dichloroethane		ND		12	61
Trichloroethene		ND		4.6	24
1,2-Dichloropropane		ND		3.8	12
Dibromomethane		ND		11	61
Dichlorobromomethane		ND	*	4.3	61
cis-1,3-Dichloropropene		ND	*	4.3	61
Toluene		43	J	11	61
trans-1,3-Dichloropropene		ND	*	4.3	61
1,1,2-Trichloroethane		ND		5.5	61
Tetrachloroethene		ND		11	38
1,3-Dichloropropane		ND		6.4	24
Chlorodibromomethane		ND	*	3.8	61
Ethylene Dibromide		ND	*	10	61
Chlorobenzene		ND		18	61
Ethylbenzene		ND		11	61
1,1,1,2-Tetrachloroethane		ND	*	5.8	61
1,1,2,2-Tetrachloroethane		ND		3.6	12
m-Xylene & p-Xylene		ND		23	61
o-Xylene		ND		11	61
Styrene		ND	*	4.9	61
Bromoform		ND		4.3	61
Isopropylbenzene		ND		9.3	61
Bromobenzene		ND		5.5	61
N-Propylbenzene		ND		10	61
1,2,3-Trichloropropane		ND		11	61

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-020**

Lab Sample ID: 580-4641-14 | Date Sampled: 01/02/2007 1150
Client Matrix: Solid | % Moisture: 18.7 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003565.D
Dilution: 1.0 | Initial Weight/Volume: 8.10 g
Date Analyzed: 01/09/2007 1710 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		8.8	61
1,3,5-Trimethylbenzene		27	J	9.1	61
4-Chlorotoluene		ND		5.3	61
tert-Butylbenzene		ND		5.2	61
1,2,4-Trimethylbenzene		28	J	10	61
sec-Butylbenzene		ND		2.4	61
1,3-Dichlorobenzene		ND		6.2	61
4-Isopropyltoluene		31	J	4.3	61
1,4-Dichlorobenzene		ND		3.0	61
n-Butylbenzene		ND		3.6	61
1,2-Dichlorobenzene		ND		5.2	61
1,2-Dibromo-3-Chloropropane		ND		13	61
1,2,4-Trichlorobenzene		ND		5.9	61
1,2,3-Trichlorobenzene		ND		7.3	61
Hexachlorobutadiene		ND		10	61
Naphthalene		34	J	3.9	61

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	96	75 - 125
Toluene-d8 (Surr)	94	75 - 125
Ethylbenzene-d10	89	75 - 125
4-Bromofluorobenzene (Surr)	80	75 - 125
Trifluorotoluene (Surr)	96	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-140**

Lab Sample ID: 580-4641-20 | Date Sampled: 01/02/2007 1215
Client Matrix: Solid | % Moisture: 19.0 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003567.D
Dilution: 1.0 | Initial Weight/Volume: 8.80 g
Date Analyzed: 01/09/2007 1734 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		7.9	56
Chloromethane		ND		10	56
Vinyl chloride		ND		7.3	22
Bromomethane		ND	*	39	280
Chloroethane		ND		41	280
Trichlorofluoromethane		ND		5.3	56
1,1-Dichloroethene		ND		7.4	22
Methylene Chloride		ND		8.6	56
trans-1,2-Dichloroethene		ND		6.0	56
1,1-Dichloroethane		ND		13	56
2,2-Dichloropropane		ND		6.6	56
cis-1,2-Dichloroethene		ND		8.4	56
Chlorobromomethane		ND		6.7	56
Chloroform		ND		5.3	56
1,1,1-Trichloroethane		ND		5.5	22
Carbon tetrachloride		ND		4.2	22
1,1-Dichloropropene		ND		4.3	56
Benzene		ND		3.9	11
1,2-Dichloroethane		ND		11	56
Trichloroethene		ND		4.2	22
1,2-Dichloropropane		ND		3.5	11
Dibromomethane		ND		10	56
Dichlorobromomethane		ND	*	3.9	56
cis-1,3-Dichloropropene		ND	*	3.9	56
Toluene		ND		10	56
trans-1,3-Dichloropropene		ND	*	3.9	56
1,1,2-Trichloroethane		ND		5.1	56
Tetrachloroethene		ND		10	35
1,3-Dichloropropane		ND		5.9	22
Chlorodibromomethane		ND	*	3.5	56
Ethylene Dibromide		ND	*	9.3	56
Chlorobenzene		ND		17	56
Ethylbenzene		ND		10	56
1,1,1,2-Tetrachloroethane		ND	*	5.3	56
1,1,2,2-Tetrachloroethane		ND		3.4	11
m-Xylene & p-Xylene		ND		21	56
o-Xylene		ND		10	56
Styrene		ND	*	4.5	56
Bromoform		ND		3.9	56
Isopropylbenzene		ND		8.6	56
Bromobenzene		ND		5.1	56
N-Propylbenzene		ND		9.7	56
1,2,3-Trichloropropane		ND		10	56

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-140**

Lab Sample ID: 580-4641-20 | Date Sampled: 01/02/2007 1215
Client Matrix: Solid | % Moisture: 19.0 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003567.D
Dilution: 1.0 | Initial Weight/Volume: 8.80 g
Date Analyzed: 01/09/2007 1734 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		8.1	56
1,3,5-Trimethylbenzene		ND		8.4	56
4-Chlorotoluene		ND		4.9	56
tert-Butylbenzene		ND		4.8	56
1,2,4-Trimethylbenzene		ND		9.7	56
sec-Butylbenzene		ND		2.2	56
1,3-Dichlorobenzene		ND		5.8	56
4-Isopropyltoluene		37	J	3.9	56
1,4-Dichlorobenzene		ND		2.8	56
n-Butylbenzene		ND		3.4	56
1,2-Dichlorobenzene		ND		4.8	56
1,2-Dibromo-3-Chloropropane		ND		12	56
1,2,4-Trichlorobenzene		ND		5.5	56
1,2,3-Trichlorobenzene		ND		6.7	56
Hexachlorobutadiene		ND		9.3	56
Naphthalene		ND		3.6	56

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	93	75 - 125
Ethylbenzene-d10	88	75 - 125
4-Bromofluorobenzene (Surr)	80	75 - 125
Trifluorotoluene (Surr)	83	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-040**

Lab Sample ID: 580-4641-22 | Date Sampled: 01/02/2007 1310
Client Matrix: Solid | % Moisture: 4.5 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003569.D
Dilution: 1.0 | Initial Weight/Volume: 7.72 g
Date Analyzed: 01/09/2007 1759 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		7.6	54
Chloromethane		ND		9.9	54
Vinyl chloride		ND		7.0	22
Bromomethane		ND	*	38	270
Chloroethane		ND		39	270
Trichlorofluoromethane		ND		5.2	54
1,1-Dichloroethene		ND		7.2	22
Methylene Chloride		ND		8.3	54
trans-1,2-Dichloroethene		ND		5.8	54
1,1-Dichloroethane		ND		13	54
2,2-Dichloropropane		ND		6.4	54
cis-1,2-Dichloroethene		ND		8.1	54
Chlorobromomethane		ND		6.5	54
Chloroform		ND		5.2	54
1,1,1-Trichloroethane		ND		5.3	22
Carbon tetrachloride		ND		4.1	22
1,1-Dichloropropene		ND		4.2	54
Benzene		ND		3.8	11
1,2-Dichloroethane		ND		11	54
Trichloroethene		ND		4.1	22
1,2-Dichloropropane		ND		3.4	11
Dibromomethane		ND		9.9	54
Dichlorobromomethane		ND	*	3.8	54
cis-1,3-Dichloropropene		ND	*	3.8	54
Toluene		ND		10	54
trans-1,3-Dichloropropene		ND	*	3.8	54
1,1,2-Trichloroethane		ND		4.9	54
Tetrachloroethene		ND		9.9	34
1,3-Dichloropropane		ND		5.7	22
Chlorodibromomethane		ND	*	3.4	54
Ethylene Dibromide		ND	*	8.9	54
Chlorobenzene		ND		16	54
Ethylbenzene		ND		9.8	54
1,1,1,2-Tetrachloroethane		ND	*	5.2	54
1,1,2,2-Tetrachloroethane		ND		3.3	11
m-Xylene & p-Xylene		ND		20	54
o-Xylene		ND		9.8	54
Styrene		ND	*	4.3	54
Bromoform		ND		3.8	54
Isopropylbenzene		ND		8.3	54
Bromobenzene		ND		4.9	54
N-Propylbenzene		ND		9.4	54
1,2,3-Trichloropropane		ND		9.6	54

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-040**

Lab Sample ID:	580-4641-22			Date Sampled:	01/02/2007 1310
Client Matrix:	Solid	% Moisture:	4.5	Date Received:	01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-14661		Instrument ID:	SEA043
Preparation:	5035	Prep Batch: 580-14608		Lab File ID:	VB0003569.D
Dilution:	1.0			Initial Weight/Volume:	7.72 g
Date Analyzed:	01/09/2007 1759			Final Weight/Volume:	400 mL
Date Prepared:	01/09/2007 0850				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		7.9	54
1,3,5-Trimethylbenzene		ND		8.1	54
4-Chlorotoluene		ND		4.7	54
tert-Butylbenzene		ND		4.6	54
1,2,4-Trimethylbenzene		ND		9.4	54
sec-Butylbenzene		ND		2.2	54
1,3-Dichlorobenzene		ND		5.6	54
4-Isopropyltoluene		ND		3.8	54
1,4-Dichlorobenzene		ND		2.7	54
n-Butylbenzene		ND		3.3	54
1,2-Dichlorobenzene		ND		4.6	54
1,2-Dibromo-3-Chloropropane		ND		12	54
1,2,4-Trichlorobenzene		ND		5.3	54
1,2,3-Trichlorobenzene		ND		6.5	54
Hexachlorobutadiene		ND		8.9	54
Naphthalene		ND		3.5	54

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	92	75 - 125
Ethylbenzene-d10	88	75 - 125
4-Bromofluorobenzene (Surr)	83	75 - 125
Trifluorotoluene (Surr)	104	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-100**

Lab Sample ID: 580-4641-24 | Date Sampled: 01/02/2007 1320
Client Matrix: Solid | % Moisture: 13.8 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003571.D
Dilution: 1.0 | Initial Weight/Volume: 8.27 g
Date Analyzed: 01/09/2007 1823 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		7.9	56
Chloromethane		ND		10	56
Vinyl chloride		ND		7.3	22
Bromomethane		ND	*	39	280
Chloroethane		ND		41	280
Trichlorofluoromethane		ND		5.3	56
1,1-Dichloroethene		ND		7.4	22
Methylene Chloride		ND		8.6	56
trans-1,2-Dichloroethene		ND		6.0	56
1,1-Dichloroethane		ND		13	56
2,2-Dichloropropane		ND		6.6	56
cis-1,2-Dichloroethene		ND		8.4	56
Chlorobromomethane		ND		6.7	56
Chloroform		ND		5.3	56
1,1,1-Trichloroethane		ND		5.5	22
Carbon tetrachloride		ND		4.2	22
1,1-Dichloropropene		ND		4.3	56
Benzene		ND		3.9	11
1,2-Dichloroethane		ND		11	56
Trichloroethene		ND		4.2	22
1,2-Dichloropropane		ND		3.5	11
Dibromomethane		ND		10	56
Dichlorobromomethane		ND	*	3.9	56
cis-1,3-Dichloropropene		ND	*	3.9	56
Toluene		ND		10	56
trans-1,3-Dichloropropene		ND	*	3.9	56
1,1,2-Trichloroethane		ND		5.0	56
Tetrachloroethene		ND		10	35
1,3-Dichloropropane		ND		5.9	22
Chlorodibromomethane		ND	*	3.5	56
Ethylene Dibromide		ND	*	9.3	56
Chlorobenzene		ND		17	56
Ethylbenzene		ND		10	56
1,1,1,2-Tetrachloroethane		ND	*	5.3	56
1,1,2,2-Tetrachloroethane		ND		3.4	11
m-Xylene & p-Xylene		ND		21	56
o-Xylene		ND		10	56
Styrene		ND	*	4.5	56
Bromoform		ND		3.9	56
Isopropylbenzene		ND		8.6	56
Bromobenzene		ND		5.0	56
N-Propylbenzene		ND		9.7	56
1,2,3-Trichloropropane		ND		10	56

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-100**

Lab Sample ID: 580-4641-24 | Date Sampled: 01/02/2007 1320
Client Matrix: Solid | % Moisture: 13.8 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003571.D
Dilution: 1.0 | Initial Weight/Volume: 8.27 g
Date Analyzed: 01/09/2007 1823 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		8.1	56
1,3,5-Trimethylbenzene		ND		8.4	56
4-Chlorotoluene		ND		4.9	56
tert-Butylbenzene		ND		4.8	56
1,2,4-Trimethylbenzene		ND		9.7	56
sec-Butylbenzene		ND		2.2	56
1,3-Dichlorobenzene		ND		5.8	56
4-Isopropyltoluene		29	J	3.9	56
1,4-Dichlorobenzene		ND		2.8	56
n-Butylbenzene		ND		3.4	56
1,2-Dichlorobenzene		ND		4.8	56
1,2-Dibromo-3-Chloropropane		ND		12	56
1,2,4-Trichlorobenzene		ND		5.5	56
1,2,3-Trichlorobenzene		ND		6.7	56
Hexachlorobutadiene		ND		9.3	56
Naphthalene		ND		3.6	56

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	95	75 - 125
Toluene-d8 (Surr)	93	75 - 125
Ethylbenzene-d10	89	75 - 125
4-Bromofluorobenzene (Surr)	81	75 - 125
Trifluorotoluene (Surr)	99	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-040**

Lab Sample ID: 580-4641-27 | Date Sampled: 01/02/2007 1425
Client Matrix: Solid | % Moisture: 7.6 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003573.D
Dilution: 1.0 | Initial Weight/Volume: 9.32 g
Date Analyzed: 01/09/2007 1847 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		6.5	46
Chloromethane		ND		8.5	46
Vinyl chloride		ND		6.0	19
Bromomethane		ND	*	33	230
Chloroethane		ND		34	230
Trichlorofluoromethane		ND		4.4	46
1,1-Dichloroethene		ND		6.2	19
Methylene Chloride		ND		7.1	46
trans-1,2-Dichloroethene		ND		5.0	46
1,1-Dichloroethane		ND		11	46
2,2-Dichloropropane		ND		5.5	46
cis-1,2-Dichloroethene		ND		7.0	46
Chlorobromomethane		ND		5.6	46
Chloroform		ND		4.4	46
1,1,1-Trichloroethane		ND		4.5	19
Carbon tetrachloride		ND		3.5	19
1,1-Dichloropropene		ND		3.6	46
Benzene		ND		3.3	9.3
1,2-Dichloroethane		ND		9.4	46
Trichloroethene		ND		3.5	19
1,2-Dichloropropane		ND		2.9	9.3
Dibromomethane		ND		8.5	46
Dichlorobromomethane		ND	*	3.3	46
cis-1,3-Dichloropropene		ND	*	3.3	46
Toluene		ND		8.6	46
trans-1,3-Dichloropropene		ND	*	3.3	46
1,1,2-Trichloroethane		ND		4.2	46
Tetrachloroethene		ND		8.5	29
1,3-Dichloropropane		ND		4.9	19
Chlorodibromomethane		ND	*	2.9	46
Ethylene Dibromide		ND	*	7.7	46
Chlorobenzene		ND		14	46
Ethylbenzene		ND		8.4	46
1,1,1,2-Tetrachloroethane		ND	*	4.4	46
1,1,2,2-Tetrachloroethane		ND		2.8	9.3
m-Xylene & p-Xylene		ND		17	46
o-Xylene		ND		8.4	46
Styrene		ND	*	3.7	46
Bromoform		ND		3.3	46
Isopropylbenzene		ND		7.1	46
Bromobenzene		ND		4.2	46
N-Propylbenzene		ND		8.0	46
1,2,3-Trichloropropane		ND		8.2	46

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-040**

Lab Sample ID:	580-4641-27			Date Sampled:	01/02/2007 1425
Client Matrix:	Solid	% Moisture:	7.6	Date Received:	01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-14661		Instrument ID:	SEA043
Preparation:	5035	Prep Batch: 580-14608		Lab File ID:	VB0003573.D
Dilution:	1.0			Initial Weight/Volume:	9.32 g
Date Analyzed:	01/09/2007 1847			Final Weight/Volume:	400 mL
Date Prepared:	01/09/2007 0850				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		6.7	46
1,3,5-Trimethylbenzene		ND		7.0	46
4-Chlorotoluene		ND		4.1	46
tert-Butylbenzene		ND		3.9	46
1,2,4-Trimethylbenzene		ND		8.0	46
sec-Butylbenzene		ND		1.9	46
1,3-Dichlorobenzene		ND		4.8	46
4-Isopropyltoluene		ND		3.3	46
1,4-Dichlorobenzene		ND		2.3	46
n-Butylbenzene		ND		2.8	46
1,2-Dichlorobenzene		ND		3.9	46
1,2-Dibromo-3-Chloropropane		ND		10	46
1,2,4-Trichlorobenzene		ND		4.5	46
1,2,3-Trichlorobenzene		ND		5.6	46
Hexachlorobutadiene		ND		7.7	46
Naphthalene		ND		3.0	46

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	95	75 - 125
Toluene-d8 (Surr)	92	75 - 125
Ethylbenzene-d10	89	75 - 125
4-Bromofluorobenzene (Surr)	84	75 - 125
Trifluorotoluene (Surr)	97	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-080**

Lab Sample ID: 580-4641-28 | Date Sampled: 01/02/2007 1430
Client Matrix: Solid | % Moisture: 14.2 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003575.D
Dilution: 1.0 | Initial Weight/Volume: 7.18 g
Date Analyzed: 01/09/2007 1912 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		9.1	65
Chloromethane		ND		12	65
Vinyl chloride		ND		8.4	26
Bromomethane		ND	*	45	320
Chloroethane		ND		47	320
Trichlorofluoromethane		ND		6.2	65
1,1-Dichloroethene		ND		8.6	26
Methylene Chloride		ND		9.9	65
trans-1,2-Dichloroethene		ND		7.0	65
1,1-Dichloroethane		ND		15	65
2,2-Dichloropropane		ND		7.6	65
cis-1,2-Dichloroethene		ND		9.7	65
Chlorobromomethane		ND		7.8	65
Chloroform		ND		6.2	65
1,1,1-Trichloroethane		ND		6.3	26
Carbon tetrachloride		ND		4.9	26
1,1-Dichloropropene		ND		5.0	65
Benzene		ND		4.5	13
1,2-Dichloroethane		ND		13	65
Trichloroethene		ND		4.9	26
1,2-Dichloropropane		ND		4.1	13
Dibromomethane		ND		12	65
Dichlorobromomethane		ND	*	4.5	65
cis-1,3-Dichloropropene		ND	*	4.5	65
Toluene		ND		12	65
trans-1,3-Dichloropropene		ND	*	4.5	65
1,1,2-Trichloroethane		ND		5.8	65
Tetrachloroethene		ND		12	41
1,3-Dichloropropane		ND		6.8	26
Chlorodibromomethane		ND	*	4.1	65
Ethylene Dibromide		ND	*	11	65
Chlorobenzene		ND		19	65
Ethylbenzene		ND		12	65
1,1,1,2-Tetrachloroethane		ND	*	6.2	65
1,1,2,2-Tetrachloroethane		ND		3.9	13
m-Xylene & p-Xylene		ND		24	65
o-Xylene		ND		12	65
Styrene		ND	*	5.2	65
Bromoform		ND		4.5	65
Isopropylbenzene		ND		9.9	65
Bromobenzene		ND		5.8	65
N-Propylbenzene		ND		11	65
1,2,3-Trichloropropane		ND		12	65

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-080**

Lab Sample ID: 580-4641-28 | Date Sampled: 01/02/2007 1430
Client Matrix: Solid | % Moisture: 14.2 | Date Received: 01/03/2007 1345

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14661 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-14608 | Lab File ID: VB0003575.D
Dilution: 1.0 | Initial Weight/Volume: 7.18 g
Date Analyzed: 01/09/2007 1912 | Final Weight/Volume: 400 mL
Date Prepared: 01/09/2007 0850

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		9.4	65
1,3,5-Trimethylbenzene		ND		9.7	65
4-Chlorotoluene		ND		5.7	65
tert-Butylbenzene		ND		5.5	65
1,2,4-Trimethylbenzene		ND		11	65
sec-Butylbenzene		ND		2.6	65
1,3-Dichlorobenzene		ND		6.7	65
4-Isopropyltoluene		ND		4.5	65
1,4-Dichlorobenzene		ND		3.2	65
n-Butylbenzene		ND		3.9	65
1,2-Dichlorobenzene		ND		5.5	65
1,2-Dibromo-3-Chloropropane		ND		14	65
1,2,4-Trichlorobenzene		ND		6.3	65
1,2,3-Trichlorobenzene		ND		7.8	65
Hexachlorobutadiene		ND		11	65
Naphthalene		ND		4.2	65

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	94	75 - 125
Ethylbenzene-d10	87	75 - 125
4-Bromofluorobenzene (Surr)	78	75 - 125
Trifluorotoluene (Surr)	97	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-020**

Lab Sample ID: 580-4641-2 | Date Sampled: 01/02/2007 0920
Client Matrix: Solid | % Moisture: 11.2 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03414.D
Dilution: 1.0 | Initial Weight/Volume: 20.4794 g
Date Analyzed: 01/17/2007 1250 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		11	11
Bis(2-chloroethyl)ether		ND	*	11	11
2-Chlorophenol		ND		11	11
1,3-Dichlorobenzene		ND	*	5.5	5.5
1,4-Dichlorobenzene		ND	*	5.5	5.5
Benzyl alcohol		ND		11	11
1,2-Dichlorobenzene		ND	*	5.5	5.5
2-Methylphenol		ND		11	11
Bis(2-chloroisopropyl) ether		ND		16	16
3 & 4 Methylphenol		ND		22	22
N-Nitrosodi-n-propylamine		ND		11	11
Hexachloroethane		ND	*	11	11
Nitrobenzene		ND		11	11
Isophorone		ND		11	11
2-Nitrophenol		ND		11	11
2,4-Dimethylphenol		ND		11	11
Benzoic acid		ND		270	270
Bis(2-chloroethoxy)methane		ND		11	11
2,4-Dichlorophenol		ND		11	11
1,2,4-Trichlorobenzene		ND	*	5.5	5.5
Naphthalene		3.0		2.2	2.2
4-Chloroaniline		ND		11	11
Hexachlorobutadiene		ND	*	5.5	5.5
4-Chloro-3-methylphenol		ND		11	11
2-Methylnaphthalene		ND		2.2	2.2
Hexachlorocyclopentadiene		ND		11	11
2,4,6-Trichlorophenol		ND		16	16
2,4,5-Trichlorophenol		ND		11	11
2-Chloronaphthalene		ND		2.2	2.2
2-Nitroaniline		ND		11	11
Dimethyl phthalate		ND		11	11
Acenaphthylene		2.9		2.2	2.2
2,6-Dinitrotoluene		ND		11	11
3-Nitroaniline		ND		11	11
Acenaphthene		2.2		2.2	2.2
2,4-Dinitrophenol		ND		110	110
4-Nitrophenol		ND		110	110
Dibenzofuran		ND		11	11
2,4-Dinitrotoluene		ND		11	11
Diethyl phthalate		ND		11	11
4-Chlorophenyl phenyl ether		ND		11	11
Fluorene		ND		2.2	2.2
4-Nitroaniline		ND		11	11

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-020**

Lab Sample ID: 580-4641-2 | Date Sampled: 01/02/2007 0920
Client Matrix: Solid | % Moisture: 11.2 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03414.D
Dilution: 1.0 | Initial Weight/Volume: 20.4794 g
Date Analyzed: 01/17/2007 1250 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		110	110
N-Nitrosodiphenylamine		ND		5.5	5.5
4-Bromophenyl phenyl ether		ND		11	11
Hexachlorobenzene		ND		5.5	5.5
Pentachlorophenol		13		11	11
Phenanthrene		21		2.2	2.2
Anthracene		6.7		2.2	2.2
Di-n-butyl phthalate		ND		22	22
Fluoranthene		37		2.2	2.2
Pyrene		41		2.2	2.2
Butyl benzyl phthalate		23		11	11
3,3'-Dichlorobenzidine		ND		22	22
Benzo[a]anthracene		21		2.7	2.7
Chrysene		29		2.7	2.7
Bis(2-ethylhexyl) phthalate		ND		160	160
Di-n-octyl phthalate		ND		22	22
Benzofluoranthene		47		4.4	4.4
Benzo[a]pyrene		25		3.3	3.3
Indeno[1,2,3-cd]pyrene		21		4.4	4.4
Dibenz(a,h)anthracene		ND		4.4	4.4
Benzo[g,h,i]perylene		20		2.7	2.7
Carbazole		ND		16	16
1-Methylnaphthalene		ND		3.3	3.3
Benzo[b]fluoranthene		36		2.2	2.2
Benzo[k]fluoranthene		12		2.7	2.7

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	87	36 - 145
Phenol-d5	93	38 - 149
Nitrobenzene-d5	85	38 - 141
2-Fluorobiphenyl	80	42 - 140
2,4,6-Tribromophenol	101	28 - 143
Terphenyl-d14	87	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-080**

Lab Sample ID: 580-4641-5 | Date Sampled: 01/02/2007 0905
Client Matrix: Solid | % Moisture: 11.5 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03415.D
Dilution: 1.0 | Initial Weight/Volume: 20.8391 g
Date Analyzed: 01/17/2007 1316 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		11	11
Bis(2-chloroethyl)ether		ND	*	11	11
2-Chlorophenol		ND		11	11
1,3-Dichlorobenzene		ND	*	5.4	5.4
1,4-Dichlorobenzene		ND	*	5.4	5.4
Benzyl alcohol		ND		11	11
1,2-Dichlorobenzene		ND	*	5.4	5.4
2-Methylphenol		ND		11	11
Bis(2-chloroisopropyl) ether		ND		16	16
3 & 4 Methylphenol		ND		22	22
N-Nitrosodi-n-propylamine		ND		11	11
Hexachloroethane		ND	*	11	11
Nitrobenzene		ND		11	11
Isophorone		ND		11	11
2-Nitrophenol		ND		11	11
2,4-Dimethylphenol		ND		11	11
Benzoic acid		ND		270	270
Bis(2-chloroethoxy)methane		ND		11	11
2,4-Dichlorophenol		ND		11	11
1,2,4-Trichlorobenzene		ND	*	5.4	5.4
Naphthalene		ND		2.2	2.2
4-Chloroaniline		ND		11	11
Hexachlorobutadiene		ND	*	5.4	5.4
4-Chloro-3-methylphenol		ND		11	11
2-Methylnaphthalene		ND		2.2	2.2
Hexachlorocyclopentadiene		ND		11	11
2,4,6-Trichlorophenol		ND		16	16
2,4,5-Trichlorophenol		ND		11	11
2-Chloronaphthalene		ND		2.2	2.2
2-Nitroaniline		ND		11	11
Dimethyl phthalate		ND		11	11
Acenaphthylene		ND		2.2	2.2
2,6-Dinitrotoluene		ND		11	11
3-Nitroaniline		ND		11	11
Acenaphthene		ND		2.2	2.2
2,4-Dinitrophenol		ND		110	110
4-Nitrophenol		ND		110	110
Dibenzofuran		ND		11	11
2,4-Dinitrotoluene		ND		11	11
Diethyl phthalate		ND		11	11
4-Chlorophenyl phenyl ether		ND		11	11
Fluorene		ND		2.2	2.2
4-Nitroaniline		ND		11	11

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-080**

Lab Sample ID:	580-4641-5			Date Sampled:	01/02/2007 0905
Client Matrix:	Solid	% Moisture:	11.5	Date Received:	01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-14898		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14751		Lab File ID:	HP03415.D
Dilution:	1.0			Initial Weight/Volume:	20.8391 g
Date Analyzed:	01/17/2007 1316			Final Weight/Volume:	2 mL
Date Prepared:	01/15/2007 1221			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		110	110
N-Nitrosodiphenylamine		ND		5.4	5.4
4-Bromophenyl phenyl ether		ND		11	11
Hexachlorobenzene		ND		5.4	5.4
Pentachlorophenol		ND		11	11
Phenanthrene		2.5		2.2	2.2
Anthracene		ND		2.2	2.2
Di-n-butyl phthalate		ND		22	22
Fluoranthene		5.0		2.2	2.2
Pyrene		6.1		2.2	2.2
Butyl benzyl phthalate		ND		11	11
3,3'-Dichlorobenzidine		ND		22	22
Benzo[a]anthracene		2.9		2.7	2.7
Chrysene		5.2		2.7	2.7
Bis(2-ethylhexyl) phthalate		ND		160	160
Di-n-octyl phthalate		ND		22	22
Benzofluoranthene		11		4.3	4.3
Benzo[a]pyrene		6.3		3.3	3.3
Indeno[1,2,3-cd]pyrene		7.3		4.3	4.3
Dibenz(a,h)anthracene		ND		4.3	4.3
Benzo[g,h,i]perylene		6.2		2.7	2.7
Carbazole		ND		16	16
1-Methylnaphthalene		ND		3.3	3.3
Benzo[b]fluoranthene		8.7		2.2	2.2
Benzo[k]fluoranthene		ND		2.7	2.7

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	92	36 - 145
Phenol-d5	90	38 - 149
Nitrobenzene-d5	80	38 - 141
2-Fluorobiphenyl	61	42 - 140
2,4,6-Tribromophenol	79	28 - 143
Terphenyl-d14	96	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP12-070102-000**

Lab Sample ID: 580-4641-6 | Date Sampled: 01/02/2007 1020
Client Matrix: Solid | % Moisture: 5.5 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03416.D
Dilution: 1.0 | Initial Weight/Volume: 20.3414 g
Date Analyzed: 01/17/2007 1343 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		10	10
Bis(2-chloroethyl)ether		ND	*	10	10
2-Chlorophenol		ND		10	10
1,3-Dichlorobenzene		ND	*	5.2	5.2
1,4-Dichlorobenzene		ND	*	5.2	5.2
Benzyl alcohol		ND		10	10
1,2-Dichlorobenzene		ND	*	5.2	5.2
2-Methylphenol		ND		10	10
Bis(2-chloroisopropyl) ether		ND		16	16
3 & 4 Methylphenol		ND		21	21
N-Nitrosodi-n-propylamine		ND		10	10
Hexachloroethane		ND	*	10	10
Nitrobenzene		ND		10	10
Isophorone		ND		10	10
2-Nitrophenol		ND		10	10
2,4-Dimethylphenol		ND		10	10
Benzoic acid		ND		260	260
Bis(2-chloroethoxy)methane		ND		10	10
2,4-Dichlorophenol		ND		10	10
1,2,4-Trichlorobenzene		ND	*	5.2	5.2
Naphthalene		22		2.1	2.1
4-Chloroaniline		ND		10	10
Hexachlorobutadiene		ND	*	5.2	5.2
4-Chloro-3-methylphenol		ND		10	10
2-Methylnaphthalene		49		2.1	2.1
Hexachlorocyclopentadiene		ND		10	10
2,4,6-Trichlorophenol		ND		16	16
2,4,5-Trichlorophenol		ND		10	10
2-Chloronaphthalene		ND		2.1	2.1
2-Nitroaniline		ND		10	10
Dimethyl phthalate		ND		10	10
Acenaphthylene		9.7		2.1	2.1
2,6-Dinitrotoluene		ND		10	10
3-Nitroaniline		ND		10	10
Acenaphthene		2.4		2.1	2.1
2,4-Dinitrophenol		ND		100	100
4-Nitrophenol		ND		100	100
Dibenzofuran		ND		10	10
2,4-Dinitrotoluene		ND		10	10
Diethyl phthalate		ND		10	10
4-Chlorophenyl phenyl ether		ND		10	10
Fluorene		5.2		2.1	2.1
4-Nitroaniline		ND		10	10

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP12-070102-000**

Lab Sample ID:	580-4641-6			Date Sampled:	01/02/2007 1020
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-14898		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14751		Lab File ID:	HP03416.D
Dilution:	1.0			Initial Weight/Volume:	20.3414 g
Date Analyzed:	01/17/2007 1343			Final Weight/Volume:	2 mL
Date Prepared:	01/15/2007 1221			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		100	100
N-Nitrosodiphenylamine		ND		5.2	5.2
4-Bromophenyl phenyl ether		ND		10	10
Hexachlorobenzene		ND		5.2	5.2
Pentachlorophenol		26		10	10
Phenanthrene		55		2.1	2.1
Anthracene		12		2.1	2.1
Di-n-butyl phthalate		ND		21	21
Fluoranthene		50		2.1	2.1
Pyrene		65		2.1	2.1
Butyl benzyl phthalate		ND		10	10
3,3'-Dichlorobenzidine		ND		21	21
Benzo[a]anthracene		24		2.6	2.6
Chrysene		32		2.6	2.6
Bis(2-ethylhexyl) phthalate		ND		160	160
Di-n-octyl phthalate		ND		21	21
Benzofluoranthene		40		4.2	4.2
Benzo[a]pyrene		30		3.1	3.1
Indeno[1,2,3-cd]pyrene		25		4.2	4.2
Dibenz(a,h)anthracene		11		4.2	4.2
Benzo[g,h,i]perylene		43		2.6	2.6
Carbazole		ND		16	16
1-Methylnaphthalene		18		3.1	3.1
Benzo[b]fluoranthene		42		2.1	2.1
Benzo[k]fluoranthene		13		2.6	2.6

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	88	36 - 145
Phenol-d5	87	38 - 149
Nitrobenzene-d5	88	38 - 141
2-Fluorobiphenyl	84	42 - 140
2,4,6-Tribromophenol	95	28 - 143
Terphenyl-d14	85	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP12-070102-080**

Lab Sample ID: 580-4641-8 | Date Sampled: 01/02/2007 1030
Client Matrix: Solid | % Moisture: 31.6 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03417.D
Dilution: 1.0 | Initial Weight/Volume: 20.7237 g
Date Analyzed: 01/17/2007 1410 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		14	14
Bis(2-chloroethyl)ether		ND	*	14	14
2-Chlorophenol		ND		14	14
1,3-Dichlorobenzene		ND	*	7.1	7.1
1,4-Dichlorobenzene		ND	*	7.1	7.1
Benzyl alcohol		ND		14	14
1,2-Dichlorobenzene		ND	*	7.1	7.1
2-Methylphenol		ND		14	14
Bis(2-chloroisopropyl) ether		ND		21	21
3 & 4 Methylphenol		ND		28	28
N-Nitrosodi-n-propylamine		ND		14	14
Hexachloroethane		ND	*	14	14
Nitrobenzene		ND		14	14
Isophorone		ND		14	14
2-Nitrophenol		ND		14	14
2,4-Dimethylphenol		ND		14	14
Benzoic acid		ND		350	350
Bis(2-chloroethoxy)methane		ND		14	14
2,4-Dichlorophenol		ND		14	14
1,2,4-Trichlorobenzene		ND	*	7.1	7.1
Naphthalene		ND		2.8	2.8
4-Chloroaniline		ND		14	14
Hexachlorobutadiene		ND	*	7.1	7.1
4-Chloro-3-methylphenol		ND		14	14
2-Methylnaphthalene		ND		2.8	2.8
Hexachlorocyclopentadiene		ND		14	14
2,4,6-Trichlorophenol		ND		21	21
2,4,5-Trichlorophenol		ND		14	14
2-Chloronaphthalene		ND		2.8	2.8
2-Nitroaniline		ND		14	14
Dimethyl phthalate		ND		14	14
Acenaphthylene		ND		2.8	2.8
2,6-Dinitrotoluene		ND		14	14
3-Nitroaniline		ND		14	14
Acenaphthene		ND		2.8	2.8
2,4-Dinitrophenol		ND		140	140
4-Nitrophenol		ND		140	140
Dibenzofuran		ND		14	14
2,4-Dinitrotoluene		ND		14	14
Diethyl phthalate		ND		14	14
4-Chlorophenyl phenyl ether		ND		14	14
Fluorene		ND		2.8	2.8
4-Nitroaniline		ND		14	14

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP12-070102-080**

Lab Sample ID: 580-4641-8 | Date Sampled: 01/02/2007 1030
Client Matrix: Solid | % Moisture: 31.6 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03417.D
Dilution: 1.0 | Initial Weight/Volume: 20.7237 g
Date Analyzed: 01/17/2007 1410 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		140	140
N-Nitrosodiphenylamine		ND		7.1	7.1
4-Bromophenyl phenyl ether		ND		14	14
Hexachlorobenzene		ND		7.1	7.1
Pentachlorophenol		ND		14	14
Phenanthrene		3.5		2.8	2.8
Anthracene		ND		2.8	2.8
Di-n-butyl phthalate		ND		28	28
Fluoranthene		8.0		2.8	2.8
Pyrene		8.3		2.8	2.8
Butyl benzyl phthalate		ND		14	14
3,3'-Dichlorobenzidine		ND		28	28
Benzo[a]anthracene		4.7		3.5	3.5
Chrysene		4.2		3.5	3.5
Bis(2-ethylhexyl) phthalate		ND		210	210
Di-n-octyl phthalate		ND		28	28
Benzofluoranthene		6.2		5.6	5.6
Benzo[a]pyrene		6.1		4.2	4.2
Indeno[1,2,3-cd]pyrene		ND		5.6	5.6
Dibenz(a,h)anthracene		ND		5.6	5.6
Benzo[g,h,i]perylene		5.5		3.5	3.5
Carbazole		ND		21	21
1-Methylnaphthalene		ND		4.2	4.2
Benzo[b]fluoranthene		4.4		2.8	2.8
Benzo[k]fluoranthene		ND		3.5	3.5

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	80	36 - 145
Phenol-d5	83	38 - 149
Nitrobenzene-d5	82	38 - 141
2-Fluorobiphenyl	58	42 - 140
2,4,6-Tribromophenol	91	28 - 143
Terphenyl-d14	95	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-000**

Lab Sample ID: 580-4641-9 | Date Sampled: 01/02/2007 1105
Client Matrix: Solid | % Moisture: 12.4 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03418.D
Dilution: 1.0 | Initial Weight/Volume: 20.8817 g
Date Analyzed: 01/17/2007 1437 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		11	11
Bis(2-chloroethyl)ether		ND	*	11	11
2-Chlorophenol		ND		11	11
1,3-Dichlorobenzene		ND	*	5.5	5.5
1,4-Dichlorobenzene		ND	*	5.5	5.5
Benzyl alcohol		ND		11	11
1,2-Dichlorobenzene		ND	*	5.5	5.5
2-Methylphenol		ND		11	11
Bis(2-chloroisopropyl) ether		ND		16	16
3 & 4 Methylphenol		ND		22	22
N-Nitrosodi-n-propylamine		ND		11	11
Hexachloroethane		ND	*	11	11
Nitrobenzene		ND		11	11
Isophorone		ND		11	11
2-Nitrophenol		ND		11	11
2,4-Dimethylphenol		ND		11	11
Benzoic acid		ND		270	270
Bis(2-chloroethoxy)methane		ND		11	11
2,4-Dichlorophenol		ND		11	11
1,2,4-Trichlorobenzene		ND	*	5.5	5.5
Naphthalene		210		2.2	2.2
4-Chloroaniline		ND		11	11
Hexachlorobutadiene		ND	*	5.5	5.5
4-Chloro-3-methylphenol		ND		11	11
2-Methylnaphthalene		150		2.2	2.2
Hexachlorocyclopentadiene		ND		11	11
2,4,6-Trichlorophenol		ND		16	16
2,4,5-Trichlorophenol		ND		11	11
2-Chloronaphthalene		ND		2.2	2.2
Dimethyl phthalate		ND		11	11
Acenaphthylene		68		2.2	2.2
2,6-Dinitrotoluene		ND		11	11
3-Nitroaniline		ND		11	11
Acenaphthene		140		2.2	2.2
2,4-Dinitrophenol		ND		110	110
4-Nitrophenol		ND		110	110
Dibenzofuran		39		11	11
2,4-Dinitrotoluene		ND		11	11
Diethyl phthalate		ND		11	11
4-Chlorophenyl phenyl ether		ND		11	11
Fluorene		240		2.2	2.2
4-Nitroaniline		ND		11	11
4,6-Dinitro-2-methylphenol		ND		110	110

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-000**

Lab Sample ID:	580-4641-9			Date Sampled:	01/02/2007 1105
Client Matrix:	Solid	% Moisture:	12.4	Date Received:	01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-14898		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14751		Lab File ID:	HP03418.D
Dilution:	1.0			Initial Weight/Volume:	20.8817 g
Date Analyzed:	01/17/2007 1437			Final Weight/Volume:	2 mL
Date Prepared:	01/15/2007 1221			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		5.5	5.5
4-Bromophenyl phenyl ether		ND		11	11
Hexachlorobenzene		ND		5.5	5.5
Pentachlorophenol		36		11	11
Di-n-butyl phthalate		ND		22	22
Butyl benzyl phthalate		ND		11	11
3,3'-Dichlorobenzidine		ND		22	22
Bis(2-ethylhexyl) phthalate		ND		160	160
Di-n-octyl phthalate		ND		22	22
Dibenz(a,h)anthracene		67		4.4	4.4
Carbazole		69		16	16
1-Methylnaphthalene		99		3.3	3.3
Benzo[k]fluoranthene		220		2.7	2.7

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	90	36 - 145
Phenol-d5	93	38 - 149
Nitrobenzene-d5	89	38 - 141
2-Fluorobiphenyl	72	42 - 140
2,4,6-Tribromophenol	97	28 - 143
Terphenyl-d14	108	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-000**

Lab Sample ID:	580-4641-9			Date Sampled:	01/02/2007 1105
Client Matrix:	Solid	% Moisture:	12.4	Date Received:	01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-14898		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14751		Lab File ID:	HP03430.D
Dilution:	10			Initial Weight/Volume:	20.8817 g
Date Analyzed:	01/18/2007 1341			Final Weight/Volume:	2 mL
Date Prepared:	01/15/2007 1221			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
2-Nitroaniline		ND		110	110
Phenanthrene		1600		22	22
Anthracene		400		22	22
Fluoranthene		1300		22	22
Pyrene		1700		22	22
Benzo[a]anthracene		740		27	27
Chrysene		750		27	27
Benzofluoranthene		910		44	44
Benzo[a]pyrene		780		33	33
Indeno[1,2,3-cd]pyrene		460		44	44
Benzo[g,h,i]perylene		440		27	27
Benzo[b]fluoranthene		710		22	22

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-080**

Lab Sample ID: 580-4641-13 | Date Sampled: 01/02/2007 1125
Client Matrix: Solid | % Moisture: 81.4 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03419.D
Dilution: 1.0 | Initial Weight/Volume: 20.5275 g
Date Analyzed: 01/17/2007 1504 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		53	53
Bis(2-chloroethyl)ether		ND	*	53	53
2-Chlorophenol		ND		53	53
1,3-Dichlorobenzene		ND	*	26	26
1,4-Dichlorobenzene		ND	*	26	26
Benzyl alcohol		ND		53	53
1,2-Dichlorobenzene		ND	*	26	26
2-Methylphenol		ND		53	53
Bis(2-chloroisopropyl) ether		ND		79	79
3 & 4 Methylphenol		160		110	110
N-Nitrosodi-n-propylamine		ND		53	53
Hexachloroethane		ND	*	53	53
Nitrobenzene		ND		53	53
Isophorone		ND		53	53
2-Nitrophenol		ND		53	53
2,4-Dimethylphenol		ND		53	53
Benzoic acid		ND		1300	1300
Bis(2-chloroethoxy)methane		ND		53	53
2,4-Dichlorophenol		ND		53	53
1,2,4-Trichlorobenzene		ND	*	26	26
Naphthalene		130		11	11
4-Chloroaniline		ND		53	53
Hexachlorobutadiene		ND	*	26	26
4-Chloro-3-methylphenol		ND		53	53
2-Methylnaphthalene		89		11	11
Hexachlorocyclopentadiene		ND		53	53
2,4,6-Trichlorophenol		ND		79	79
2,4,5-Trichlorophenol		ND		53	53
2-Chloronaphthalene		ND		11	11
2-Nitroaniline		ND		53	53
Dimethyl phthalate		ND		53	53
Acenaphthylene		33		11	11
2,6-Dinitrotoluene		ND		53	53
3-Nitroaniline		ND		53	53
Acenaphthene		ND		11	11
2,4-Dinitrophenol		ND		530	530
4-Nitrophenol		ND		530	530
Dibenzofuran		ND		53	53
2,4-Dinitrotoluene		ND		53	53
Diethyl phthalate		ND		53	53
4-Chlorophenyl phenyl ether		ND		53	53
Fluorene		27		11	11
4-Nitroaniline		ND		53	53

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-080**

Lab Sample ID: 580-4641-13 | Date Sampled: 01/02/2007 1125
Client Matrix: Solid | % Moisture: 81.4 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03419.D
Dilution: 1.0 | Initial Weight/Volume: 20.5275 g
Date Analyzed: 01/17/2007 1504 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		530	530
N-Nitrosodiphenylamine		ND		26	26
4-Bromophenyl phenyl ether		ND		53	53
Hexachlorobenzene		ND		26	26
Pentachlorophenol		120		53	53
Phenanthrene		240		11	11
Anthracene		31		11	11
Di-n-butyl phthalate		200		110	110
Fluoranthene		230		11	11
Pyrene		230		11	11
Butyl benzyl phthalate		ND		53	53
3,3'-Dichlorobenzidine		ND		110	110
Benzo[a]anthracene		110		13	13
Chrysene		170		13	13
Bis(2-ethylhexyl) phthalate		ND		790	790
Di-n-octyl phthalate		ND		110	110
Benzofluoranthene		230		21	21
Benzo[a]pyrene		120		16	16
Indeno[1,2,3-cd]pyrene		100		21	21
Dibenz(a,h)anthracene		ND		21	21
Benzo[g,h,i]perylene		110		13	13
Carbazole		ND		79	79
1-Methylnaphthalene		48		16	16
Benzo[b]fluoranthene		240		11	11
Benzo[k]fluoranthene		54		13	13

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	91	36 - 145
Phenol-d5	89	38 - 149
Nitrobenzene-d5	95	38 - 141
2-Fluorobiphenyl	86	42 - 140
2,4,6-Tribromophenol	115	28 - 143
Terphenyl-d14	83	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-020**

Lab Sample ID: 580-4641-14 | Date Sampled: 01/02/2007 1150
Client Matrix: Solid | % Moisture: 18.7 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03420.D
Dilution: 1.0 | Initial Weight/Volume: 20.6398 g
Date Analyzed: 01/17/2007 1531 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		12	12
Bis(2-chloroethyl)ether		ND	*	12	12
2-Chlorophenol		ND		12	12
1,3-Dichlorobenzene		ND	*	6.0	6.0
1,4-Dichlorobenzene		ND	*	6.0	6.0
Benzyl alcohol		ND		12	12
1,2-Dichlorobenzene		ND	*	6.0	6.0
2-Methylphenol		ND		12	12
Bis(2-chloroisopropyl) ether		ND		18	18
3 & 4 Methylphenol		ND		24	24
N-Nitrosodi-n-propylamine		ND		12	12
Hexachloroethane		ND	*	12	12
Nitrobenzene		ND		12	12
Isophorone		ND		12	12
2-Nitrophenol		ND		12	12
2,4-Dimethylphenol		ND		12	12
Benzoic acid		ND		300	300
Bis(2-chloroethoxy)methane		ND		12	12
2,4-Dichlorophenol		ND		12	12
1,2,4-Trichlorobenzene		ND	*	6.0	6.0
Naphthalene		39		2.4	2.4
4-Chloroaniline		18		12	12
Hexachlorobutadiene		ND	*	6.0	6.0
4-Chloro-3-methylphenol		ND		12	12
2-Methylnaphthalene		8.0		2.4	2.4
Hexachlorocyclopentadiene		ND		12	12
2,4,6-Trichlorophenol		ND		18	18
2,4,5-Trichlorophenol		ND		12	12
2-Chloronaphthalene		ND		2.4	2.4
2-Nitroaniline		ND		12	12
Dimethyl phthalate		ND		12	12
Acenaphthylene		18		2.4	2.4
2,6-Dinitrotoluene		ND		12	12
3-Nitroaniline		ND		12	12
Acenaphthene		5.0		2.4	2.4
2,4-Dinitrophenol		ND		120	120
4-Nitrophenol		ND		120	120
Dibenzofuran		ND		12	12
2,4-Dinitrotoluene		ND		12	12
Diethyl phthalate		16		12	12
4-Chlorophenyl phenyl ether		ND		12	12
Fluorene		10		2.4	2.4
4-Nitroaniline		ND		12	12

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-020**

Lab Sample ID:	580-4641-14			Date Sampled:	01/02/2007 1150
Client Matrix:	Solid	% Moisture:	18.7	Date Received:	01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-14898		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14751		Lab File ID:	HP03420.D
Dilution:	1.0			Initial Weight/Volume:	20.6398 g
Date Analyzed:	01/17/2007 1531			Final Weight/Volume:	2 mL
Date Prepared:	01/15/2007 1221			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		120	120
N-Nitrosodiphenylamine		ND		6.0	6.0
4-Bromophenyl phenyl ether		ND		12	12
Hexachlorobenzene		ND		6.0	6.0
Pentachlorophenol		ND		12	12
Phenanthrene		98		2.4	2.4
Anthracene		16		2.4	2.4
Fluoranthene		130		2.4	2.4
Pyrene		140		2.4	2.4
Butyl benzyl phthalate		65		12	12
3,3'-Dichlorobenzidine		ND		24	24
Benzo[a]anthracene		53		3.0	3.0
Chrysene		57		3.0	3.0
Di-n-octyl phthalate		ND		24	24
Benzofluoranthene		170		4.8	4.8
Benzo[a]pyrene		82		3.6	3.6
Indeno[1,2,3-cd]pyrene		66		4.8	4.8
Dibenz(a,h)anthracene		ND		4.8	4.8
Benzo[g,h,i]perylene		56		3.0	3.0
Carbazole		ND		18	18
1-Methylnaphthalene		4.7		3.6	3.6
Benzo[b]fluoranthene		98		2.4	2.4
Benzo[k]fluoranthene		37		3.0	3.0

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	81	36 - 145
Phenol-d5	77	38 - 149
Nitrobenzene-d5	91	38 - 141
2-Fluorobiphenyl	56	42 - 140
2,4,6-Tribromophenol	99	28 - 143
Terphenyl-d14	90	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-020**

Lab Sample ID:	580-4641-14			Date Sampled:	01/02/2007 1150
Client Matrix:	Solid	% Moisture:	18.7	Date Received:	01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-14898		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14751		Lab File ID:	HP03431.D
Dilution:	5.0			Initial Weight/Volume:	20.6398 g
Date Analyzed:	01/18/2007 1408			Final Weight/Volume:	2 mL
Date Prepared:	01/15/2007 1221			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Di-n-butyl phthalate		340		120	120

Client: GeoEngineers Inc

Job Number: 580-4641-1

Client Sample ID: **MW4-070102-020**

Lab Sample ID: 580-4641-14
Client Matrix: Solid
% Moisture: 18.7
Date Sampled: 01/02/2007 1150
Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3550B
Dilution: 2500
Date Analyzed: 01/18/2007 1502
Date Prepared: 01/15/2007 1221
Analysis Batch: 580-14898
Prep Batch: 580-14751
Instrument ID: SEA023
Lab File ID: HP03433.D
Initial Weight/Volume: 20.6398 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Bis(2-ethylhexyl) phthalate		530000		450000	450000

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-140**

Lab Sample ID: 580-4641-20 | Date Sampled: 01/02/2007 1215
Client Matrix: Solid | % Moisture: 19.0 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03421.D
Dilution: 1.0 | Initial Weight/Volume: 20.0091 g
Date Analyzed: 01/17/2007 1559 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		12	12
Bis(2-chloroethyl)ether		ND	*	12	12
2-Chlorophenol		ND		12	12
1,3-Dichlorobenzene		ND	*	6.2	6.2
1,4-Dichlorobenzene		ND	*	6.2	6.2
Benzyl alcohol		ND		12	12
1,2-Dichlorobenzene		ND	*	6.2	6.2
2-Methylphenol		ND		12	12
Bis(2-chloroisopropyl) ether		ND		19	19
3 & 4 Methylphenol		46		25	25
N-Nitrosodi-n-propylamine		ND		12	12
Hexachloroethane		ND	*	12	12
Nitrobenzene		ND		12	12
Isophorone		ND		12	12
2-Nitrophenol		ND		12	12
2,4-Dimethylphenol		ND		12	12
Benzoic acid		ND		310	310
Bis(2-chloroethoxy)methane		ND		12	12
2,4-Dichlorophenol		ND		12	12
1,2,4-Trichlorobenzene		ND	*	6.2	6.2
Naphthalene		ND		2.5	2.5
4-Chloroaniline		ND		12	12
Hexachlorobutadiene		ND	*	6.2	6.2
4-Chloro-3-methylphenol		ND		12	12
2-Methylnaphthalene		ND		2.5	2.5
Hexachlorocyclopentadiene		ND		12	12
2,4,6-Trichlorophenol		ND		19	19
2,4,5-Trichlorophenol		ND		12	12
2-Chloronaphthalene		ND		2.5	2.5
2-Nitroaniline		ND		12	12
Dimethyl phthalate		ND		12	12
Acenaphthylene		ND		2.5	2.5
2,6-Dinitrotoluene		ND		12	12
3-Nitroaniline		ND		12	12
Acenaphthene		ND		2.5	2.5
2,4-Dinitrophenol		ND		120	120
4-Nitrophenol		ND		120	120
Dibenzofuran		ND		12	12
2,4-Dinitrotoluene		ND		12	12
Diethyl phthalate		ND		12	12
4-Chlorophenyl phenyl ether		ND		12	12
Fluorene		ND		2.5	2.5
4-Nitroaniline		ND		12	12

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-140**

Lab Sample ID: 580-4641-20 | Date Sampled: 01/02/2007 1215
Client Matrix: Solid | % Moisture: 19.0 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03421.D
Dilution: 1.0 | Initial Weight/Volume: 20.0091 g
Date Analyzed: 01/17/2007 1559 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		120	120
N-Nitrosodiphenylamine		ND		6.2	6.2
4-Bromophenyl phenyl ether		ND		12	12
Hexachlorobenzene		ND		6.2	6.2
Pentachlorophenol		ND		12	12
Phenanthrene		ND		2.5	2.5
Anthracene		ND		2.5	2.5
Di-n-butyl phthalate		ND		25	25
Fluoranthene		ND		2.5	2.5
Pyrene		ND		2.5	2.5
Butyl benzyl phthalate		ND		12	12
3,3'-Dichlorobenzidine		ND		25	25
Benzo[a]anthracene		ND		3.1	3.1
Chrysene		ND		3.1	3.1
Bis(2-ethylhexyl) phthalate		ND		190	190
Di-n-octyl phthalate		ND		25	25
Benzofluoranthene		ND		4.9	4.9
Benzo[a]pyrene		ND		3.7	3.7
Indeno[1,2,3-cd]pyrene		ND		4.9	4.9
Dibenz(a,h)anthracene		ND		4.9	4.9
Benzo[g,h,i]perylene		ND		3.1	3.1
Carbazole		ND		19	19
1-Methylnaphthalene		ND		3.7	3.7
Benzo[b]fluoranthene		ND		2.5	2.5
Benzo[k]fluoranthene		ND		3.1	3.1

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	89	36 - 145
Phenol-d5	87	38 - 149
Nitrobenzene-d5	78	38 - 141
2-Fluorobiphenyl	55	42 - 140
2,4,6-Tribromophenol	90	28 - 143
Terphenyl-d14	98	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-040**

Lab Sample ID: 580-4641-22 | Date Sampled: 01/02/2007 1310
Client Matrix: Solid | % Moisture: 4.5 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03422.D
Dilution: 1.0 | Initial Weight/Volume: 20.4227 g
Date Analyzed: 01/17/2007 1626 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		10	10
Bis(2-chloroethyl)ether		ND	*	10	10
2-Chlorophenol		ND		10	10
1,3-Dichlorobenzene		ND	*	5.1	5.1
1,4-Dichlorobenzene		ND	*	5.1	5.1
Benzyl alcohol		ND		10	10
1,2-Dichlorobenzene		ND	*	5.1	5.1
2-Methylphenol		ND		10	10
Bis(2-chloroisopropyl) ether		ND		15	15
3 & 4 Methylphenol		ND		20	20
N-Nitrosodi-n-propylamine		ND		10	10
Hexachloroethane		ND	*	10	10
Nitrobenzene		ND		10	10
Isophorone		ND		10	10
2-Nitrophenol		ND		10	10
2,4-Dimethylphenol		ND		10	10
Benzoic acid		ND		260	260
Bis(2-chloroethoxy)methane		ND		10	10
2,4-Dichlorophenol		ND		10	10
1,2,4-Trichlorobenzene		ND	*	5.1	5.1
Naphthalene		ND		2.0	2.0
4-Chloroaniline		ND		10	10
Hexachlorobutadiene		ND	*	5.1	5.1
4-Chloro-3-methylphenol		ND		10	10
2-Methylnaphthalene		ND		2.0	2.0
Hexachlorocyclopentadiene		ND		10	10
2,4,6-Trichlorophenol		ND		15	15
2,4,5-Trichlorophenol		ND		10	10
2-Chloronaphthalene		ND		2.0	2.0
2-Nitroaniline		ND		10	10
Dimethyl phthalate		ND		10	10
Acenaphthylene		ND		2.0	2.0
2,6-Dinitrotoluene		ND		10	10
3-Nitroaniline		ND		10	10
Acenaphthene		ND		2.0	2.0
2,4-Dinitrophenol		ND		100	100
4-Nitrophenol		ND		100	100
Dibenzofuran		ND		10	10
2,4-Dinitrotoluene		ND		10	10
Diethyl phthalate		ND		10	10
4-Chlorophenyl phenyl ether		ND		10	10
Fluorene		ND		2.0	2.0
4-Nitroaniline		ND		10	10

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-040**

Lab Sample ID:	580-4641-22			Date Sampled:	01/02/2007 1310
Client Matrix:	Solid	% Moisture:	4.5	Date Received:	01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-14898		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14751		Lab File ID:	HP03422.D
Dilution:	1.0			Initial Weight/Volume:	20.4227 g
Date Analyzed:	01/17/2007 1626			Final Weight/Volume:	2 mL
Date Prepared:	01/15/2007 1221			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		100	100
N-Nitrosodiphenylamine		ND		5.1	5.1
4-Bromophenyl phenyl ether		ND		10	10
Hexachlorobenzene		ND		5.1	5.1
Pentachlorophenol		ND		10	10
Phenanthrene		4.6		2.0	2.0
Anthracene		ND		2.0	2.0
Di-n-butyl phthalate		ND		20	20
Fluoranthene		7.6		2.0	2.0
Pyrene		9.5		2.0	2.0
Butyl benzyl phthalate		ND		10	10
3,3'-Dichlorobenzidine		ND		20	20
Benzo[a]anthracene		3.9		2.6	2.6
Chrysene		4.9		2.6	2.6
Bis(2-ethylhexyl) phthalate		ND		150	150
Di-n-octyl phthalate		ND		20	20
Benzofluoranthene		8.3		4.1	4.1
Benzo[a]pyrene		ND		3.1	3.1
Indeno[1,2,3-cd]pyrene		4.8		4.1	4.1
Dibenz(a,h)anthracene		ND		4.1	4.1
Benzo[g,h,i]perylene		4.4		2.6	2.6
Carbazole		ND		15	15
1-Methylnaphthalene		ND		3.1	3.1
Benzo[b]fluoranthene		8.5		2.0	2.0
Benzo[k]fluoranthene		6.0		2.6	2.6

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	101	36 - 145
Phenol-d5	94	38 - 149
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	87	42 - 140
2,4,6-Tribromophenol	111	28 - 143
Terphenyl-d14	106	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-100**

Lab Sample ID: 580-4641-24 | Date Sampled: 01/02/2007 1320
Client Matrix: Solid | % Moisture: 13.8 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03423.D
Dilution: 1.0 | Initial Weight/Volume: 20.7972 g
Date Analyzed: 01/17/2007 1653 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		11	11
Bis(2-chloroethyl)ether		ND	*	11	11
2-Chlorophenol		ND		11	11
1,3-Dichlorobenzene		ND	*	5.6	5.6
1,4-Dichlorobenzene		ND	*	5.6	5.6
Benzyl alcohol		ND		11	11
1,2-Dichlorobenzene		ND	*	5.6	5.6
2-Methylphenol		ND		11	11
Bis(2-chloroisopropyl) ether		ND		17	17
3 & 4 Methylphenol		ND		22	22
N-Nitrosodi-n-propylamine		ND		11	11
Hexachloroethane		ND	*	11	11
Nitrobenzene		ND		11	11
Isophorone		ND		11	11
2-Nitrophenol		ND		11	11
2,4-Dimethylphenol		ND		11	11
Benzoic acid		ND		280	280
Bis(2-chloroethoxy)methane		ND		11	11
2,4-Dichlorophenol		ND		11	11
1,2,4-Trichlorobenzene		ND	*	5.6	5.6
Naphthalene		ND		2.2	2.2
4-Chloroaniline		ND		11	11
Hexachlorobutadiene		ND	*	5.6	5.6
4-Chloro-3-methylphenol		ND		11	11
2-Methylnaphthalene		ND		2.2	2.2
Hexachlorocyclopentadiene		ND		11	11
2,4,6-Trichlorophenol		ND		17	17
2,4,5-Trichlorophenol		ND		11	11
2-Chloronaphthalene		ND		2.2	2.2
2-Nitroaniline		ND		11	11
Dimethyl phthalate		ND		11	11
Acenaphthylene		ND		2.2	2.2
2,6-Dinitrotoluene		ND		11	11
3-Nitroaniline		ND		11	11
Acenaphthene		ND		2.2	2.2
2,4-Dinitrophenol		ND		110	110
4-Nitrophenol		ND		110	110
Dibenzofuran		ND		11	11
2,4-Dinitrotoluene		ND		11	11
Diethyl phthalate		ND		11	11
4-Chlorophenyl phenyl ether		ND		11	11
Fluorene		ND		2.2	2.2
4-Nitroaniline		ND		11	11

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-100**

Lab Sample ID: 580-4641-24 | Date Sampled: 01/02/2007 1320
Client Matrix: Solid | % Moisture: 13.8 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03423.D
Dilution: 1.0 | Initial Weight/Volume: 20.7972 g
Date Analyzed: 01/17/2007 1653 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		110	110
N-Nitrosodiphenylamine		ND		5.6	5.6
4-Bromophenyl phenyl ether		ND		11	11
Hexachlorobenzene		ND		5.6	5.6
Pentachlorophenol		ND		11	11
Phenanthrene		4.8		2.2	2.2
Anthracene		ND		2.2	2.2
Di-n-butyl phthalate		ND		22	22
Fluoranthene		7.9		2.2	2.2
Pyrene		9.3		2.2	2.2
Butyl benzyl phthalate		ND		11	11
3,3'-Dichlorobenzidine		ND		22	22
Benzo[a]anthracene		3.9		2.8	2.8
Chrysene		4.5		2.8	2.8
Bis(2-ethylhexyl) phthalate		ND		170	170
Di-n-octyl phthalate		ND		22	22
Benzofluoranthene		6.7		4.5	4.5
Benzo[a]pyrene		6.1		3.3	3.3
Indeno[1,2,3-cd]pyrene		ND		4.5	4.5
Dibenz(a,h)anthracene		ND		4.5	4.5
Benzo[g,h,i]perylene		ND		2.8	2.8
Carbazole		ND		17	17
1-Methylnaphthalene		ND		3.3	3.3
Benzo[b]fluoranthene		5.3		2.2	2.2
Benzo[k]fluoranthene		ND		2.8	2.8

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	97	36 - 145
Phenol-d5	89	38 - 149
Nitrobenzene-d5	88	38 - 141
2-Fluorobiphenyl	70	42 - 140
2,4,6-Tribromophenol	104	28 - 143
Terphenyl-d14	102	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-040**

Lab Sample ID: 580-4641-27 | Date Sampled: 01/02/2007 1425
Client Matrix: Solid | % Moisture: 7.6 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03424.D
Dilution: 1.0 | Initial Weight/Volume: 20.9712 g
Date Analyzed: 01/17/2007 1720 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		10	10
Bis(2-chloroethyl)ether		ND	*	10	10
2-Chlorophenol		ND		10	10
1,3-Dichlorobenzene		ND	*	5.2	5.2
1,4-Dichlorobenzene		ND	*	5.2	5.2
Benzyl alcohol		ND		10	10
1,2-Dichlorobenzene		ND	*	5.2	5.2
2-Methylphenol		ND		10	10
Bis(2-chloroisopropyl) ether		ND		15	15
3 & 4 Methylphenol		ND		21	21
N-Nitrosodi-n-propylamine		ND		10	10
Hexachloroethane		ND	*	10	10
Nitrobenzene		ND		10	10
Isophorone		ND		10	10
2-Nitrophenol		ND		10	10
2,4-Dimethylphenol		ND		10	10
Benzoic acid		ND		260	260
Bis(2-chloroethoxy)methane		ND		10	10
2,4-Dichlorophenol		ND		10	10
1,2,4-Trichlorobenzene		ND	*	5.2	5.2
Naphthalene		ND		2.1	2.1
4-Chloroaniline		ND		10	10
Hexachlorobutadiene		ND	*	5.2	5.2
4-Chloro-3-methylphenol		ND		10	10
2-Methylnaphthalene		ND		2.1	2.1
Hexachlorocyclopentadiene		ND		10	10
2,4,6-Trichlorophenol		ND		15	15
2,4,5-Trichlorophenol		ND		10	10
2-Chloronaphthalene		ND		2.1	2.1
2-Nitroaniline		ND		10	10
Dimethyl phthalate		ND		10	10
Acenaphthylene		3.5		2.1	2.1
2,6-Dinitrotoluene		ND		10	10
3-Nitroaniline		ND		10	10
Acenaphthene		ND		2.1	2.1
2,4-Dinitrophenol		ND		100	100
4-Nitrophenol		ND		100	100
Dibenzofuran		ND		10	10
2,4-Dinitrotoluene		ND		10	10
Diethyl phthalate		ND		10	10
4-Chlorophenyl phenyl ether		ND		10	10
Fluorene		ND		2.1	2.1
4-Nitroaniline		ND		10	10

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-040**

Lab Sample ID: 580-4641-27 | Date Sampled: 01/02/2007 1425
Client Matrix: Solid | % Moisture: 7.6 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03424.D
Dilution: 1.0 | Initial Weight/Volume: 20.9712 g
Date Analyzed: 01/17/2007 1720 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		100	100
N-Nitrosodiphenylamine		ND		5.2	5.2
4-Bromophenyl phenyl ether		ND		10	10
Hexachlorobenzene		ND		5.2	5.2
Pentachlorophenol		ND		10	10
Phenanthrene		17		2.1	2.1
Anthracene		4.0		2.1	2.1
Di-n-butyl phthalate		ND		21	21
Fluoranthene		24		2.1	2.1
Pyrene		28		2.1	2.1
Butyl benzyl phthalate		ND		10	10
3,3'-Dichlorobenzidine		ND		21	21
Benzo[a]anthracene		12		2.6	2.6
Chrysene		11		2.6	2.6
Bis(2-ethylhexyl) phthalate		ND		150	150
Di-n-octyl phthalate		ND		21	21
Benzofluoranthene		18		4.1	4.1
Benzo[a]pyrene		14		3.1	3.1
Indeno[1,2,3-cd]pyrene		8.1		4.1	4.1
Dibenz(a,h)anthracene		ND		4.1	4.1
Benzo[g,h,i]perylene		6.2		2.6	2.6
Carbazole		ND		15	15
1-Methylnaphthalene		ND		3.1	3.1
Benzo[b]fluoranthene		14		2.1	2.1
Benzo[k]fluoranthene		4.5		2.6	2.6

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	88	36 - 145
Phenol-d5	83	38 - 149
Nitrobenzene-d5	75	38 - 141
2-Fluorobiphenyl	68	42 - 140
2,4,6-Tribromophenol	93	28 - 143
Terphenyl-d14	92	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-080**

Lab Sample ID: 580-4641-28 | Date Sampled: 01/02/2007 1430
Client Matrix: Solid | % Moisture: 14.2 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03425.D
Dilution: 1.0 | Initial Weight/Volume: 20.0535 g
Date Analyzed: 01/17/2007 1747 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		12	12
Bis(2-chloroethyl)ether		ND	*	12	12
2-Chlorophenol		ND		12	12
1,3-Dichlorobenzene		ND	*	5.8	5.8
1,4-Dichlorobenzene		ND	*	5.8	5.8
Benzyl alcohol		ND		12	12
1,2-Dichlorobenzene		ND	*	5.8	5.8
2-Methylphenol		ND		12	12
Bis(2-chloroisopropyl) ether		ND		17	17
3 & 4 Methylphenol		ND		23	23
N-Nitrosodi-n-propylamine		ND		12	12
Hexachloroethane		ND	*	12	12
Nitrobenzene		ND		12	12
Isophorone		ND		12	12
2-Nitrophenol		ND		12	12
2,4-Dimethylphenol		ND		12	12
Benzoic acid		ND		290	290
Bis(2-chloroethoxy)methane		ND		12	12
2,4-Dichlorophenol		ND		12	12
1,2,4-Trichlorobenzene		ND	*	5.8	5.8
Naphthalene		ND		2.3	2.3
4-Chloroaniline		ND		12	12
Hexachlorobutadiene		ND	*	5.8	5.8
4-Chloro-3-methylphenol		ND		12	12
2-Methylnaphthalene		ND		2.3	2.3
Hexachlorocyclopentadiene		ND		12	12
2,4,6-Trichlorophenol		ND		17	17
2,4,5-Trichlorophenol		ND		12	12
2-Chloronaphthalene		ND		2.3	2.3
2-Nitroaniline		ND		12	12
Dimethyl phthalate		ND		12	12
Acenaphthylene		ND		2.3	2.3
2,6-Dinitrotoluene		ND		12	12
3-Nitroaniline		ND		12	12
Acenaphthene		ND		2.3	2.3
2,4-Dinitrophenol		ND		120	120
4-Nitrophenol		ND		120	120
Dibenzofuran		ND		12	12
2,4-Dinitrotoluene		ND		12	12
Diethyl phthalate		ND		12	12
4-Chlorophenyl phenyl ether		ND		12	12
Fluorene		ND		2.3	2.3
4-Nitroaniline		ND		12	12

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-080**

Lab Sample ID: 580-4641-28 | Date Sampled: 01/02/2007 1430
Client Matrix: Solid | % Moisture: 14.2 | Date Received: 01/03/2007 1345

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-14898 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14751 | Lab File ID: HP03425.D
Dilution: 1.0 | Initial Weight/Volume: 20.0535 g
Date Analyzed: 01/17/2007 1747 | Final Weight/Volume: 2 mL
Date Prepared: 01/15/2007 1221 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		120	120
N-Nitrosodiphenylamine		ND		5.8	5.8
4-Bromophenyl phenyl ether		ND		12	12
Hexachlorobenzene		ND		5.8	5.8
Pentachlorophenol		ND		12	12
Phenanthrene		ND		2.3	2.3
Anthracene		ND		2.3	2.3
Di-n-butyl phthalate		ND		23	23
Fluoranthene		ND		2.3	2.3
Pyrene		ND		2.3	2.3
Butyl benzyl phthalate		ND		12	12
3,3'-Dichlorobenzidine		ND		23	23
Benzo[a]anthracene		ND		2.9	2.9
Chrysene		ND		2.9	2.9
Bis(2-ethylhexyl) phthalate		ND		170	170
Di-n-octyl phthalate		ND		23	23
Benzofluoranthene		ND		4.6	4.6
Benzo[a]pyrene		ND		3.5	3.5
Indeno[1,2,3-cd]pyrene		ND		4.6	4.6
Dibenz(a,h)anthracene		ND		4.6	4.6
Benzo[g,h,i]perylene		ND		2.9	2.9
Carbazole		ND		17	17
1-Methylnaphthalene		ND		3.5	3.5
Benzo[b]fluoranthene		ND		2.3	2.3
Benzo[k]fluoranthene		ND		2.9	2.9

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	90	36 - 145
Phenol-d5	84	38 - 149
Nitrobenzene-d5	82	38 - 141
2-Fluorobiphenyl	77	42 - 140
2,4,6-Tribromophenol	100	28 - 143
Terphenyl-d14	99	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-020**

Lab Sample ID:	580-4641-2			Date Sampled:	01/02/2007 0920
Client Matrix:	Solid	% Moisture:	11.2	Date Received:	01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14602		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14481		Lab File ID:	CS168904.D
Dilution:	1.0			Initial Weight/Volume:	3.61 g
Date Analyzed:	01/04/2007 1338			Final Weight/Volume:	400 mL
Date Prepared:	01/04/2007 0943			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		2.5	J B	0.80	12

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	107	50 - 150
Trifluorotoluene (Surr)	109	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	92	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW2-070102-080

Lab Sample ID:	580-4641-5			Date Sampled:	01/02/2007 0905
Client Matrix:	Solid	% Moisture:	11.5	Date Received:	01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14602		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14481		Lab File ID:	CS168912.D
Dilution:	1.0			Initial Weight/Volume:	5.21 g
Date Analyzed:	01/04/2007 1638			Final Weight/Volume:	400 mL
Date Prepared:	01/04/2007 0943			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		9.8	B	0.55	8.7

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	50 - 150
Trifluorotoluene (Surr)	106	50 - 150
Ethylbenzene-d10	113	50 - 150
Fluorobenzene (Surr)	90	50 - 150
Toluene-d8 (Surr)	108	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP12-070102-000**

Lab Sample ID:	580-4641-6			Date Sampled:	01/02/2007 1020
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14602		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14481		Lab File ID:	CS168910.D
Dilution:	1.0			Initial Weight/Volume:	10.32 g
Date Analyzed:	01/04/2007 1553			Final Weight/Volume:	400 mL
Date Prepared:	01/04/2007 0943			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		0.92	J B	0.26	4.1

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	50 - 150
Trifluorotoluene (Surr)	106	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	90	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4641-1

Client Sample ID: **DP12-070102-080**

Lab Sample ID: 580-4641-8
Client Matrix: Solid
% Moisture: 31.6
Date Sampled: 01/02/2007 1030
Date Received: 01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5035
Dilution: 1.0
Date Analyzed: 01/04/2007 1423
Date Prepared: 01/04/2007 0943
Analysis Batch: 580-14602
Prep Batch: 580-14481
Instrument ID: SEA003
Lab File ID: CS168906.D
Initial Weight/Volume: 11.36 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		1.0	J B	0.33	5.1

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	50 - 150
Trifluorotoluene (Surr)	100	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	91	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-000**

Lab Sample ID:	580-4641-9			Date Sampled:	01/02/2007 1105
Client Matrix:	Solid	% Moisture:	12.4	Date Received:	01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14602		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14481		Lab File ID:	CS168911.D
Dilution:	1.0			Initial Weight/Volume:	8.98 g
Date Analyzed:	01/04/2007 1615			Final Weight/Volume:	400 mL
Date Prepared:	01/04/2007 0943			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		7.6	B	0.32	5.1

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	50 - 150
Trifluorotoluene (Surr)	106	50 - 150
Ethylbenzene-d10	113	50 - 150
Fluorobenzene (Surr)	90	50 - 150
Toluene-d8 (Surr)	108	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-080**

Lab Sample ID:	580-4641-13			Date Sampled:	01/02/2007 1125
Client Matrix:	Solid	% Moisture:	81.4	Date Received:	01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14602		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14481		Lab File ID:	CS168909.D
Dilution:	1.0			Initial Weight/Volume:	6.48 g
Date Analyzed:	01/04/2007 1530			Final Weight/Volume:	400 mL
Date Prepared:	01/04/2007 0943			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		13	J B	2.1	33

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	107	50 - 150
Trifluorotoluene (Surr)	93	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	91	50 - 150
Toluene-d8 (Surr)	108	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-020**

Lab Sample ID:	580-4641-14			Date Sampled:	01/02/2007 1150
Client Matrix:	Solid	% Moisture:	18.7	Date Received:	01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14602		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14481		Lab File ID:	CS168903.D
Dilution:	1.0			Initial Weight/Volume:	8.10 g
Date Analyzed:	01/04/2007 1315			Final Weight/Volume:	400 mL
Date Prepared:	01/04/2007 0943			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		3.0	J B	0.39	6.1

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	50 - 150
Trifluorotoluene (Surr)	100	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	92	50 - 150
Toluene-d8 (Surr)	110	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4641-1

Client Sample ID: **MW4-070102-140**

Lab Sample ID: 580-4641-20
Client Matrix: Solid
% Moisture: 19.0
Date Sampled: 01/02/2007 1215
Date Received: 01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5035
Dilution: 1.0
Date Analyzed: 01/04/2007 1400
Date Prepared: 01/04/2007 0943
Analysis Batch: 580-14602
Prep Batch: 580-14481
Instrument ID: SEA003
Lab File ID: CS168905.D
Initial Weight/Volume: 8.80 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		0.73	J B	0.36	5.6

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	108	50 - 150
Trifluorotoluene (Surr)	90	50 - 150
Ethylbenzene-d10	115	50 - 150
Fluorobenzene (Surr)	91	50 - 150
Toluene-d8 (Surr)	110	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4641-1

Client Sample ID: **MW1-070102-040**

Lab Sample ID: 580-4641-22
Client Matrix: Solid
% Moisture: 4.5
Date Sampled: 01/02/2007 1310
Date Received: 01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5035
Dilution: 1.0
Date Analyzed: 01/04/2007 1723
Date Prepared: 01/04/2007 0943
Analysis Batch: 580-14602
Prep Batch: 580-14481
Instrument ID: SEA003
Lab File ID: CS168914.D
Initial Weight/Volume: 7.72 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		ND		0.35	5.4

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	50 - 150
Trifluorotoluene (Surr)	95	50 - 150
Ethylbenzene-d10	113	50 - 150
Fluorobenzene (Surr)	90	50 - 150
Toluene-d8 (Surr)	108	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-100**

Lab Sample ID:	580-4641-24			Date Sampled:	01/02/2007 1320
Client Matrix:	Solid	% Moisture:	13.8	Date Received:	01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14602		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14481		Lab File ID:	CS168907.D
Dilution:	1.0			Initial Weight/Volume:	8.27 g
Date Analyzed:	01/04/2007 1446			Final Weight/Volume:	400 mL
Date Prepared:	01/04/2007 0943			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		ND		0.36	5.6

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	107	50 - 150
Trifluorotoluene (Surr)	103	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	91	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4641-1

Client Sample ID: **MW3-070102-040**

Lab Sample ID: 580-4641-27
Client Matrix: Solid
% Moisture: 7.6
Date Sampled: 01/02/2007 1425
Date Received: 01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5035
Dilution: 1.0
Date Analyzed: 01/04/2007 1508
Date Prepared: 01/04/2007 0943
Analysis Batch: 580-14602
Prep Batch: 580-14481
Instrument ID: SEA003
Lab File ID: CS168908.D
Initial Weight/Volume: 9.32 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		ND		0.30	4.6

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	107	50 - 150
Trifluorotoluene (Surr)	99	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	91	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-080**

Lab Sample ID:	580-4641-28			Date Sampled:	01/02/2007 1430
Client Matrix:	Solid	% Moisture:	14.2	Date Received:	01/03/2007 1345

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14602		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14481		Lab File ID:	CS168913.D
Dilution:	1.0			Initial Weight/Volume:	7.18 g
Date Analyzed:	01/04/2007 1700			Final Weight/Volume:	400 mL
Date Prepared:	01/04/2007 0943			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		1.3	J B	0.41	6.5

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	50 - 150
Trifluorotoluene (Surr)	99	50 - 150
Ethylbenzene-d10	113	50 - 150
Fluorobenzene (Surr)	90	50 - 150
Toluene-d8 (Surr)	108	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-020**

Lab Sample ID:	580-4641-2			Date Sampled:	01/02/2007 0920
Client Matrix:	Solid	% Moisture:	11.2	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5544.D
Dilution:	5.0			Initial Weight/Volume:	10.6502 g
Date Analyzed:	01/04/2007 1522			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.061	0.11
PCB-1221		ND		0.061	0.11
PCB-1232		ND		0.061	0.11
PCB-1242		ND		0.061	0.11
PCB-1248		ND		0.061	0.11
PCB-1254		ND		0.016	0.11
PCB-1260		ND		0.016	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	91	45 - 155
DCB Decachlorobiphenyl	77	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW2-070102-080**

Lab Sample ID:	580-4641-5			Date Sampled:	01/02/2007 0905
Client Matrix:	Solid	% Moisture:	11.5	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5545.D
Dilution:	5.0			Initial Weight/Volume:	10.8132 g
Date Analyzed:	01/04/2007 1545			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.061	0.10
PCB-1221		ND		0.061	0.10
PCB-1232		ND		0.061	0.10
PCB-1242		ND		0.061	0.10
PCB-1248		ND		0.061	0.10
PCB-1254		ND		0.016	0.10
PCB-1260		ND		0.016	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	91	45 - 155
DCB Decachlorobiphenyl	76	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP12-070102-000

Lab Sample ID:	580-4641-6			Date Sampled:	01/02/2007 1020
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5546.D
Dilution:	5.0			Initial Weight/Volume:	10.4089 g
Date Analyzed:	01/04/2007 1609			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.059	0.10
PCB-1221		ND		0.059	0.10
PCB-1232		ND		0.059	0.10
PCB-1242		ND		0.059	0.10
PCB-1248		ND		0.059	0.10
PCB-1254		ND		0.015	0.10
PCB-1260		ND		0.015	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	81	45 - 155
DCB Decachlorobiphenyl	63	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP12-070102-080

Lab Sample ID:	580-4641-8			Date Sampled:	01/02/2007 1030
Client Matrix:	Solid	% Moisture:	31.6	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5549.D
Dilution:	5.0			Initial Weight/Volume:	10.7756 g
Date Analyzed:	01/04/2007 1720			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.079	0.14
PCB-1221		ND		0.079	0.14
PCB-1232		ND		0.079	0.14
PCB-1242		ND		0.079	0.14
PCB-1248		ND		0.079	0.14
PCB-1254		ND		0.020	0.14
PCB-1260		ND		0.020	0.14

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	91	45 - 155
DCB Decachlorobiphenyl	76	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP11-070102-000

Lab Sample ID:	580-4641-9			Date Sampled:	01/02/2007 1105
Client Matrix:	Solid	% Moisture:	12.4	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5550.D
Dilution:	5.0			Initial Weight/Volume:	10.4146 g
Date Analyzed:	01/04/2007 1743			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.064	0.11
PCB-1221		ND		0.064	0.11
PCB-1232		ND		0.064	0.11
PCB-1242		ND		0.064	0.11
PCB-1248		ND		0.064	0.11
PCB-1254		ND		0.016	0.11
PCB-1260		ND		0.016	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	89	45 - 155
DCB Decachlorobiphenyl	79	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP11-070102-080

Lab Sample ID:	580-4641-13			Date Sampled:	01/02/2007 1125
Client Matrix:	Solid	% Moisture:	81.4	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5553.D
Dilution:	5.0			Initial Weight/Volume:	10.0324 g
Date Analyzed:	01/04/2007 1854			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.31	0.54
PCB-1221		ND		0.31	0.54
PCB-1232		ND		0.31	0.54
PCB-1242		ND		0.31	0.54
PCB-1248		ND		0.31	0.54
PCB-1254		ND		0.081	0.54
PCB-1260		ND		0.081	0.54

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	115	45 - 155
DCB Decachlorobiphenyl	91	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-020**

Lab Sample ID:	580-4641-14			Date Sampled:	01/02/2007 1150
Client Matrix:	Solid	% Moisture:	18.7	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5554.D
Dilution:	5.0			Initial Weight/Volume:	10.0018 g
Date Analyzed:	01/04/2007 1918			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.071	0.12
PCB-1221		ND		0.071	0.12
PCB-1232		ND		0.071	0.12
PCB-1242		ND		0.071	0.12
PCB-1248		ND		0.071	0.12
PCB-1254		ND		0.018	0.12
PCB-1260		0.058	J	0.018	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	92	45 - 155
DCB Decachlorobiphenyl	82	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW4-070102-140**

Lab Sample ID:	580-4641-20			Date Sampled:	01/02/2007 1215
Client Matrix:	Solid	% Moisture:	19.0	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5555.D
Dilution:	5.0			Initial Weight/Volume:	10.3827 g
Date Analyzed:	01/04/2007 1942			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.069	0.12
PCB-1221		ND		0.069	0.12
PCB-1232		ND		0.069	0.12
PCB-1242		ND		0.069	0.12
PCB-1248		ND		0.069	0.12
PCB-1254		ND		0.018	0.12
PCB-1260		ND		0.018	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	88	45 - 155
DCB Decachlorobiphenyl	72	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-040**

Lab Sample ID:	580-4641-22			Date Sampled:	01/02/2007 1310
Client Matrix:	Solid	% Moisture:	4.5	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5556.D
Dilution:	5.0			Initial Weight/Volume:	10.4041 g
Date Analyzed:	01/04/2007 2005			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.058	0.10
PCB-1221		ND		0.058	0.10
PCB-1232		ND		0.058	0.10
PCB-1242		ND		0.058	0.10
PCB-1248		ND		0.058	0.10
PCB-1254		ND		0.015	0.10
PCB-1260		ND		0.015	0.10

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	87	45 - 155
DCB Decachlorobiphenyl	76	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-100**

Lab Sample ID: 580-4641-24 | Date Sampled: 01/02/2007 1320
Client Matrix: Solid | % Moisture: 13.8 | Date Received: 01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-14518 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-14470 | Lab File ID: PCB5557.D
Dilution: 5.0 | Initial Weight/Volume: 10.5449 g
Date Analyzed: 01/04/2007 2029 | Final Weight/Volume: 20 mL
Date Prepared: 01/04/2007 0850 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.064	0.11
PCB-1221		ND		0.064	0.11
PCB-1232		ND		0.064	0.11
PCB-1242		ND		0.064	0.11
PCB-1248		ND		0.064	0.11
PCB-1254		ND		0.016	0.11
PCB-1260		ND		0.016	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	88	45 - 155
DCB Decachlorobiphenyl	77	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-040**

Lab Sample ID:	580-4641-27			Date Sampled:	01/02/2007 1425
Client Matrix:	Solid	% Moisture:	7.6	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5558.D
Dilution:	5.0			Initial Weight/Volume:	10.9883 g
Date Analyzed:	01/04/2007 2053			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.057	0.098
PCB-1221		ND		0.057	0.098
PCB-1232		ND		0.057	0.098
PCB-1242		ND		0.057	0.098
PCB-1248		ND		0.057	0.098
PCB-1254		ND		0.015	0.098
PCB-1260		ND		0.015	0.098

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	88	45 - 155
DCB Decachlorobiphenyl	72	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-080**

Lab Sample ID:	580-4641-28			Date Sampled:	01/02/2007 1430
Client Matrix:	Solid	% Moisture:	14.2	Date Received:	01/03/2007 1345

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14518		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14470		Lab File ID:	PCB5559.D
Dilution:	5.0			Initial Weight/Volume:	10.8034 g
Date Analyzed:	01/04/2007 2116			Final Weight/Volume:	20 mL
Date Prepared:	01/04/2007 0850			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.063	0.11
PCB-1221		ND		0.063	0.11
PCB-1232		ND		0.063	0.11
PCB-1242		ND		0.063	0.11
PCB-1248		ND		0.063	0.11
PCB-1254		ND		0.016	0.11
PCB-1260		ND		0.016	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	90	45 - 155
DCB Decachlorobiphenyl	79	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW2-070102-020

Lab Sample ID:	580-4641-2			Date Sampled:	01/02/2007 0920
Client Matrix:	Solid	% Moisture:	11.2	Date Received:	01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14609		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14519		Lab File ID:	FA28315.D
Dilution:	1.0			Initial Weight/Volume:	10.7087 g
Date Analyzed:	01/08/2007 1543			Final Weight/Volume:	10 mL
Date Prepared:	01/05/2007 0819			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		68		6.3	53
#2 Diesel (C10-C24)		11	J B	6.3	26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	86	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4641-1

Client Sample ID: MW2-070102-080

Lab Sample ID: 580-4641-5
Client Matrix: Solid
% Moisture: 11.5
Date Sampled: 01/02/2007 0905
Date Received: 01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/08/2007 1603
Date Prepared: 01/05/2007 0819
Analysis Batch: 580-14609
Prep Batch: 580-14519
Instrument ID: SEA013
Lab File ID: FA28316.D
Initial Weight/Volume: 10.6915 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		28	J	6.3	53
#2 Diesel (C10-C24)		10	J B	6.4	26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	91	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP12-070102-000

Lab Sample ID:	580-4641-6			Date Sampled:	01/02/2007 1020
Client Matrix:	Solid	% Moisture:	5.5	Date Received:	01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14609		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14519		Lab File ID:	FA28317.D
Dilution:	1.0			Initial Weight/Volume:	10.3780 g
Date Analyzed:	01/08/2007 1623			Final Weight/Volume:	10 mL
Date Prepared:	01/05/2007 0819			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		290		6.1	51
#2 Diesel (C10-C24)		43	B	6.1	25

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	72	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP12-070102-080

Lab Sample ID:	580-4641-8			Date Sampled:	01/02/2007 1030
Client Matrix:	Solid	% Moisture:	31.6	Date Received:	01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14609		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14519		Lab File ID:	FA28318.D
Dilution:	1.0			Initial Weight/Volume:	10.0863 g
Date Analyzed:	01/08/2007 1649			Final Weight/Volume:	10 mL
Date Prepared:	01/05/2007 0819			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		69	J	8.7	72
#2 Diesel (C10-C24)		ND		8.7	36

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	73	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **DP11-070102-000**

Lab Sample ID:	580-4641-9			Date Sampled:	01/02/2007 1105
Client Matrix:	Solid	% Moisture:	12.4	Date Received:	01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14609		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14519		Lab File ID:	FA28319.D
Dilution:	1.0			Initial Weight/Volume:	10.3139 g
Date Analyzed:	01/08/2007 1709			Final Weight/Volume:	10 mL
Date Prepared:	01/05/2007 0819			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		160		6.6	55
#2 Diesel (C10-C24)		51	B	6.7	28

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	82	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4641-1

Client Sample ID: DP11-070102-080

Lab Sample ID: 580-4641-13
Client Matrix: Solid
% Moisture: 81.4
Date Sampled: 01/02/2007 1125
Date Received: 01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/08/2007 1735
Date Prepared: 01/05/2007 0819
Analysis Batch: 580-14609
Prep Batch: 580-14519
Instrument ID: SEA013
Lab File ID: FA28320.D
Initial Weight/Volume: 10.6815 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		1000		30	250
#2 Diesel (C10-C24)		220	B	30	130

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	57	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW4-070102-020

Lab Sample ID:	580-4641-14			Date Sampled:	01/02/2007 1150
Client Matrix:	Solid	% Moisture:	18.7	Date Received:	01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14609		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14519		Lab File ID:	FA28321.D
Dilution:	1.0			Initial Weight/Volume:	10.0412 g
Date Analyzed:	01/08/2007 1756			Final Weight/Volume:	10 mL
Date Prepared:	01/05/2007 0819			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		730		7.3	61
#2 Diesel (C10-C24)		110	B	7.4	31

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	74	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4641-1

Client Sample ID: MW4-070102-140

Lab Sample ID: 580-4641-20
Client Matrix: Solid
% Moisture: 19.0
Date Sampled: 01/02/2007 1215
Date Received: 01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/08/2007 1821
Date Prepared: 01/05/2007 0819
Analysis Batch: 580-14609
Prep Batch: 580-14519
Instrument ID: SEA013
Lab File ID: FA28322.D
Initial Weight/Volume: 10.6164 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		15	J	7.0	58
#2 Diesel (C10-C24)		ND		7.0	29

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	80	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-040**

Lab Sample ID:	580-4641-22			Date Sampled:	01/02/2007 1310
Client Matrix:	Solid	% Moisture:	4.5	Date Received:	01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14609		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14519		Lab File ID:	FA28323.D
Dilution:	1.0			Initial Weight/Volume:	10.4349 g
Date Analyzed:	01/08/2007 1841			Final Weight/Volume:	10 mL
Date Prepared:	01/05/2007 0819			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		7.1	J	6.0	50
#2 Diesel (C10-C24)		ND		6.0	25

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	85	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW1-070102-100**

Lab Sample ID:	580-4641-24			Date Sampled:	01/02/2007 1320
Client Matrix:	Solid	% Moisture:	13.8	Date Received:	01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14609		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14519		Lab File ID:	FA28324.D
Dilution:	1.0			Initial Weight/Volume:	10.6508 g
Date Analyzed:	01/08/2007 1902			Final Weight/Volume:	10 mL
Date Prepared:	01/05/2007 0819			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		ND		6.5	54
#2 Diesel (C10-C24)		ND		6.6	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	89	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-040**

Lab Sample ID:	580-4641-27			Date Sampled:	01/02/2007 1425
Client Matrix:	Solid	% Moisture:	7.6	Date Received:	01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14609		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14519		Lab File ID:	FA28325.D
Dilution:	1.0			Initial Weight/Volume:	10.2061 g
Date Analyzed:	01/08/2007 1922			Final Weight/Volume:	10 mL
Date Prepared:	01/05/2007 0819			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		22	J	6.4	53
#2 Diesel (C10-C24)		ND		6.4	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	91	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: **MW3-070102-080**

Lab Sample ID:	580-4641-28			Date Sampled:	01/02/2007 1430
Client Matrix:	Solid	% Moisture:	14.2	Date Received:	01/03/2007 1345

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14609		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14519		Lab File ID:	FA28326.D
Dilution:	1.0			Initial Weight/Volume:	10.6748 g
Date Analyzed:	01/08/2007 1942			Final Weight/Volume:	10 mL
Date Prepared:	01/05/2007 0819			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Motor Oil (>C24-C36)		ND		6.5	55
#2 Diesel (C10-C24)		ND		6.6	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	86	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW2-070102-020

Lab Sample ID:	580-4641-2	Date Sampled:	01/02/2007 0920
Client Matrix:	Solid % Moisture: 11.2	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-14624		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0308 g
Date Analyzed:	01/10/2007 1349			Final Weight/Volume:	50 mL
Date Prepared:	01/09/2007 1409				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		42	B	0.0061	0.27
Cadmium		ND		0.0045	0.27
Chromium		16		0.012	0.55
Lead		8.8		0.043	0.82
Selenium		0.68	J B	0.23	2.7
Silver		ND		0.016	0.55

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-14624		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.0308 g
Date Analyzed:	01/10/2007 0905			Final Weight/Volume:	50 mL
Date Prepared:	01/09/2007 1409				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		3.1		0.040	0.22

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-14638		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5783 g
Date Analyzed:	01/10/2007 0915			Final Weight/Volume:	50 mL
Date Prepared:	01/09/2007 1519				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.028		0.0088	0.019

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW2-070102-080

Lab Sample ID:	580-4641-5	Date Sampled:	01/02/2007 0905
Client Matrix:	Solid % Moisture: 11.5	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.1087 g
Date Analyzed:	01/10/2007 1418		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		97	B	0.0057	0.25
Cadmium		ND		0.0042	0.25
Chromium		16		0.011	0.51
Lead		7.0		0.040	0.76
Selenium		2.1	J B	0.22	2.5
Silver		ND		0.015	0.51

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.1087 g
Date Analyzed:	01/10/2007 0936		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		3.6		0.037	0.20

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-14638	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5482 g
Date Analyzed:	01/10/2007 0938		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1519		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		ND		0.0093	0.021

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP12-070102-000

Lab Sample ID:	580-4641-6	Date Sampled:	01/02/2007 1020
Client Matrix:	Solid % Moisture: 5.5	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-14624		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0018 g
Date Analyzed:	01/10/2007 1421			Final Weight/Volume:	50 mL
Date Prepared:	01/09/2007 1409				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		70	B	0.0059	0.26
Cadmium		ND		0.0043	0.26
Chromium		24		0.011	0.53
Lead		17		0.042	0.79
Selenium		2.1	J B	0.22	2.6
Silver		ND		0.015	0.53

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-14624		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.0018 g
Date Analyzed:	01/10/2007 0939			Final Weight/Volume:	50 mL
Date Prepared:	01/09/2007 1409				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		4.1		0.038	0.21

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-14638		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.6835 g
Date Analyzed:	01/10/2007 0943			Final Weight/Volume:	50 mL
Date Prepared:	01/09/2007 1519				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.016		0.0070	0.015

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP12-070102-080

Lab Sample ID:	580-4641-8	Date Sampled:	01/02/2007 1030
Client Matrix:	Solid % Moisture: 31.6	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-14624		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0633 g
Date Analyzed:	01/10/2007 1425			Final Weight/Volume:	50 mL
Date Prepared:	01/09/2007 1409				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		33	B	0.0076	0.34
Cadmium		ND		0.0056	0.34
Chromium		36		0.015	0.69
Lead		17		0.054	1.0
Selenium		0.99	J B	0.29	3.4
Silver		ND		0.020	0.69

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-14624		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.0633 g
Date Analyzed:	01/10/2007 0942			Final Weight/Volume:	50 mL
Date Prepared:	01/09/2007 1409				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		4.1		0.050	0.28

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-14638		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5463 g
Date Analyzed:	01/10/2007 0948			Final Weight/Volume:	50 mL
Date Prepared:	01/09/2007 1519				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.021	J	0.012	0.027

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP11-070102-000

Lab Sample ID:	580-4641-9	Date Sampled:	01/02/2007 1105
Client Matrix:	Solid % Moisture: 12.4	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.1359 g
Date Analyzed:	01/10/2007 1428		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		56	B	0.0056	0.25
Cadmium		ND		0.0041	0.25
Chromium		19		0.011	0.50
Lead		8.2		0.040	0.75
Selenium		1.2	J B	0.21	2.5
Silver		ND		0.015	0.50

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.1359 g
Date Analyzed:	01/10/2007 0945		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		2.8		0.036	0.20

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-14638	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5934 g
Date Analyzed:	01/10/2007 0953		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1519		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		ND		0.0087	0.019

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: DP11-070102-080

Lab Sample ID:	580-4641-13	Date Sampled:	01/02/2007 1125
Client Matrix:	Solid % Moisture: 81.4	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.1044 g
Date Analyzed:	01/10/2007 1431		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		97	B	0.027	1.2
Cadmium		ND		0.020	1.2
Chromium		8.8		0.052	2.4
Lead		2500		0.19	3.7
Selenium		4.0	J B	1.0	12
Silver		0.66	J	0.072	2.4

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.1044 g
Date Analyzed:	01/10/2007 0948		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		14		0.18	0.98

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-14638	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5665 g
Date Analyzed:	01/10/2007 0958		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1519		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		ND		0.043	0.095

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW4-070102-020

Lab Sample ID:	580-4641-14	Date Sampled:	01/02/2007 1150
Client Matrix:	Solid % Moisture: 18.7	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0198 g
Date Analyzed:	01/10/2007 1434		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		57	B	0.0067	0.30
Cadmium		0.12	J	0.0049	0.30
Chromium		18		0.013	0.60
Lead		85		0.047	0.90
Selenium		1.7	J B	0.25	3.0
Silver		ND		0.018	0.60

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.0198 g
Date Analyzed:	01/10/2007 0951		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		3.4		0.044	0.24

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-14638	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.6717 g
Date Analyzed:	01/10/2007 1013		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1519		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.032		0.0082	0.018

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW4-070102-140

Lab Sample ID:	580-4641-20	Date Sampled:	01/02/2007 1215
Client Matrix:	Solid % Moisture: 19.0	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.1069 g
Date Analyzed:	01/10/2007 1437		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		9.6	B	0.0062	0.28
Cadmium		ND		0.0046	0.28
Chromium		15		0.012	0.56
Lead		1.8		0.044	0.84
Selenium		1.6	J B	0.24	2.8
Silver		ND		0.016	0.56

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.1069 g
Date Analyzed:	01/10/2007 0954		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		2.4		0.040	0.22

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-14638	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.6911 g
Date Analyzed:	01/10/2007 1018		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1519		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		ND		0.0080	0.018

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW1-070102-040

Lab Sample ID:	580-4641-22	Date Sampled:	01/02/2007 1310
Client Matrix:	Solid % Moisture: 4.5	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0819 g
Date Analyzed:	01/10/2007 1439		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		59	B	0.0054	0.24
Cadmium		ND		0.0040	0.24
Chromium		18		0.010	0.48
Lead		2.7		0.038	0.73
Selenium		1.8	J B	0.20	2.4
Silver		ND		0.014	0.48

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.0819 g
Date Analyzed:	01/10/2007 0957		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		1.9		0.035	0.19

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-14638	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.6863 g
Date Analyzed:	01/10/2007 1023		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1519		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.016		0.0069	0.015

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW1-070102-100

Lab Sample ID:	580-4641-24	Date Sampled:	01/02/2007 1320
Client Matrix:	Solid % Moisture: 13.8	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.3230 g
Date Analyzed:	01/10/2007 1451		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		39	B	0.0049	0.22
Cadmium		ND		0.0036	0.22
Chromium		18		0.0094	0.44
Lead		4.2		0.034	0.66
Selenium		1.5	J B	0.18	2.2
Silver		ND		0.013	0.44

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.3230 g
Date Analyzed:	01/10/2007 1000		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		2.0		0.032	0.18

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-14638	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.7043 g
Date Analyzed:	01/10/2007 1028		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1519		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		ND		0.0074	0.016

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW3-070102-040

Lab Sample ID:	580-4641-27	Date Sampled:	01/02/2007 1425
Client Matrix:	Solid % Moisture: 7.6	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0852 g
Date Analyzed:	01/10/2007 1454		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		58	B	0.0055	0.25
Cadmium		ND		0.0041	0.25
Chromium		17		0.011	0.50
Lead		1.8		0.039	0.75
Selenium		1.4	J B	0.21	2.5
Silver		ND		0.015	0.50

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.0852 g
Date Analyzed:	01/10/2007 1003		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		1.8		0.036	0.20

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-14638	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.8353 g
Date Analyzed:	01/10/2007 1033		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1519		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		ND		0.0058	0.013

Client: GeoEngineers Inc | Job Number: 580-4641-1

Client Sample ID: MW3-070102-080

Lab Sample ID:	580-4641-28	Date Sampled:	01/02/2007 1430
Client Matrix:	Solid % Moisture: 14.2	Date Received:	01/03/2007 1345

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14674	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0592 g
Date Analyzed:	01/10/2007 1457		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Barium		49	B	0.0061	0.27
Cadmium		ND		0.0045	0.27
Chromium		19		0.012	0.55
Lead		1.4		0.043	0.82
Selenium		1.7	J B	0.23	2.7
Silver		ND		0.016	0.55

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14703	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.0592 g
Date Analyzed:	01/10/2007 1013		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		1.8		0.040	0.22

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-14699	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-14638	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.8608 g
Date Analyzed:	01/10/2007 1037		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1519		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.018		0.0061	0.014

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14608

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-14608/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/09/2007 1218
Date Prepared: 01/09/2007 0850

Analysis Batch: 580-14661
Prep Batch: 580-14608
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0003541.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		5.6	40
Chloromethane	ND		7.3	40
Vinyl chloride	ND		5.2	16
Bromomethane	ND		28	200
Chloroethane	ND		29	200
Trichlorofluoromethane	ND		3.8	40
1,1-Dichloroethene	ND		5.3	16
Methylene Chloride	ND		6.1	40
trans-1,2-Dichloroethene	ND		4.3	40
1,1-Dichloroethane	ND		9.5	40
2,2-Dichloropropane	ND		4.7	40
cis-1,2-Dichloroethene	ND		6.0	40
Chlorobromomethane	ND		4.8	40
Chloroform	ND		3.8	40
1,1,1-Trichloroethane	ND		3.9	16
Carbon tetrachloride	ND		3.0	16
1,1-Dichloropropene	ND		3.1	40
Benzene	ND		2.8	8.0
1,2-Dichloroethane	ND		8.1	40
Trichloroethene	ND		3.0	16
1,2-Dichloropropane	ND		2.5	8.0
Dibromomethane	ND		7.3	40
Dichlorobromomethane	ND		2.8	40
cis-1,3-Dichloropropene	ND		2.8	40
Toluene	ND		7.4	40
trans-1,3-Dichloropropene	ND		2.8	40
1,1,2-Trichloroethane	ND		3.6	40
Tetrachloroethene	ND		7.3	25
1,3-Dichloropropane	ND		4.2	16
Chlorodibromomethane	ND		2.5	40
Ethylene Dibromide	ND		6.6	40
Chlorobenzene	ND		12	40
Ethylbenzene	ND		7.2	40
1,1,1,2-Tetrachloroethane	ND		3.8	40
1,1,2,2-Tetrachloroethane	ND		2.4	8.0
m-Xylene & p-Xylene	ND		15	40
o-Xylene	ND		7.2	40
Styrene	ND		3.2	40
Bromoform	ND		2.8	40
Isopropylbenzene	ND		6.1	40
Bromobenzene	ND		3.6	40

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14608

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-14608/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/09/2007 1218
Date Prepared: 01/09/2007 0850

Analysis Batch: 580-14661
Prep Batch: 580-14608
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0003541.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
N-Propylbenzene	ND		6.9	40
1,2,3-Trichloropropane	ND		7.1	40
2-Chlorotoluene	ND		5.8	40
1,3,5-Trimethylbenzene	ND		6.0	40
4-Chlorotoluene	ND		3.5	40
tert-Butylbenzene	ND		3.4	40
1,2,4-Trimethylbenzene	ND		6.9	40
sec-Butylbenzene	ND		1.6	40
1,3-Dichlorobenzene	ND		4.1	40
4-Isopropyltoluene	ND		2.8	40
1,4-Dichlorobenzene	ND		2.0	40
n-Butylbenzene	ND		2.4	40
1,2-Dichlorobenzene	ND		3.4	40
1,2-Dibromo-3-Chloropropane	ND		8.8	40
1,2,4-Trichlorobenzene	ND		3.9	40
1,2,3-Trichlorobenzene	ND		4.8	40
Hexachlorobutadiene	ND		6.6	40
Naphthalene	ND		2.6	40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	94	75 - 125
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	85	75 - 125
Trifluorotoluene (Surr)	101	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14608

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-14608/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/09/2007 1105
Date Prepared: 01/09/2007 0850

Analysis Batch: 580-14661
Prep Batch: 580-14608
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0003535.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-14608/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/09/2007 1129
Date Prepared: 01/09/2007 0850

Analysis Batch: 580-14661
Prep Batch: 580-14608
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0003537.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dichlorodifluoromethane	74	71	35 - 135	4	20		
Chloromethane	91	88	50 - 130	3	20		
Vinyl chloride	73	73	60 - 125	0	20		
Bromomethane	163	140	30 - 160	15	20	*	
Chloroethane	40	40	40 - 155	1	20	J	J
Trichlorofluoromethane	91	86	25 - 185	6	20		
1,1-Dichloroethene	81	79	65 - 135	3	26		
Methylene Chloride	83	81	55 - 140	2	20		
trans-1,2-Dichloroethene	85	88	65 - 135	3	20		
1,1-Dichloroethane	87	87	75 - 125	0	20		
2,2-Dichloropropane	112	109	65 - 135	3	20		
cis-1,2-Dichloroethene	88	83	65 - 125	5	20		
Chlorobromomethane	87	99	70 - 125	13	20		
Chloroform	83	82	70 - 125	1	20		
1,1,1-Trichloroethane	77	72	70 - 135	7	20		
Carbon tetrachloride	96	80	65 - 135	17	20		
1,1-Dichloropropene	89	85	70 - 135	4	20		
Benzene	87	85	75 - 125	3	22		
1,2-Dichloroethane	86	85	70 - 135	2	20		
Trichloroethene	87	83	75 - 125	5	28		
1,2-Dichloropropane	90	85	70 - 120	5	20		
Dibromomethane	93	94	75 - 130	0	20		
Dichlorobromomethane	76	61	70 - 130	22	20		*
cis-1,3-Dichloropropene	67	63	70 - 125	5	20	*	*
Toluene	86	86	70 - 125	1	21		
trans-1,3-Dichloropropene	64	60	65 - 125	7	20	*	*
1,1,2-Trichloroethane	82	76	60 - 125	7	20		
Tetrachloroethene	85	92	65 - 140	7	20		
1,3-Dichloropropane	82	85	75 - 125	4	20		
Chlorodibromomethane	63	56	65 - 130	13	20	*	*
Ethylene Dibromide	75	69	70 - 125	8	20		*
Chlorobenzene	86	84	75 - 125	2	24		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14608

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-14608/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/09/2007 1105
Date Prepared: 01/09/2007 0850

Analysis Batch: 580-14661
Prep Batch: 580-14608
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0003535.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-14608/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/09/2007 1129
Date Prepared: 01/09/2007 0850

Analysis Batch: 580-14661
Prep Batch: 580-14608
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0003537.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethylbenzene	90	87	75 - 125	3	20		
1,1,1,2-Tetrachloroethane	60	61	75 - 125	2	20	*	*
1,1,2,2-Tetrachloroethane	76	73	55 - 130	5	20		
m-Xylene & p-Xylene	87	84	80 - 125	3	20		
o-Xylene	89	86	75 - 125	3	20		
Styrene	74	72	75 - 125	2	20	*	*
Bromoform	56	56	55 - 135	0	20		
Isopropylbenzene	89	90	75 - 130	1	20		
Bromobenzene	81	81	65 - 120	1	20		
N-Propylbenzene	90	86	65 - 135	5	20		
1,2,3-Trichloropropane	76	78	65 - 130	2	20		
2-Chlorotoluene	87	81	70 - 130	7	20		
1,3,5-Trimethylbenzene	83	81	65 - 135	3	20		
4-Chlorotoluene	89	87	75 - 125	2	20		
tert-Butylbenzene	88	84	65 - 130	4	20		
1,2,4-Trimethylbenzene	85	82	65 - 135	3	20		
sec-Butylbenzene	85	84	65 - 130	1	20		
1,3-Dichlorobenzene	86	80	70 - 125	8	20		
4-Isopropyltoluene	80	77	75 - 135	4	20		
1,4-Dichlorobenzene	101	103	70 - 125	2	20		
n-Butylbenzene	109	114	65 - 140	5	20		
1,2-Dichlorobenzene	101	95	75 - 120	6	20		
1,2-Dibromo-3-Chloropropane	79	65	40 - 135	19	20		
1,2,4-Trichlorobenzene	104	107	65 - 130	3	20		
1,2,3-Trichlorobenzene	108	106	60 - 135	1	20		
Hexachlorobutadiene	101	95	55 - 140	6	20		
Naphthalene	92	90	40 - 125	2	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	94	94	75 - 125
Toluene-d8 (Surr)	96	93	75 - 125
Ethylbenzene-d10	93	92	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	91	89	75 - 125
Trifluorotoluene (Surr)	101	100	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14751

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-14751/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 0916
Date Prepared: 01/15/2007 1221

Analysis Batch: 580-14898
Prep Batch: 580-14751
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP03406.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Phenol	ND		10	10
Bis(2-chloroethyl)ether	ND		10	10
2-Chlorophenol	ND		10	10
1,3-Dichlorobenzene	ND		5.0	5.0
1,4-Dichlorobenzene	ND		5.0	5.0
Benzyl alcohol	ND		10	10
1,2-Dichlorobenzene	ND		5.0	5.0
2-Methylphenol	ND		10	10
Bis(2-chloroisopropyl) ether	ND		15	15
3 & 4 Methylphenol	ND		20	20
N-Nitrosodi-n-propylamine	ND		10	10
Hexachloroethane	ND		10	10
Nitrobenzene	ND		10	10
Isophorone	ND		10	10
2-Nitrophenol	ND		10	10
2,4-Dimethylphenol	ND		10	10
Benzoic acid	ND		250	250
Bis(2-chloroethoxy)methane	ND		10	10
2,4-Dichlorophenol	ND		10	10
1,2,4-Trichlorobenzene	ND		5.0	5.0
Naphthalene	ND		2.0	2.0
4-Chloroaniline	ND		10	10
Hexachlorobutadiene	ND		5.0	5.0
4-Chloro-3-methylphenol	ND		10	10
2-Methylnaphthalene	ND		2.0	2.0
Hexachlorocyclopentadiene	ND		10	10
2,4,6-Trichlorophenol	ND		15	15
2,4,5-Trichlorophenol	ND		10	10
2-Chloronaphthalene	ND		2.0	2.0
2-Nitroaniline	ND		10	10
Dimethyl phthalate	ND		10	10
Acenaphthylene	ND		2.0	2.0
2,6-Dinitrotoluene	ND		10	10
3-Nitroaniline	ND		10	10
Acenaphthene	ND		2.0	2.0
2,4-Dinitrophenol	ND		100	100
4-Nitrophenol	ND		100	100
Dibenzofuran	ND		10	10
2,4-Dinitrotoluene	ND		10	10
Diethyl phthalate	ND		10	10
4-Chlorophenyl phenyl ether	ND		10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14751

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-14751/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 0916
Date Prepared: 01/15/2007 1221

Analysis Batch: 580-14898
Prep Batch: 580-14751
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP03406.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Fluorene	ND		2.0	2.0
4-Nitroaniline	ND		10	10
4,6-Dinitro-2-methylphenol	ND		100	100
N-Nitrosodiphenylamine	ND		5.0	5.0
4-Bromophenyl phenyl ether	ND		10	10
Hexachlorobenzene	ND		5.0	5.0
Pentachlorophenol	ND		10	10
Phenanthrene	ND		2.0	2.0
Anthracene	ND		2.0	2.0
Di-n-butyl phthalate	ND		20	20
Fluoranthene	ND		2.0	2.0
Pyrene	ND		2.0	2.0
Butyl benzyl phthalate	ND		10	10
3,3'-Dichlorobenzidine	ND		20	20
Benzo[a]anthracene	ND		2.5	2.5
Chrysene	ND		2.5	2.5
Bis(2-ethylhexyl) phthalate	ND		150	150
Di-n-octyl phthalate	ND		20	20
Benzofluoranthene	ND		4.0	4.0
Benzo[a]pyrene	ND		3.0	3.0
Indeno[1,2,3-cd]pyrene	ND		4.0	4.0
Dibenz(a,h)anthracene	ND		4.0	4.0
Benzo[g,h,i]perylene	ND		2.5	2.5
Carbazole	ND		15	15
1-Methylnaphthalene	ND		3.0	3.0
Benzo[b]fluoranthene	ND		2.0	2.0
Benzo[k]fluoranthene	ND		2.5	2.5

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	79	36 - 145
Phenol-d5	78	38 - 149
Nitrobenzene-d5	69	38 - 141
2-Fluorobiphenyl	81	42 - 140
2,4,6-Tribromophenol	69	28 - 143
Terphenyl-d14	88	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14751

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-14751/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 0943
Date Prepared: 01/15/2007 1221

Analysis Batch: 580-14898
Prep Batch: 580-14751
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP03407.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-14751/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 1010
Date Prepared: 01/15/2007 1221

Analysis Batch: 580-14898
Prep Batch: 580-14751
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP03408.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	84	76	66 - 126	10	26		
Bis(2-chloroethyl)ether	58	50	57 - 122	16	60		*
2-Chlorophenol	74	68	65 - 125	9	27		
1,3-Dichlorobenzene	40	35	64 - 124	14	60	*	*
1,4-Dichlorobenzene	41	35	62 - 132	15	32	*	*
Benzyl alcohol	88	82	42 - 147	7	60		
1,2-Dichlorobenzene	42	37	68 - 118	13	60	*	*
2-Methylphenol	85	79	56 - 121	7	25		
Bis(2-chloroisopropyl) ether	64	56	44 - 140	13	60		
3 & 4 Methylphenol	95	85	61 - 126	11	27		
N-Nitrosodi-n-propylamine	90	84	52 - 127	7	28		
Hexachloroethane	43	35	56 - 131	19	60	*	*
Nitrobenzene	76	66	59 - 134	14	60		
Isophorone	100	89	53 - 118	12	60		
2-Nitrophenol	90	78	58 - 128	15	60		
2,4-Dimethylphenol	99	87	58 - 133	13	60		
Benzoic acid	16	16	10 - 130	1	60		
Bis(2-chloroethoxy)methane	89	82	63 - 128	9	60		
2,4-Dichlorophenol	92	80	59 - 124	14	60		
1,2,4-Trichlorobenzene	69	61	63 - 128	13	28		*
Naphthalene	74	66	64 - 129	12	26		
4-Chloroaniline	90	81	20 - 181	10	60		
Hexachlorobutadiene	64	54	59 - 134	17	60		*
4-Chloro-3-methylphenol	105	94	58 - 128	11	27		
2-Methylnaphthalene	89	81	65 - 125	9	27		
Hexachlorocyclopentadiene	77	70	30 - 132	10	60		
2,4,6-Trichlorophenol	102	93	66 - 131	9	60		
2,4,5-Trichlorophenol	102	92	64 - 124	11	60		
2-Chloronaphthalene	97	87	69 - 129	11	25		
2-Nitroaniline	98	89	58 - 133	10	60		
Dimethyl phthalate	115	103	65 - 125	11	60		
Acenaphthylene	101	91	69 - 129	11	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14751

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-14751/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 0943
Date Prepared: 01/15/2007 1221

Analysis Batch: 580-14898
Prep Batch: 580-14751
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP03407.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-14751/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 1010
Date Prepared: 01/15/2007 1221

Analysis Batch: 580-14898
Prep Batch: 580-14751
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP03408.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	107	95	65 - 125	12	60		
3-Nitroaniline	121	113	80 - 165	7	60		
Acenaphthene	106	94	65 - 130	12	27		
2,4-Dinitrophenol	91	86	53 - 168	6	60		
4-Nitrophenol	80	82	47 - 172	2	33		
Dibenzofuran	105	94	70 - 125	11	60		
2,4-Dinitrotoluene	103	92	57 - 122	11	31		
Diethyl phthalate	110	97	64 - 129	12	26		
4-Chlorophenyl phenyl ether	106	96	65 - 130	10	60		
Fluorene	111	99	68 - 128	11	31		
4-Nitroaniline	129	119	70 - 150	8	60		
4,6-Dinitro-2-methylphenol	116	104	38 - 143	11	60		
N-Nitrosodiphenylamine	107	97	88 - 153	10	60		
4-Bromophenyl phenyl ether	106	94	64 - 134	12	60		
Hexachlorobenzene	109	98	61 - 136	11	60		
Pentachlorophenol	85	77	29 - 124	9	68		
Phenanthrene	110	100	65 - 125	10	28		
Anthracene	109	96	73 - 123	12	27		
Di-n-butyl phthalate	107	94	69 - 124	13	60		
Fluoranthene	109	98	61 - 121	10	36		
Pyrene	109	97	54 - 134	11	31		
Butyl benzyl phthalate	104	89	65 - 140	15	60		
3,3'-Dichlorobenzidine	104	89	73 - 163	16	60		
Benzo[a]anthracene	106	96	64 - 124	10	27		
Chrysene	112	98	71 - 126	13	26		
Bis(2-ethylhexyl) phthalate	110	92	64 - 144	18	60		
Di-n-octyl phthalate	95	81	58 - 148	16	31		
Benzofluoranthene	112	99	57 - 137	12	31		
Benzo[a]pyrene	107	94	68 - 128	12	30		
Indeno[1,2,3-cd]pyrene	105	94	59 - 139	11	29		
Dibenz(a,h)anthracene	102	96	57 - 142	6	30		
Benzo[g,h,i]perylene	113	104	57 - 142	8	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14751

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-14751/2-AA	Analysis Batch: 580-14898	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-14751	Lab File ID: HP03407.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 20 g
Date Analyzed:	01/17/2007 0943		Final Weight/Volume: 2 mL
Date Prepared:	01/15/2007 1221		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-14751/3-AA	Analysis Batch: 580-14898	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-14751	Lab File ID: HP03408.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 20 g
Date Analyzed:	01/17/2007 1010		Final Weight/Volume: 2 mL
Date Prepared:	01/15/2007 1221		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Carbazole	112	100	88 - 158	12	60		
1-Methylnaphthalene	90	84	48 - 148	7	30		
Benzo[b]fluoranthene	111	92	66 - 136	19	31		
Benzo[k]fluoranthene	110	103	63 - 143	6	31		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	82	81	36 - 145
Phenol-d5	93	83	38 - 149
Nitrobenzene-d5	82	79	38 - 141
2-Fluorobiphenyl	95	89	42 - 140
2,4,6-Tribromophenol	103	91	28 - 143
Terphenyl-d14	98	88	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14481

Method: NWTPH-Gx
Preparation: 5035

Lab Sample ID: MB 580-14481/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/04/2007 1109
Date Prepared: 01/04/2007 0943

Analysis Batch: 580-14602
Prep Batch: 580-14481
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS168899.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Gasoline	0.75	J	0.26	4.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	107	50 - 150
Trifluorotoluene (Surr)	92	50 - 150
Ethylbenzene-d10	115	50 - 150
Fluorobenzene (Surr)	92	50 - 150
Toluene-d8 (Surr)	110	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14481

Method: NWTPH-Gx
Preparation: 5035

LCS Lab Sample ID: LCS 580-14481/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/04/2007 1131
Date Prepared: 01/04/2007 0943

Analysis Batch: 580-14602
Prep Batch: 580-14481
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS168900.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-14481/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/04/2007 1154
Date Prepared: 01/04/2007 0943

Analysis Batch: 580-14602
Prep Batch: 580-14481
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS168901.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	100	99	68 - 120	1	10		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	108	109	50 - 150
Trifluorotoluene (Surr)	105	102	50 - 150
Ethylbenzene-d10	115	115	50 - 150
Fluorobenzene (Surr)	101	100	50 - 150
Toluene-d8 (Surr)	105	104	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Matrix Spike - Batch: 580-14481

Method: NWTPH-Gx
Preparation: 5035

Lab Sample ID: 580-4641-22
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/04/2007 1808
Date Prepared: 01/04/2007 0943

Analysis Batch: 580-14602
Prep Batch: 580-14481
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS168916.D
Initial Weight/Volume: 7.72 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Gasoline	0.664	J	67.8	65.5	96	50 - 150	B

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14470

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-14470/1-AA
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 01/04/2007 1411
Date Prepared: 01/04/2007 0850

Analysis Batch: 580-14518
Prep Batch: 580-14470
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB5541.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.058	0.10
PCB-1221	ND		0.058	0.10
PCB-1232	ND		0.058	0.10
PCB-1242	ND		0.058	0.10
PCB-1248	ND		0.058	0.10
PCB-1254	ND		0.015	0.10
PCB-1260	ND		0.015	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	94	45 - 155
DCB Decachlorobiphenyl	72	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14470

Method: 8082
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-14470/2-AA	Analysis Batch: 580-14518	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-14470	Lab File ID: PCB5542.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	01/04/2007 1434		Final Weight/Volume: 20 mL
Date Prepared:	01/04/2007 0850		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-14470/3-AA	Analysis Batch: 580-14518	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-14470	Lab File ID: PCB5543.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	01/04/2007 1458		Final Weight/Volume: 20 mL
Date Prepared:	01/04/2007 0850		Injection Volume:
			Column ID: PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	78	81	57 - 128	4	8		
PCB-1260	83	82	65 - 132	0	8		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	90	95	45 - 155
DCB Decachlorobiphenyl	72	70	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14470

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	580-4641-6	Analysis Batch: 580-14518	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-14470	Lab File ID: PCB5547.D
Dilution:	5.0		Initial Weight/Volume: 10.5309 g
Date Analyzed:	01/04/2007 1633		Final Weight/Volume: 20 mL
Date Prepared:	01/04/2007 0850		Injection Volume:
			Column ID: PRIMARY
MSD Lab Sample ID:	580-4641-6	Analysis Batch: 580-14518	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-14470	Lab File ID: PCB5548.D
Dilution:	5.0		Initial Weight/Volume: 10.2113 g
Date Analyzed:	01/04/2007 1656		Final Weight/Volume: 20 mL
Date Prepared:	01/04/2007 0850		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	70	71	57 - 128	4	8		
PCB-1260	79	79	65 - 132	3	8		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	88	83	45 - 155
DCB Decachlorobiphenyl	73	69	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14519

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-14519/1-AB
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/09/2007 1123
Date Prepared: 01/05/2007 0819

Analysis Batch: 580-14609
Prep Batch: 580-14519
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA28341.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Motor Oil (>C24-C36)	ND		6.0	50
#2 Diesel (C10-C24)	9.0	J	6.0	25

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	97	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14519

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID: LCS 580-14519/2-AB
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/09/2007 1143
Date Prepared: 01/05/2007 0819

Analysis Batch: 580-14609
Prep Batch: 580-14519
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA28342.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-14519/3-AB
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/09/2007 1208
Date Prepared: 01/05/2007 0819

Analysis Batch: 580-14609
Prep Batch: 580-14519
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA28343.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Motor Oil (>C24-C36)	125	105	70 - 125	17	17		
#2 Diesel (C10-C24)	123	105	64 - 127	16	16		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	107	92	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14624

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-14624/17-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/10/2007 1345
Date Prepared: 01/09/2007 1409

Analysis Batch: 580-14674
Prep Batch: 580-14624
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Barium	0.0084	J	0.0056	0.25
Cadmium	ND		0.0041	0.25
Chromium	ND		0.011	0.50
Lead	ND		0.039	0.75
Selenium	0.29	J	0.21	2.5
Silver	ND		0.015	0.50

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14624

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-14624/18-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/10/2007 1406
Date Prepared: 01/09/2007 1409

Analysis Batch: 580-14674
Prep Batch: 580-14624
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-14624/19-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/10/2007 1409
Date Prepared: 01/09/2007 1409

Analysis Batch: 580-14674
Prep Batch: 580-14624
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Barium	99	100	80 - 120	1	35		
Cadmium	96	93	80 - 120	3	35		
Chromium	92	94	80 - 120	1	35		
Lead	101	98	80 - 120	3	35		
Selenium	92	90	80 - 120	3	35		
Silver	97	97	80 - 120	0	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14624

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	580-4641-2	Analysis Batch: 580-14674	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0786 g
Date Analyzed:	01/10/2007 1358		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

MSD Lab Sample ID:	580-4641-2	Analysis Batch: 580-14674	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0714 g
Date Analyzed:	01/10/2007 1401		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Barium	86	90	75 - 125	4	35		
Cadmium	82	84	75 - 125	2	35		
Chromium	86	89	75 - 125	2	35		
Lead	87	90	75 - 125	3	35		
Selenium	83	85	75 - 125	3	35		
Silver	89	91	75 - 125	3	35		

Duplicate - Batch: 580-14624

Method: 6010B
Preparation: 3050B

Lab Sample ID:	580-4641-2	Analysis Batch: 580-14674	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 1.1543 g
Date Analyzed:	01/10/2007 1355		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Barium	41.9		37.6	11	35	
Cadmium	-0.114		-0.133	NC	35	
Chromium	15.6		14.2	9	35	
Lead	8.85		9.45	7	35	
Selenium	0.676	J	0.901	29	35	J
Silver	-0.655		-0.349	NC	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14624

Method: 6020
Preparation: 3050B

Lab Sample ID: MB 580-14624/17-AA
Client Matrix: Solid
Dilution: 10
Date Analyzed: 01/10/2007 0859
Date Prepared: 01/09/2007 1409

Analysis Batch: 580-14703
Prep Batch: 580-14624
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Arsenic	ND		0.036	0.20

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14624

Method: 6020
Preparation: 3050B

LCS Lab Sample ID: LCS 580-14624/18-AA
Client Matrix: Solid
Dilution: 50
Date Analyzed: 01/10/2007 0924
Date Prepared: 01/09/2007 1409

Analysis Batch: 580-14703
Prep Batch: 580-14624
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-14624/19-AA
Client Matrix: Solid
Dilution: 50
Date Analyzed: 01/10/2007 0927
Date Prepared: 01/09/2007 1409

Analysis Batch: 580-14703
Prep Batch: 580-14624
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	101	103	80 - 120	1	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14624

Method: 6020
Preparation: 3050B

MS Lab Sample ID:	580-4641-2	Analysis Batch: 580-14703	Instrument ID: SEA026
Client Matrix:	Solid	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	50		Initial Weight/Volume: 1.0786 g
Date Analyzed:	01/10/2007 0915		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

MSD Lab Sample ID:	580-4641-2	Analysis Batch: 580-14703	Instrument ID: SEA026
Client Matrix:	Solid	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	50		Initial Weight/Volume: 1.0714 g
Date Analyzed:	01/10/2007 0918		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	97	100	75 - 125	4	35		

Duplicate - Batch: 580-14624

Method: 6020
Preparation: 3050B

Lab Sample ID:	580-4641-2	Analysis Batch: 580-14703	Instrument ID: SEA026
Client Matrix:	Solid	Prep Batch: 580-14624	Lab File ID: N/A
Dilution:	10	Units: mg/Kg	Initial Weight/Volume: 1.1568 g
Date Analyzed:	01/10/2007 0908		Final Weight/Volume: 50 mL
Date Prepared:	01/09/2007 1409		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	3.05	2.98	2	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4641-1

Method Blank - Batch: 580-14638

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 580-14638/17-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/10/2007 1042
Date Prepared: 01/09/2007 1519

Analysis Batch: 580-14699
Prep Batch: 580-14638
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Mercury	ND		0.0090	0.020

Duplicate - Batch: 580-14638

Method: 7471A
Preparation: 7471A

Lab Sample ID: 580-4641-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/10/2007 0919
Date Prepared: 01/09/2007 1519

Analysis Batch: 580-14699
Prep Batch: 580-14638
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5027 g
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.0276	0.0316	13	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-4641-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	*	RPD of the LCS and LCSD exceeds the control limits
GC/MS Semi VOA		
	*	LCS or LCSD exceeds the control limits
GC VOA		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GEI	Kevin Broom	1/3/07	27410
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 3**
1191 S. Fawcett	253-383-4940		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Tacoma WA / WA / 98403	Tricia	—	
Project Name and Location (State)	**Carrier/Waybill Number**		
~~Olympia City Hall, Olympia, WA~~ Port of Olympia - HOCM			
Contract/Purchase Order/Quote No.			
0615-233-00			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	MeOH	Analysis: RCRA 8 Metals	NWTPH-Gx	NWTPH-Dx w/SG	VOCs (8260B)	SVOCs (8270C)	PCBs (8082)	HOLD
MW2-070102-000	1/2	915				1	1						1							X
" -020		920				/	1							X	X	X	X	X	X	
" -040		925				/	0													X
" -060		930				/	1													X
" -080		935				/								X	X	X	X	X	X	
DUP2-070102-000		1020				/								X	X	X	X	X	X	X (2)
" 040		1025				/														X
" 080		1030				/								X	X	X	X	X	X	
DUP-070102-000		1105				/								X	X	X	X	X	X	
" -020		1110				/														X
" -040		1115				/														X
" -060		1120				/														X

Special Instructions/ Conditions of Receipt

Page 135 of 138

Cooler	Possible Hazard Identification	Sample Disposal	
☐ Yes ☐ No Cooler Temp:_____	☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	☐ Return To Client	☐ Disposal By Lab ☑ Archive For 1 Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)	QC Requirements (Specify)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☑ 10 Days ☐ 15 Days ☐ Other _____	

	Relinquished By	Date	Time	Received By	Date	Time
1.	Kevin Broom	1/3/07	1015		1-3-07	11:50
2.		1-3-07	1:15		1307	1345
3.						

Comments

DISTRIBUTION: *WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy*

STL8274-580 (12/02)

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GEI	Kevin Broom	1/3/07	27411
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 2 of 3
	253-383-4940		
City / State / Zip Code	Site Contact	Lab Contact	
Project Name and Location (State)	Carrier/Waybill Number		
~~Olympia~~ Port of Olympic - Hocm			
Contract/Purchase Order/Quote No.			
0615-033-00			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Mod	RCRA 8 Metals	NWTPH-GX	NWTPH-Dx low SG	VOCs (8260B)	SVOC (8270C)	PCBs (8082)	HOLD
DP11-070102-080	1/2	1125				/	1						1	X	X	X	X	X	X	
MW4-070102-020		1150				/								X	X	X	X	X	X	
" 000		1145				/														X
" 040		1155				/														X
" 080		1200				/														X
" 100		1205				/														X
" 120		1210				/														X
" 140		1215				/								X	X	X	X	X	X	
MW1-070102-020		1305				/														X
" " 040		1310				/								X	X	X	X	X	X	
" " 080		1315				/														X
" " 100		1320				/								X	X	X	X	X	X	

Page 136 of 138

Special Instructions/ Conditions of Receipt

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Disposal By Lab ☑ Return To Client ☑ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☑ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Kevin Broom	1/3/07	1015	1. Received By:	1-3-07	11:50
2. Relinquished By:	1-3-07	1:15	2. Received By:	1307	1345
3. Relinquished By:			3. Received By:		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

Chain of Custody Record

GE1

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
	Kevin Broom	1/3/07	27412
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 3 of 3
	253-383-4940		
City / State / Zip Code	Site Contact	Lab Contact	
Project Name and Location (State)	Carrier/Waybill Number		
Olympic City Hall Port of Olympia — HDCM			
Contract/Purchase Order/Quote No.			
0615-083-00			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Mod.	RCRA 8 Metals	NWTPH-Gx	NWTPH-Dx w/SG	VOCs (8260C)	SVOCs (8270C)	PCBs (8082)		310.1	Special Instructions/ Conditions of Receipt
MW3-070102-000	1/2	1415				X	1														X	
" 020		1420																			X	
" 040		1425												X	X	X	X	X	X			
" 080		1430												X	X	X	X	X	X			

Page 137 of 138

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☑ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Kevin Broom	1/3/07	1015		1-3-07	11:50
2.		1-3-7	1:15		1307	1345
3.						

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

STL8274-580 (12/02)

LOGIN SAMPLE RECEIPT CHECK LIST

Client: GeoEngineers Inc

Job Number: 580-4641-1

Login Number: 4641

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	NA	lab driver brought to SR
Cooler Temperature is acceptable.	NA	
Cooler Temperature is recorded.	NA	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

ANALYTICAL REPORT

Job Number: 580-4730-1

Job Description: Port of Olympia city hall 0415-052-03

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
hcurbow@stl-inc.com
01/30/2007

Project Manager: Heather Curbow

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Client: GeoEngineers Inc
Date: 01/30/2007

8260 Volatiles

The relative percent difference (RPD) for Trichlorofluoromethane between the LCS and the LCSD associated with batch Analysis Batch: 580-14881 exceeded the QC acceptance limits. The recovery of this compound in both the LCS and LCSD was within quality control limits. No further action was taken on this outlier.

Semivolatile GC-MS

LCS/LCSD - %R High

8270
The LCS/LCSD failed high for the following analytes. 4-nitroaniline, 3,3'-dichlorobenzidine, and 2-methylphenol. There were no hits in the samples.
3-nitroaniline and carbozole had valid calibrations up to 500 ug/L solution concentration. The LCS/LCSD were spiked at 500 ug/L. The results for the LCS/LCSD were acceptable, but exceeded the calibration range. The LCS/LCSD results for these targets will be marked as E. There were no hits of these target analytes in the samples, except sample 5 had a hit of carbozole, but it was with in the calibration range

Affected Items

LCSD 580-14867/3-AA
Batch: 580-15054
Method: 580-8270C

LCS 580-14867/2-AA
Batch: 580-15054
Method: 580-8270C

Volatile Organics

Method Blank Contamination

5035_FM/8260B:
The bromomethane hit in the MB was between the mdl and half the rl - no further action taken.

Affected Items

MB 580-14844/1-AA
Batch: 580-14881
Method: 580-8260B

Volatile Organics

LCS recoveries out of control

5035_FM/8260B:
Chloroethane recovery failed low in the lcs/lcsd, trichlorofluoromethane recovery failed low in the lcsd - these failures due to the increased volume of methanol used in prep.

Chlorobromomethane failed high in the lcsd but passed in the lcs - sample ND for it.

Affected Items

LCS 580-14844/2-AA
Batch: 580-14881
Method: 580-8260B

LCSD 580-14844/3-AA
Batch: 580-14881
Method: 580-8260B

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4730-1	**DP15-070115-020**					
Chloromethane		0.032	J	0.15	mg/Kg	8260B
Fluoranthene		0.027		0.026	mg/Kg	8270C
Pyrene		0.042		0.026	mg/Kg	8270C
Chrysene		0.042		0.033	mg/Kg	8270C
Motor Oil (>C24-C36)		720		67	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		72		33	mg/Kg	NWTPH-Dx
580-4730-2	**DP15-070115-100**					
Chloromethane		0.090	J	0.38	mg/Kg	8260B
Bromomethane		0.35	J B	1.9	mg/Kg	8260B
4-Isopropyltoluene		4.3		0.38	mg/Kg	8260B
Naphthalene		0.018		0.012	mg/Kg	8270C
Acenaphthylene		0.021		0.012	mg/Kg	8270C
Acenaphthene		0.014		0.012	mg/Kg	8270C
Fluorene		0.024		0.012	mg/Kg	8270C
Phenanthrene		0.15		0.012	mg/Kg	8270C
Anthracene		0.12		0.012	mg/Kg	8270C
Fluoranthene		0.64		0.012	mg/Kg	8270C
Pyrene		0.67		0.012	mg/Kg	8270C
Benzo[a]anthracene		0.53		0.015	mg/Kg	8270C
Chrysene		0.49		0.015	mg/Kg	8270C
Benzo[a]pyrene		0.40		0.018	mg/Kg	8270C
Indeno[1,2,3-cd]pyrene		0.24		0.024	mg/Kg	8270C
Dibenz(a,h)anthracene		0.090		0.024	mg/Kg	8270C
Benzo[g,h,i]perylene		0.18		0.015	mg/Kg	8270C
Benzo[b]fluoranthene		0.22		0.012	mg/Kg	8270C
Benzo[k]fluoranthene		0.32		0.015	mg/Kg	8270C
Motor Oil (>C24-C36)		1200		280	mg/Kg	NWTPH-Dx
580-4730-3	**MW06-070115-020**					
Chloromethane		0.017	J	0.072	mg/Kg	8260B
Bromomethane		0.055	J B	0.36	mg/Kg	8260B
Barium		47		0.26	mg/Kg	6010B
Chromium		19		0.53	mg/Kg	6010B
Lead		2.2		0.79	mg/Kg	6010B
Arsenic		3.7		0.21	mg/Kg	6020
Mercury		0.023		0.018	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4730-4	**MW06-070115-100**					
Chloromethane		0.033	J	0.15	mg/Kg	8260B
Bromomethane		0.11	J B	0.76	mg/Kg	8260B
Benzene		0.011	J	0.030	mg/Kg	8260B
4-Isopropyltoluene		0.037	J	0.15	mg/Kg	8260B
3 & 4 Methylphenol		0.041		0.033	mg/Kg	8270C
Naphthalene		0.011		0.0033	mg/Kg	8270C
2-Methylnaphthalene		0.0043		0.0033	mg/Kg	8270C
Fluorene		0.018		0.0033	mg/Kg	8270C
Pentachlorophenol		0.17		0.016	mg/Kg	8270C
Gasoline		34		15	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		2200		76	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		1400		38	mg/Kg	NWTPH-Dx
Barium		9.4		0.37	mg/Kg	6010B
Chromium		7.3		0.74	mg/Kg	6010B
Lead		11		1.1	mg/Kg	6010B
Arsenic		2.5		0.30	mg/Kg	6020
Mercury		0.043		0.029	mg/Kg	7471A
580-4730-5	**MW05-070115-100**					
Chloromethane		0.021	J	0.085	mg/Kg	8260B
4-Isopropyltoluene		0.022	J	0.085	mg/Kg	8260B
Acenaphthylene		0.0028		0.0028	mg/Kg	8270C
Phenanthrene		0.038		0.0028	mg/Kg	8270C
Anthracene		0.0056		0.0028	mg/Kg	8270C
Fluoranthene		0.12		0.0028	mg/Kg	8270C
Pyrene		0.11		0.0028	mg/Kg	8270C
Benzo[a]anthracene		0.10		0.0035	mg/Kg	8270C
Chrysene		0.098		0.0035	mg/Kg	8270C
Benzo[a]pyrene		0.097		0.0042	mg/Kg	8270C
Indeno[1,2,3-cd]pyrene		0.11		0.0056	mg/Kg	8270C
Dibenz(a,h)anthracene		0.031		0.0056	mg/Kg	8270C
Benzo[g,h,i]perylene		0.082		0.0035	mg/Kg	8270C
Benzo[b]fluoranthene		0.11		0.0028	mg/Kg	8270C
Benzo[k]fluoranthene		0.091		0.0035	mg/Kg	8270C
Gasoline		31		8.5	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		170		68	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		38		34	mg/Kg	NWTPH-Dx
Barium		320		0.30	mg/Kg	6010B
Cadmium		3.7		0.30	mg/Kg	6010B
Chromium		22		0.59	mg/Kg	6010B
Lead		170		0.89	mg/Kg	6010B
Selenium		3.9		3.0	mg/Kg	6010B
Silver		0.62		0.59	mg/Kg	6010B
Arsenic		9.9		0.24	mg/Kg	6020

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4730-6	**MW10-070115-020**					
Chloromethane		0.023	J	0.11	mg/Kg	8260B
Bromomethane		0.085	J B	0.57	mg/Kg	8260B
Fluoranthene		0.051		0.032	mg/Kg	8270C
Pyrene		0.049		0.032	mg/Kg	8270C
Chrysene		0.045		0.039	mg/Kg	8270C
Benzo[a]pyrene		0.087		0.047	mg/Kg	8270C
Indeno[1,2,3-cd]pyrene		0.080		0.063	mg/Kg	8270C
Benzo[g,h,i]perylene		0.090		0.039	mg/Kg	8270C
Benzo[b]fluoranthene		0.054		0.032	mg/Kg	8270C
Benzo[k]fluoranthene		0.055		0.039	mg/Kg	8270C
Motor Oil (>C24-C36)		550		77	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		52		38	mg/Kg	NWTPH-Dx
580-4730-7	**MW10-070115-100**					
Chloromethane		0.030	J	0.15	mg/Kg	8260B
1,2,4-Trimethylbenzene		0.029	J	0.15	mg/Kg	8260B
4-Isopropyltoluene		0.047	J	0.15	mg/Kg	8260B
Phenanthrene		0.094		0.037	mg/Kg	8270C
Fluoranthene		0.099		0.037	mg/Kg	8270C
Pyrene		0.13		0.037	mg/Kg	8270C
Benzo[a]anthracene		0.065		0.047	mg/Kg	8270C
Chrysene		0.079		0.047	mg/Kg	8270C
Benzo[a]pyrene		0.077		0.056	mg/Kg	8270C
Indeno[1,2,3-cd]pyrene		0.081		0.075	mg/Kg	8270C
Benzo[g,h,i]perylene		0.067		0.047	mg/Kg	8270C
Benzo[b]fluoranthene		0.047		0.037	mg/Kg	8270C
Motor Oil (>C24-C36)		740		88	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		77		44	mg/Kg	NWTPH-Dx
580-4730-8	**DP13-070115-040**					
Motor Oil (>C24-C36)		21000		1200	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		2900		610	mg/Kg	NWTPH-Dx

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-4730-9	**DP13-070115-080**				
Benzo[a]anthracene		0.0071	0.0032	mg/Kg	8270C
Chrysene		0.011	0.0032	mg/Kg	8270C
Benzo[a]pyrene		0.013	0.0038	mg/Kg	8270C
Indeno[1,2,3-cd]pyrene		0.023	0.0051	mg/Kg	8270C
Dibenz(a,h)anthracene		0.0053	0.0051	mg/Kg	8270C
Benzo[b]fluoranthene		0.013	0.0025	mg/Kg	8270C
Benzo[k]fluoranthene		0.0063	0.0032	mg/Kg	8270C
Motor Oil (>C24-C36)		400	61	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		69	30	mg/Kg	NWTPH-Dx

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-4730-1	DP15-070115-020	Solid	01/15/2007 0955	01/16/2007 1320
580-4730-2	DP15-070115-100	Solid	01/15/2007 1008	01/16/2007 1320
580-4730-3	MW06-070115-020	Solid	01/15/2007 1116	01/16/2007 1320
580-4730-4	MW06-070115-100	Solid	01/15/2007 1130	01/16/2007 1320
580-4730-5	MW05-070115-100	Solid	01/15/2007 1315	01/16/2007 1320
580-4730-6	MW10-070115-020	Solid	01/15/2007 1430	01/16/2007 1320
580-4730-7	MW10-070115-100	Solid	01/15/2007 1455	01/16/2007 1320
580-4730-8	DP13-070115-040	Solid	01/15/2007 1605	01/16/2007 1320
580-4730-9	DP13-070115-080	Solid	01/15/2007 1615	01/16/2007 1320

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **DP15-070115-020**

Lab Sample ID: 580-4730-1 | Date Sampled: 01/15/2007 0955
Client Matrix: Solid | % Moisture: 25.7 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30605.D
Dilution: 1.0 | Initial Weight/Volume: 3.52 g
Date Analyzed: 01/17/2007 1632 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.021	0.15
Chloromethane		0.032	J	0.028	0.15
Vinyl chloride		ND		0.020	0.061
Bromomethane		ND		0.11	0.76
Chloroethane		ND	*	0.11	0.76
Trichlorofluoromethane		ND	*	0.015	0.15
1,1-Dichloroethene		ND		0.020	0.061
Methylene Chloride		ND		0.023	0.15
trans-1,2-Dichloroethene		ND		0.016	0.15
1,1-Dichloroethane		ND		0.036	0.15
2,2-Dichloropropane		ND		0.018	0.15
cis-1,2-Dichloroethene		ND		0.023	0.15
Chlorobromomethane		ND	*	0.018	0.15
Chloroform		ND		0.015	0.15
1,1,1-Trichloroethane		ND		0.015	0.061
Carbon tetrachloride		ND		0.011	0.061
1,1-Dichloropropene		ND		0.012	0.15
Benzene		ND		0.011	0.031
1,2-Dichloroethane		ND		0.031	0.15
Trichloroethene		ND		0.011	0.061
1,2-Dichloropropane		ND		0.0096	0.031
Dibromomethane		ND		0.028	0.15
Dichlorobromomethane		ND		0.011	0.15
cis-1,3-Dichloropropene		ND		0.011	0.15
Toluene		ND		0.028	0.15
trans-1,3-Dichloropropene		ND		0.011	0.15
1,1,2-Trichloroethane		ND		0.014	0.15
Tetrachloroethene		ND		0.028	0.096
1,3-Dichloropropane		ND		0.016	0.061
Chlorodibromomethane		ND		0.0096	0.15
Ethylene Dibromide		ND		0.025	0.15
Chlorobenzene		ND		0.046	0.15
Ethylbenzene		ND		0.028	0.15
1,1,1,2-Tetrachloroethane		ND		0.015	0.15
1,1,2,2-Tetrachloroethane		ND		0.0092	0.031
m-Xylene & p-Xylene		ND		0.057	0.15
o-Xylene		ND		0.028	0.15
Styrene		ND		0.012	0.15
Bromoform		ND		0.011	0.15
Isopropylbenzene		ND		0.023	0.15
Bromobenzene		ND		0.014	0.15
N-Propylbenzene		ND		0.026	0.15
1,2,3-Trichloropropane		ND		0.027	0.15

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **DP15-070115-020**

Lab Sample ID:	580-4730-1			Date Sampled:	01/15/2007 0955
Client Matrix:	Solid	% Moisture:	25.7	Date Received:	01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 580-14881		Instrument ID:	SEA001
Preparation:	5035	Prep Batch: 580-14844		Lab File ID:	AG30605.D
Dilution:	1.0			Initial Weight/Volume:	3.52 g
Date Analyzed:	01/17/2007 1632			Final Weight/Volume:	400 mL
Date Prepared:	01/17/2007 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		0.022	0.15
1,3,5-Trimethylbenzene		ND		0.023	0.15
4-Chlorotoluene		ND		0.013	0.15
tert-Butylbenzene		ND		0.013	0.15
1,2,4-Trimethylbenzene		ND		0.026	0.15
sec-Butylbenzene		ND		0.0061	0.15
1,3-Dichlorobenzene		ND		0.016	0.15
4-Isopropyltoluene		ND		0.011	0.15
1,4-Dichlorobenzene		ND		0.0076	0.15
n-Butylbenzene		ND		0.0092	0.15
1,2-Dichlorobenzene		ND		0.013	0.15
1,2-Dibromo-3-Chloropropane		ND		0.034	0.15
1,2,4-Trichlorobenzene		ND		0.015	0.15
1,2,3-Trichlorobenzene		ND		0.018	0.15
Hexachlorobutadiene		ND		0.025	0.15

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	89	75 - 125
Toluene-d8 (Surr)	91	75 - 125
Ethylbenzene-d10	93	75 - 125
4-Bromofluorobenzene (Surr)	89	75 - 125
Trifluorotoluene (Surr)	90	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **DP15-070115-100**

Lab Sample ID: 580-4730-2 | Date Sampled: 01/15/2007 1008
Client Matrix: Solid | % Moisture: 83.2 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30606.D
Dilution: 1.0 | Initial Weight/Volume: 6.27 g
Date Analyzed: 01/17/2007 1651 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.053	0.38
Chloromethane		0.090	J	0.069	0.38
Vinyl chloride		ND		0.049	0.15
Bromomethane		0.35	J B	0.27	1.9
Chloroethane		ND	*	0.28	1.9
Trichlorofluoromethane		ND	*	0.036	0.38
1,1-Dichloroethene		ND		0.050	0.15
Methylene Chloride		ND		0.058	0.38
trans-1,2-Dichloroethene		ND		0.041	0.38
1,1-Dichloroethane		ND		0.090	0.38
2,2-Dichloropropane		ND		0.045	0.38
cis-1,2-Dichloroethene		ND		0.057	0.38
Chlorobromomethane		ND	*	0.046	0.38
Chloroform		ND		0.036	0.38
1,1,1-Trichloroethane		ND		0.037	0.15
Carbon tetrachloride		ND		0.029	0.15
1,1-Dichloropropene		ND		0.029	0.38
Benzene		ND		0.027	0.076
1,2-Dichloroethane		ND		0.077	0.38
Trichloroethene		ND		0.029	0.15
1,2-Dichloropropane		ND		0.024	0.076
Dibromomethane		ND		0.069	0.38
Dichlorobromomethane		ND		0.027	0.38
cis-1,3-Dichloropropene		ND		0.027	0.38
Toluene		ND		0.070	0.38
trans-1,3-Dichloropropene		ND		0.027	0.38
1,1,2-Trichloroethane		ND		0.034	0.38
Tetrachloroethene		ND		0.069	0.24
1,3-Dichloropropane		ND		0.040	0.15
Chlorodibromomethane		ND		0.024	0.38
Ethylene Dibromide		ND		0.063	0.38
Chlorobenzene		ND		0.11	0.38
Ethylbenzene		ND		0.068	0.38
1,1,1,2-Tetrachloroethane		ND		0.036	0.38
1,1,2,2-Tetrachloroethane		ND		0.023	0.076
m-Xylene & p-Xylene		ND		0.14	0.38
o-Xylene		ND		0.068	0.38
Styrene		ND		0.030	0.38
Bromoform		ND		0.027	0.38
Isopropylbenzene		ND		0.058	0.38
Bromobenzene		ND		0.034	0.38
N-Propylbenzene		ND		0.066	0.38
1,2,3-Trichloropropane		ND		0.067	0.38

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **DP15-070115-100**

Lab Sample ID: 580-4730-2 | Date Sampled: 01/15/2007 1008
Client Matrix: Solid | % Moisture: 83.2 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30606.D
Dilution: 1.0 | Initial Weight/Volume: 6.27 g
Date Analyzed: 01/17/2007 1651 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		0.055	0.38
1,3,5-Trimethylbenzene		ND		0.057	0.38
4-Chlorotoluene		ND		0.033	0.38
tert-Butylbenzene		ND		0.032	0.38
1,2,4-Trimethylbenzene		ND		0.066	0.38
sec-Butylbenzene		ND		0.015	0.38
1,3-Dichlorobenzene		ND		0.039	0.38
4-Isopropyltoluene		4.3		0.027	0.38
1,4-Dichlorobenzene		ND		0.019	0.38
n-Butylbenzene		ND		0.023	0.38
1,2-Dichlorobenzene		ND		0.032	0.38
1,2-Dibromo-3-Chloropropane		ND		0.084	0.38
1,2,4-Trichlorobenzene		ND		0.037	0.38
1,2,3-Trichlorobenzene		ND		0.046	0.38
Hexachlorobutadiene		ND		0.063	0.38

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	92	75 - 125
Toluene-d8 (Surr)	88	75 - 125
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	89	75 - 125
Trifluorotoluene (Surr)	90	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-020**

Lab Sample ID: 580-4730-3 | Date Sampled: 01/15/2007 1116
Client Matrix: Solid | % Moisture: 13.5 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30607.D
Dilution: 1.0 | Initial Weight/Volume: 6.41 g
Date Analyzed: 01/17/2007 1710 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.010	0.072
Chloromethane		0.017	J	0.013	0.072
Vinyl chloride		ND		0.0094	0.029
Bromomethane		0.055	J B	0.050	0.36
Chloroethane		ND	*	0.052	0.36
Trichlorofluoromethane		ND	*	0.0069	0.072
1,1-Dichloroethene		ND		0.0096	0.029
Methylene Chloride		ND		0.011	0.072
trans-1,2-Dichloroethene		ND		0.0078	0.072
1,1-Dichloroethane		ND		0.017	0.072
2,2-Dichloropropane		ND		0.0085	0.072
cis-1,2-Dichloroethene		ND		0.011	0.072
Chlorobromomethane		ND	*	0.0087	0.072
Chloroform		ND		0.0069	0.072
1,1,1-Trichloroethane		ND		0.0070	0.029
Carbon tetrachloride		ND		0.0054	0.029
1,1-Dichloropropene		ND		0.0056	0.072
Benzene		ND		0.0050	0.014
1,2-Dichloroethane		ND		0.015	0.072
Trichloroethene		ND		0.0054	0.029
1,2-Dichloropropane		ND		0.0045	0.014
Dibromomethane		ND		0.013	0.072
Dichlorobromomethane		ND		0.0050	0.072
cis-1,3-Dichloropropene		ND		0.0050	0.072
Toluene		ND		0.013	0.072
trans-1,3-Dichloropropene		ND		0.0050	0.072
1,1,2-Trichloroethane		ND		0.0065	0.072
Tetrachloroethene		ND		0.013	0.045
1,3-Dichloropropane		ND		0.0076	0.029
Chlorodibromomethane		ND		0.0045	0.072
Ethylene Dibromide		ND		0.012	0.072
Chlorobenzene		ND		0.022	0.072
Ethylbenzene		ND		0.013	0.072
1,1,1,2-Tetrachloroethane		ND		0.0069	0.072
1,1,2,2-Tetrachloroethane		ND		0.0043	0.014
m-Xylene & p-Xylene		ND		0.027	0.072
o-Xylene		ND		0.013	0.072
Styrene		ND		0.0058	0.072
Bromoform		ND		0.0050	0.072
Isopropylbenzene		ND		0.011	0.072
Bromobenzene		ND		0.0065	0.072
N-Propylbenzene		ND		0.012	0.072
1,2,3-Trichloropropane		ND		0.013	0.072

Client: GeoEngineers Inc

Job Number: 580-4730-1

Client Sample ID: **MW06-070115-020**

Lab Sample ID: 580-4730-3
Client Matrix: Solid
% Moisture: 13.5
Date Sampled: 01/15/2007 1116
Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035
Dilution: 1.0
Date Analyzed: 01/17/2007 1710
Date Prepared: 01/17/2007 1500
Analysis Batch: 580-14881
Prep Batch: 580-14844
Instrument ID: SEA001
Lab File ID: AG30607.D
Initial Weight/Volume: 6.41 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		0.010	0.072
1,3,5-Trimethylbenzene		ND		0.011	0.072
4-Chlorotoluene		ND		0.0063	0.072
tert-Butylbenzene		ND		0.0061	0.072
1,2,4-Trimethylbenzene		ND		0.012	0.072
sec-Butylbenzene		ND		0.0029	0.072
1,3-Dichlorobenzene		ND		0.0074	0.072
4-Isopropyltoluene		ND		0.0050	0.072
1,4-Dichlorobenzene		ND		0.0036	0.072
n-Butylbenzene		ND		0.0043	0.072
1,2-Dichlorobenzene		ND		0.0061	0.072
1,2-Dibromo-3-Chloropropane		ND		0.016	0.072
1,2,4-Trichlorobenzene		ND		0.0070	0.072
1,2,3-Trichlorobenzene		ND		0.0087	0.072
Hexachlorobutadiene		ND		0.012	0.072

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	90	75 - 125
Toluene-d8 (Surr)	91	75 - 125
Ethylbenzene-d10	93	75 - 125
4-Bromofluorobenzene (Surr)	90	75 - 125
Trifluorotoluene (Surr)	107	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-100**

Lab Sample ID: 580-4730-4 | Date Sampled: 01/15/2007 1130
Client Matrix: Solid | % Moisture: 39.2 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30608.D
Dilution: 1.0 | Initial Weight/Volume: 4.33 g
Date Analyzed: 01/17/2007 1729 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.021	0.15
Chloromethane		0.033	J	0.028	0.15
Vinyl chloride		ND		0.020	0.061
Bromomethane		0.11	J B	0.11	0.76
Chloroethane		ND	*	0.11	0.76
Trichlorofluoromethane		ND	*	0.014	0.15
1,1-Dichloroethene		ND		0.020	0.061
Methylene Chloride		ND		0.023	0.15
trans-1,2-Dichloroethene		ND		0.016	0.15
1,1-Dichloroethane		ND		0.036	0.15
2,2-Dichloropropane		ND		0.018	0.15
cis-1,2-Dichloroethene		ND		0.023	0.15
Chlorobromomethane		ND	*	0.018	0.15
Chloroform		ND		0.014	0.15
1,1,1-Trichloroethane		ND		0.015	0.061
Carbon tetrachloride		ND		0.011	0.061
1,1-Dichloropropene		ND		0.012	0.15
Benzene		0.011	J	0.011	0.030
1,2-Dichloroethane		ND		0.031	0.15
Trichloroethene		ND		0.011	0.061
1,2-Dichloropropane		ND		0.0095	0.030
Dibromomethane		ND		0.028	0.15
Dichlorobromomethane		ND		0.011	0.15
cis-1,3-Dichloropropene		ND		0.011	0.15
Toluene		ND		0.028	0.15
trans-1,3-Dichloropropene		ND		0.011	0.15
1,1,2-Trichloroethane		ND		0.014	0.15
Tetrachloroethene		ND		0.028	0.095
1,3-Dichloropropane		ND		0.016	0.061
Chlorodibromomethane		ND		0.0095	0.15
Ethylene Dibromide		ND		0.025	0.15
Chlorobenzene		ND		0.046	0.15
Ethylbenzene		ND		0.027	0.15
1,1,1,2-Tetrachloroethane		ND		0.014	0.15
1,1,2,2-Tetrachloroethane		ND		0.0091	0.030
m-Xylene & p-Xylene		ND		0.057	0.15
o-Xylene		ND		0.027	0.15
Styrene		ND		0.012	0.15
Bromoform		ND		0.011	0.15
Isopropylbenzene		ND		0.023	0.15
Bromobenzene		ND		0.014	0.15
N-Propylbenzene		ND		0.026	0.15
1,2,3-Trichloropropane		ND		0.027	0.15

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-100**

Lab Sample ID: 580-4730-4 | Date Sampled: 01/15/2007 1130
Client Matrix: Solid | % Moisture: 39.2 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30608.D
Dilution: 1.0 | Initial Weight/Volume: 4.33 g
Date Analyzed: 01/17/2007 1729 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		0.022	0.15
1,3,5-Trimethylbenzene		ND		0.023	0.15
4-Chlorotoluene		ND		0.013	0.15
tert-Butylbenzene		ND		0.013	0.15
1,2,4-Trimethylbenzene		ND		0.026	0.15
sec-Butylbenzene		ND		0.0061	0.15
1,3-Dichlorobenzene		ND		0.016	0.15
4-Isopropyltoluene		0.037	J	0.011	0.15
1,4-Dichlorobenzene		ND		0.0076	0.15
n-Butylbenzene		ND		0.0091	0.15
1,2-Dichlorobenzene		ND		0.013	0.15
1,2-Dibromo-3-Chloropropane		ND		0.033	0.15
1,2,4-Trichlorobenzene		ND		0.015	0.15
1,2,3-Trichlorobenzene		ND		0.018	0.15
Hexachlorobutadiene		ND		0.025	0.15

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	90	75 - 125
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	90	75 - 125
Trifluorotoluene (Surr)	98	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW05-070115-100**

Lab Sample ID: 580-4730-5 | Date Sampled: 01/15/2007 1315
Client Matrix: Solid | % Moisture: 29.0 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30609.D
Dilution: 1.0 | Initial Weight/Volume: 6.61 g
Date Analyzed: 01/17/2007 1748 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.012	0.085
Chloromethane		0.021	J	0.016	0.085
Vinyl chloride		ND		0.011	0.034
Bromomethane		ND		0.060	0.43
Chloroethane		ND	*	0.062	0.43
Trichlorofluoromethane		ND	*	0.0081	0.085
1,1-Dichloroethene		ND		0.011	0.034
Methylene Chloride		ND		0.013	0.085
trans-1,2-Dichloroethene		ND		0.0092	0.085
1,1-Dichloroethane		ND		0.020	0.085
2,2-Dichloropropane		ND		0.010	0.085
cis-1,2-Dichloroethene		ND		0.013	0.085
Chlorobromomethane		ND	*	0.010	0.085
Chloroform		ND		0.0081	0.085
1,1,1-Trichloroethane		ND		0.0083	0.034
Carbon tetrachloride		ND		0.0064	0.034
1,1-Dichloropropene		ND		0.0066	0.085
Benzene		ND		0.0060	0.017
1,2-Dichloroethane		ND		0.017	0.085
Trichloroethene		ND		0.0064	0.034
1,2-Dichloropropane		ND		0.0053	0.017
Dibromomethane		ND		0.016	0.085
Dichlorobromomethane		ND		0.0060	0.085
cis-1,3-Dichloropropene		ND		0.0060	0.085
Toluene		ND		0.016	0.085
trans-1,3-Dichloropropene		ND		0.0060	0.085
1,1,2-Trichloroethane		ND		0.0077	0.085
Tetrachloroethene		ND		0.016	0.053
1,3-Dichloropropane		ND		0.0089	0.034
Chlorodibromomethane		ND		0.0053	0.085
Ethylene Dibromide		ND		0.014	0.085
Chlorobenzene		ND		0.026	0.085
Ethylbenzene		ND		0.015	0.085
1,1,1,2-Tetrachloroethane		ND		0.0081	0.085
1,1,2,2-Tetrachloroethane		ND		0.0051	0.017
m-Xylene & p-Xylene		ND		0.032	0.085
o-Xylene		ND		0.015	0.085
Styrene		ND		0.0068	0.085
Bromoform		ND		0.0060	0.085
Isopropylbenzene		ND		0.013	0.085
Bromobenzene		ND		0.0077	0.085
N-Propylbenzene		ND		0.015	0.085
1,2,3-Trichloropropane		ND		0.015	0.085

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW05-070115-100**

Lab Sample ID: 580-4730-5 | Date Sampled: 01/15/2007 1315
Client Matrix: Solid | % Moisture: 29.0 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30609.D
Dilution: 1.0 | Initial Weight/Volume: 6.61 g
Date Analyzed: 01/17/2007 1748 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		0.012	0.085
1,3,5-Trimethylbenzene		ND		0.013	0.085
4-Chlorotoluene		ND		0.0075	0.085
tert-Butylbenzene		ND		0.0072	0.085
1,2,4-Trimethylbenzene		ND		0.015	0.085
sec-Butylbenzene		ND		0.0034	0.085
1,3-Dichlorobenzene		ND		0.0087	0.085
4-Isopropyltoluene		0.022	J	0.0060	0.085
1,4-Dichlorobenzene		ND		0.0043	0.085
n-Butylbenzene		ND		0.0051	0.085
1,2-Dichlorobenzene		ND		0.0072	0.085
1,2-Dibromo-3-Chloropropane		ND		0.019	0.085
1,2,4-Trichlorobenzene		ND		0.0083	0.085
1,2,3-Trichlorobenzene		ND		0.010	0.085
Hexachlorobutadiene		ND		0.014	0.085

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	91	75 - 125
Ethylbenzene-d10	93	75 - 125
4-Bromofluorobenzene (Surr)	91	75 - 125
Trifluorotoluene (Surr)	103	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-020**

Lab Sample ID: 580-4730-6 | Date Sampled: 01/15/2007 1430
Client Matrix: Solid | % Moisture: 38.0 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30610.D
Dilution: 1.0 | Initial Weight/Volume: 5.66 g
Date Analyzed: 01/17/2007 1806 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.016	0.11
Chloromethane		0.023	J	0.021	0.11
Vinyl chloride		ND		0.015	0.046
Bromomethane		0.085	J B	0.080	0.57
Chloroethane		ND	*	0.083	0.57
Trichlorofluoromethane		ND	*	0.011	0.11
1,1-Dichloroethene		ND		0.015	0.046
Methylene Chloride		ND		0.017	0.11
trans-1,2-Dichloroethene		ND		0.012	0.11
1,1-Dichloroethane		ND		0.027	0.11
2,2-Dichloropropane		ND		0.013	0.11
cis-1,2-Dichloroethene		ND		0.017	0.11
Chlorobromomethane		ND	*	0.014	0.11
Chloroform		ND		0.011	0.11
1,1,1-Trichloroethane		ND		0.011	0.046
Carbon tetrachloride		ND		0.0086	0.046
1,1-Dichloropropene		ND		0.0088	0.11
Benzene		ND		0.0080	0.023
1,2-Dichloroethane		ND		0.023	0.11
Trichloroethene		ND		0.0086	0.046
1,2-Dichloropropane		ND		0.0071	0.023
Dibromomethane		ND		0.021	0.11
Dichlorobromomethane		ND		0.0080	0.11
cis-1,3-Dichloropropene		ND		0.0080	0.11
Toluene		ND		0.021	0.11
trans-1,3-Dichloropropene		ND		0.0080	0.11
1,1,2-Trichloroethane		ND		0.010	0.11
Tetrachloroethene		ND		0.021	0.071
1,3-Dichloropropane		ND		0.012	0.046
Chlorodibromomethane		ND		0.0071	0.11
Ethylene Dibromide		ND		0.019	0.11
Chlorobenzene		ND		0.034	0.11
Ethylbenzene		ND		0.021	0.11
1,1,1,2-Tetrachloroethane		ND		0.011	0.11
1,1,2,2-Tetrachloroethane		ND		0.0068	0.023
m-Xylene & p-Xylene		ND		0.043	0.11
o-Xylene		ND		0.021	0.11
Styrene		ND		0.0091	0.11
Bromoform		ND		0.0080	0.11
Isopropylbenzene		ND		0.017	0.11
Bromobenzene		ND		0.010	0.11
N-Propylbenzene		ND		0.020	0.11
1,2,3-Trichloropropane		ND		0.020	0.11

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-020**

Lab Sample ID: 580-4730-6 | Date Sampled: 01/15/2007 1430
Client Matrix: Solid | % Moisture: 38.0 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30610.D
Dilution: 1.0 | Initial Weight/Volume: 5.66 g
Date Analyzed: 01/17/2007 1806 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		0.017	0.11
1,3,5-Trimethylbenzene		ND		0.017	0.11
4-Chlorotoluene		ND		0.010	0.11
tert-Butylbenzene		ND		0.0097	0.11
1,2,4-Trimethylbenzene		ND		0.020	0.11
sec-Butylbenzene		ND		0.0046	0.11
1,3-Dichlorobenzene		ND		0.012	0.11
4-Isopropyltoluene		ND		0.0080	0.11
1,4-Dichlorobenzene		ND		0.0057	0.11
n-Butylbenzene		ND		0.0068	0.11
1,2-Dichlorobenzene		ND		0.0097	0.11
1,2-Dibromo-3-Chloropropane		ND		0.025	0.11
1,2,4-Trichlorobenzene		ND		0.011	0.11
1,2,3-Trichlorobenzene		ND		0.014	0.11
Hexachlorobutadiene		ND		0.019	0.11

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	90	75 - 125
Toluene-d8 (Surr)	91	75 - 125
Ethylbenzene-d10	96	75 - 125
4-Bromofluorobenzene (Surr)	90	75 - 125
Trifluorotoluene (Surr)	105	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-100**

Lab Sample ID: 580-4730-7 | Date Sampled: 01/15/2007 1455
Client Matrix: Solid | % Moisture: 47.7 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30611.D
Dilution: 1.0 | Initial Weight/Volume: 5.01 g
Date Analyzed: 01/17/2007 1826 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.021	0.15
Chloromethane		0.030	J	0.028	0.15
Vinyl chloride		ND		0.020	0.061
Bromomethane		ND		0.11	0.76
Chloroethane		ND	*	0.11	0.76
Trichlorofluoromethane		ND	*	0.014	0.15
1,1-Dichloroethene		ND		0.020	0.061
Methylene Chloride		ND		0.023	0.15
trans-1,2-Dichloroethene		ND		0.016	0.15
1,1-Dichloroethane		ND		0.036	0.15
2,2-Dichloropropane		ND		0.018	0.15
cis-1,2-Dichloroethene		ND		0.023	0.15
Chlorobromomethane		ND	*	0.018	0.15
Chloroform		ND		0.014	0.15
1,1,1-Trichloroethane		ND		0.015	0.061
Carbon tetrachloride		ND		0.011	0.061
1,1-Dichloropropene		ND		0.012	0.15
Benzene		ND		0.011	0.031
1,2-Dichloroethane		ND		0.031	0.15
Trichloroethene		ND		0.011	0.061
1,2-Dichloropropane		ND		0.0095	0.031
Dibromomethane		ND		0.028	0.15
Dichlorobromomethane		ND		0.011	0.15
cis-1,3-Dichloropropene		ND		0.011	0.15
Toluene		ND		0.028	0.15
trans-1,3-Dichloropropene		ND		0.011	0.15
1,1,2-Trichloroethane		ND		0.014	0.15
Tetrachloroethene		ND		0.028	0.095
1,3-Dichloropropane		ND		0.016	0.061
Chlorodibromomethane		ND		0.0095	0.15
Ethylene Dibromide		ND		0.025	0.15
Chlorobenzene		ND		0.046	0.15
Ethylbenzene		ND		0.027	0.15
1,1,1,2-Tetrachloroethane		ND		0.014	0.15
1,1,2,2-Tetrachloroethane		ND		0.0092	0.031
m-Xylene & p-Xylene		ND		0.057	0.15
o-Xylene		ND		0.027	0.15
Styrene		ND		0.012	0.15
Bromoform		ND		0.011	0.15
Isopropylbenzene		ND		0.023	0.15
Bromobenzene		ND		0.014	0.15
N-Propylbenzene		ND		0.026	0.15
1,2,3-Trichloropropane		ND		0.027	0.15

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-100**

Lab Sample ID: 580-4730-7 | Date Sampled: 01/15/2007 1455
Client Matrix: Solid | % Moisture: 47.7 | Date Received: 01/16/2007 1320

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-14881 | Instrument ID: SEA001
Preparation: 5035 | Prep Batch: 580-14844 | Lab File ID: AG30611.D
Dilution: 1.0 | Initial Weight/Volume: 5.01 g
Date Analyzed: 01/17/2007 1826 | Final Weight/Volume: 400 mL
Date Prepared: 01/17/2007 1500

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		0.022	0.15
1,3,5-Trimethylbenzene		ND		0.023	0.15
4-Chlorotoluene		ND		0.013	0.15
tert-Butylbenzene		ND		0.013	0.15
1,2,4-Trimethylbenzene		0.029	J	0.026	0.15
sec-Butylbenzene		ND		0.0061	0.15
1,3-Dichlorobenzene		ND		0.016	0.15
4-Isopropyltoluene		0.047	J	0.011	0.15
1,4-Dichlorobenzene		ND		0.0076	0.15
n-Butylbenzene		ND		0.0092	0.15
1,2-Dichlorobenzene		ND		0.013	0.15
1,2-Dibromo-3-Chloropropane		ND		0.034	0.15
1,2,4-Trichlorobenzene		ND		0.015	0.15
1,2,3-Trichlorobenzene		ND		0.018	0.15
Hexachlorobutadiene		ND		0.025	0.15

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	92	75 - 125
Ethylbenzene-d10	92	75 - 125
4-Bromofluorobenzene (Surr)	88	75 - 125
Trifluorotoluene (Surr)	103	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **DP15-070115-020**

Lab Sample ID: 580-4730-1 | Date Sampled: 01/15/2007 0955
Client Matrix: Solid | % Moisture: 25.7 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07056.D
Dilution: 10 | Initial Weight/Volume: 20.3957 g
Date Analyzed: 01/22/2007 1703 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Phenol		ND		0.13	0.13
Bis(2-chloroethyl)ether		ND		0.13	0.13
2-Chlorophenol		ND		0.13	0.13
1,3-Dichlorobenzene		ND		0.066	0.066
1,4-Dichlorobenzene		ND		0.066	0.066
Benzyl alcohol		ND		0.13	0.13
1,2-Dichlorobenzene		ND		0.066	0.066
2-Methylphenol		ND	*	0.13	0.13
Bis(2-chloroisopropyl) ether		ND		0.20	0.20
3 & 4 Methylphenol		ND		0.26	0.26
N-Nitrosodi-n-propylamine		ND		0.13	0.13
Hexachloroethane		ND		0.13	0.13
Nitrobenzene		ND		0.13	0.13
Isophorone		ND		0.13	0.13
2-Nitrophenol		ND		0.13	0.13
2,4-Dimethylphenol		ND		0.13	0.13
Benzoic acid		ND		3.3	3.3
Bis(2-chloroethoxy)methane		ND		0.13	0.13
2,4-Dichlorophenol		ND		0.13	0.13
1,2,4-Trichlorobenzene		ND		0.066	0.066
Naphthalene		ND		0.026	0.026
4-Chloroaniline		ND		0.13	0.13
Hexachlorobutadiene		ND		0.066	0.066
4-Chloro-3-methylphenol		ND		0.13	0.13
2-Methylnaphthalene		ND		0.026	0.026
Hexachlorocyclopentadiene		ND		0.13	0.13
2,4,6-Trichlorophenol		ND		0.20	0.20
2,4,5-Trichlorophenol		ND		0.13	0.13
2-Chloronaphthalene		ND		0.026	0.026
2-Nitroaniline		ND		0.13	0.13
Dimethyl phthalate		ND		0.13	0.13
Acenaphthylene		ND		0.026	0.026
2,6-Dinitrotoluene		ND		0.13	0.13
3-Nitroaniline		ND		0.13	0.13
Acenaphthene		ND		0.026	0.026
2,4-Dinitrophenol		ND		1.3	1.3
4-Nitrophenol		ND		1.3	1.3
Dibenzofuran		ND		0.13	0.13
2,4-Dinitrotoluene		ND		0.13	0.13
Diethyl phthalate		ND		0.13	0.13
4-Chlorophenyl phenyl ether		ND		0.13	0.13
Fluorene		ND		0.026	0.026
4-Nitroaniline		ND	*	0.13	0.13

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **DP15-070115-020**

Lab Sample ID: 580-4730-1 | Date Sampled: 01/15/2007 0955
Client Matrix: Solid | % Moisture: 25.7 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07056.D
Dilution: 10 | Initial Weight/Volume: 20.3957 g
Date Analyzed: 01/22/2007 1703 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		1.3	1.3
N-Nitrosodiphenylamine		ND		0.066	0.066
4-Bromophenyl phenyl ether		ND		0.13	0.13
Hexachlorobenzene		ND		0.066	0.066
Pentachlorophenol		ND		0.13	0.13
Phenanthrene		ND		0.026	0.026
Anthracene		ND		0.026	0.026
Di-n-butyl phthalate		ND		0.26	0.26
Fluoranthene		0.027		0.026	0.026
Pyrene		0.042		0.026	0.026
Butyl benzyl phthalate		ND		0.13	0.13
3,3'-Dichlorobenzidine		ND	*	0.26	0.26
Benzo[a]anthracene		ND		0.033	0.033
Chrysene		0.042		0.033	0.033
Bis(2-ethylhexyl) phthalate		ND		2.0	2.0
Di-n-octyl phthalate		ND		0.26	0.26
Benzo[a]pyrene		ND		0.040	0.040
Indeno[1,2,3-cd]pyrene		ND		0.053	0.053
Dibenz(a,h)anthracene		ND		0.053	0.053
Benzo[g,h,i]perylene		ND		0.033	0.033
Carbazole		ND		0.20	0.20
1-Methylnaphthalene		ND		0.040	0.040
Benzo[b]fluoranthene		ND		0.026	0.026
Benzo[k]fluoranthene		ND		0.033	0.033

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	74	36 - 145
Phenol-d5	66	38 - 149
Nitrobenzene-d5	104	38 - 141
2-Fluorobiphenyl	63	42 - 140
2,4,6-Tribromophenol	89	28 - 143
Terphenyl-d14	126	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **DP15-070115-100**

Lab Sample ID: 580-4730-2 | Date Sampled: 01/15/2007 1008
Client Matrix: Solid | % Moisture: 83.2 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07047.D
Dilution: 1.0 | Initial Weight/Volume: 20.2281 g
Date Analyzed: 01/22/2007 1255 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Phenol		ND		0.059	0.059
Bis(2-chloroethyl)ether		ND		0.059	0.059
2-Chlorophenol		ND		0.059	0.059
1,3-Dichlorobenzene		ND		0.029	0.029
1,4-Dichlorobenzene		ND		0.029	0.029
Benzyl alcohol		ND		0.059	0.059
1,2-Dichlorobenzene		ND		0.029	0.029
2-Methylphenol		ND	*	0.059	0.059
Bis(2-chloroisopropyl) ether		ND		0.088	0.088
3 & 4 Methylphenol		ND		0.12	0.12
N-Nitrosodi-n-propylamine		ND		0.059	0.059
Hexachloroethane		ND		0.059	0.059
Nitrobenzene		ND		0.059	0.059
Isophorone		ND		0.059	0.059
2-Nitrophenol		ND		0.059	0.059
2,4-Dimethylphenol		ND		0.059	0.059
Benzoic acid		ND		1.5	1.5
Bis(2-chloroethoxy)methane		ND		0.059	0.059
2,4-Dichlorophenol		ND		0.059	0.059
1,2,4-Trichlorobenzene		ND		0.029	0.029
Naphthalene		0.018		0.012	0.012
4-Chloroaniline		ND		0.059	0.059
Hexachlorobutadiene		ND		0.029	0.029
4-Chloro-3-methylphenol		ND		0.059	0.059
2-Methylnaphthalene		ND		0.012	0.012
Hexachlorocyclopentadiene		ND		0.059	0.059
2,4,6-Trichlorophenol		ND		0.088	0.088
2,4,5-Trichlorophenol		ND		0.059	0.059
2-Chloronaphthalene		ND		0.012	0.012
2-Nitroaniline		ND		0.059	0.059
Dimethyl phthalate		ND		0.059	0.059
Acenaphthylene		0.021		0.012	0.012
2,6-Dinitrotoluene		ND		0.059	0.059
3-Nitroaniline		ND		0.059	0.059
Acenaphthene		0.014		0.012	0.012
2,4-Dinitrophenol		ND		0.59	0.59
4-Nitrophenol		ND		0.59	0.59
Dibenzofuran		ND		0.059	0.059
2,4-Dinitrotoluene		ND		0.059	0.059
Diethyl phthalate		ND		0.059	0.059
4-Chlorophenyl phenyl ether		ND		0.059	0.059
Fluorene		0.024		0.012	0.012
4-Nitroaniline		ND	*	0.059	0.059

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **DP15-070115-100**

Lab Sample ID: 580-4730-2 | Date Sampled: 01/15/2007 1008
Client Matrix: Solid | % Moisture: 83.2 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07047.D
Dilution: 1.0 | Initial Weight/Volume: 20.2281 g
Date Analyzed: 01/22/2007 1255 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		0.59	0.59
N-Nitrosodiphenylamine		ND		0.029	0.029
4-Bromophenyl phenyl ether		ND		0.059	0.059
Hexachlorobenzene		ND		0.029	0.029
Pentachlorophenol		ND		0.059	0.059
Phenanthrene		0.15		0.012	0.012
Anthracene		0.12		0.012	0.012
Di-n-butyl phthalate		ND		0.12	0.12
Fluoranthene		0.64		0.012	0.012
Pyrene		0.67		0.012	0.012
Butyl benzyl phthalate		ND		0.059	0.059
3,3'-Dichlorobenzidine		ND	*	0.12	0.12
Benzo[a]anthracene		0.53		0.015	0.015
Chrysene		0.49		0.015	0.015
Bis(2-ethylhexyl) phthalate		ND		0.88	0.88
Di-n-octyl phthalate		ND		0.12	0.12
Benzo[a]pyrene		0.40		0.018	0.018
Indeno[1,2,3-cd]pyrene		0.24		0.024	0.024
Dibenz(a,h)anthracene		0.090		0.024	0.024
Benzo[g,h,i]perylene		0.18		0.015	0.015
Carbazole		ND		0.088	0.088
1-Methylnaphthalene		ND		0.018	0.018
Benzo[b]fluoranthene		0.22		0.012	0.012
Benzo[k]fluoranthene		0.32		0.015	0.015

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	68	36 - 145
Phenol-d5	63	38 - 149
Nitrobenzene-d5	78	38 - 141
2-Fluorobiphenyl	48	42 - 140
2,4,6-Tribromophenol	70	28 - 143
Terphenyl-d14	73	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-020**

Lab Sample ID: 580-4730-3 | Date Sampled: 01/15/2007 1116
Client Matrix: Solid | % Moisture: 13.5 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07048.D
Dilution: 1.0 | Initial Weight/Volume: 20.5639 g
Date Analyzed: 01/22/2007 1323 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Phenol		ND		0.011	0.011
Bis(2-chloroethyl)ether		ND		0.011	0.011
2-Chlorophenol		ND		0.011	0.011
1,3-Dichlorobenzene		ND		0.0056	0.0056
1,4-Dichlorobenzene		ND		0.0056	0.0056
Benzyl alcohol		ND		0.011	0.011
1,2-Dichlorobenzene		ND		0.0056	0.0056
2-Methylphenol		ND	*	0.011	0.011
Bis(2-chloroisopropyl) ether		ND		0.017	0.017
3 & 4 Methylphenol		ND		0.022	0.022
N-Nitrosodi-n-propylamine		ND		0.011	0.011
Hexachloroethane		ND		0.011	0.011
Nitrobenzene		ND		0.011	0.011
Isophorone		ND		0.011	0.011
2-Nitrophenol		ND		0.011	0.011
2,4-Dimethylphenol		ND		0.011	0.011
Benzoic acid		ND		0.28	0.28
Bis(2-chloroethoxy)methane		ND		0.011	0.011
2,4-Dichlorophenol		ND		0.011	0.011
1,2,4-Trichlorobenzene		ND		0.0056	0.0056
Naphthalene		ND		0.0022	0.0022
4-Chloroaniline		ND		0.011	0.011
Hexachlorobutadiene		ND		0.0056	0.0056
4-Chloro-3-methylphenol		ND		0.011	0.011
2-Methylnaphthalene		ND		0.0022	0.0022
Hexachlorocyclopentadiene		ND		0.011	0.011
2,4,6-Trichlorophenol		ND		0.017	0.017
2,4,5-Trichlorophenol		ND		0.011	0.011
2-Chloronaphthalene		ND		0.0022	0.0022
2-Nitroaniline		ND		0.011	0.011
Dimethyl phthalate		ND		0.011	0.011
Acenaphthylene		ND		0.0022	0.0022
2,6-Dinitrotoluene		ND		0.011	0.011
3-Nitroaniline		ND		0.011	0.011
Acenaphthene		ND		0.0022	0.0022
2,4-Dinitrophenol		ND		0.11	0.11
4-Nitrophenol		ND		0.11	0.11
Dibenzofuran		ND		0.011	0.011
2,4-Dinitrotoluene		ND		0.011	0.011
Diethyl phthalate		ND		0.011	0.011
4-Chlorophenyl phenyl ether		ND		0.011	0.011
Fluorene		ND		0.0022	0.0022
4-Nitroaniline		ND	*	0.011	0.011

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-020**

Lab Sample ID: 580-4730-3 | Date Sampled: 01/15/2007 1116
Client Matrix: Solid | % Moisture: 13.5 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07048.D
Dilution: 1.0 | Initial Weight/Volume: 20.5639 g
Date Analyzed: 01/22/2007 1323 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		0.11	0.11
N-Nitrosodiphenylamine		ND		0.0056	0.0056
4-Bromophenyl phenyl ether		ND		0.011	0.011
Hexachlorobenzene		ND		0.0056	0.0056
Pentachlorophenol		ND		0.011	0.011
Phenanthrene		ND		0.0022	0.0022
Anthracene		ND		0.0022	0.0022
Di-n-butyl phthalate		ND		0.022	0.022
Fluoranthene		ND		0.0022	0.0022
Pyrene		ND		0.0022	0.0022
Butyl benzyl phthalate		ND		0.011	0.011
3,3'-Dichlorobenzidine		ND	*	0.022	0.022
Benzo[a]anthracene		ND		0.0028	0.0028
Chrysene		ND		0.0028	0.0028
Bis(2-ethylhexyl) phthalate		ND		0.17	0.17
Di-n-octyl phthalate		ND		0.022	0.022
Benzo[a]pyrene		ND		0.0034	0.0034
Indeno[1,2,3-cd]pyrene		ND		0.0045	0.0045
Dibenz(a,h)anthracene		ND		0.0045	0.0045
Benzo[g,h,i]perylene		ND		0.0028	0.0028
Carbazole		ND		0.017	0.017
1-Methylnaphthalene		ND		0.0034	0.0034
Benzo[b]fluoranthene		ND		0.0022	0.0022
Benzo[k]fluoranthene		ND		0.0028	0.0028

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	84	36 - 145
Phenol-d5	84	38 - 149
Nitrobenzene-d5	81	38 - 141
2-Fluorobiphenyl	55	42 - 140
2,4,6-Tribromophenol	87	28 - 143
Terphenyl-d14	91	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-100**

Lab Sample ID: 580-4730-4 | Date Sampled: 01/15/2007 1130
Client Matrix: Solid | % Moisture: 39.2 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07049.D
Dilution: 1.0 | Initial Weight/Volume: 20.1608 g
Date Analyzed: 01/22/2007 1350 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Phenol		ND		0.016	0.016
Bis(2-chloroethyl)ether		ND		0.016	0.016
2-Chlorophenol		ND		0.016	0.016
1,3-Dichlorobenzene		ND		0.0082	0.0082
1,4-Dichlorobenzene		ND		0.0082	0.0082
Benzyl alcohol		ND		0.016	0.016
1,2-Dichlorobenzene		ND		0.0082	0.0082
2-Methylphenol		ND	*	0.016	0.016
Bis(2-chloroisopropyl) ether		ND		0.024	0.024
3 & 4 Methylphenol		0.041		0.033	0.033
N-Nitrosodi-n-propylamine		ND		0.016	0.016
Hexachloroethane		ND		0.016	0.016
Nitrobenzene		ND		0.016	0.016
Isophorone		ND		0.016	0.016
2-Nitrophenol		ND		0.016	0.016
2,4-Dimethylphenol		ND		0.016	0.016
Benzoic acid		ND		0.41	0.41
Bis(2-chloroethoxy)methane		ND		0.016	0.016
2,4-Dichlorophenol		ND		0.016	0.016
1,2,4-Trichlorobenzene		ND		0.0082	0.0082
Naphthalene		0.011		0.0033	0.0033
4-Chloroaniline		ND		0.016	0.016
Hexachlorobutadiene		ND		0.0082	0.0082
4-Chloro-3-methylphenol		ND		0.016	0.016
2-Methylnaphthalene		0.0043		0.0033	0.0033
Hexachlorocyclopentadiene		ND		0.016	0.016
2,4,6-Trichlorophenol		ND		0.024	0.024
2,4,5-Trichlorophenol		ND		0.016	0.016
2-Chloronaphthalene		ND		0.0033	0.0033
2-Nitroaniline		ND		0.016	0.016
Dimethyl phthalate		ND		0.016	0.016
Acenaphthylene		ND		0.0033	0.0033
2,6-Dinitrotoluene		ND		0.016	0.016
3-Nitroaniline		ND		0.016	0.016
Acenaphthene		ND		0.0033	0.0033
2,4-Dinitrophenol		ND		0.16	0.16
4-Nitrophenol		ND		0.16	0.16
Dibenzofuran		ND		0.016	0.016
2,4-Dinitrotoluene		ND		0.016	0.016
Diethyl phthalate		ND		0.016	0.016
4-Chlorophenyl phenyl ether		ND		0.016	0.016
Fluorene		0.018		0.0033	0.0033
4-Nitroaniline		ND	*	0.016	0.016

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-100**

Lab Sample ID: 580-4730-4 | Date Sampled: 01/15/2007 1130
Client Matrix: Solid | % Moisture: 39.2 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07049.D
Dilution: 1.0 | Initial Weight/Volume: 20.1608 g
Date Analyzed: 01/22/2007 1350 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		0.16	0.16
N-Nitrosodiphenylamine		ND		0.0082	0.0082
4-Bromophenyl phenyl ether		ND		0.016	0.016
Hexachlorobenzene		ND		0.0082	0.0082
Pentachlorophenol		0.17		0.016	0.016
Phenanthrene		ND		0.0033	0.0033
Anthracene		ND		0.0033	0.0033
Di-n-butyl phthalate		ND		0.033	0.033
Fluoranthene		ND		0.0033	0.0033
Pyrene		ND		0.0033	0.0033
Butyl benzyl phthalate		ND		0.016	0.016
3,3'-Dichlorobenzidine		ND	*	0.033	0.033
Benzo[a]anthracene		ND		0.0041	0.0041
Chrysene		ND		0.0041	0.0041
Bis(2-ethylhexyl) phthalate		ND		0.24	0.24
Di-n-octyl phthalate		ND		0.033	0.033
Benzo[a]pyrene		ND		0.0049	0.0049
Indeno[1,2,3-cd]pyrene		ND		0.0065	0.0065
Dibenz(a,h)anthracene		ND		0.0065	0.0065
Benzo[g,h,i]perylene		ND		0.0041	0.0041
Carbazole		ND		0.024	0.024
1-Methylnaphthalene		ND		0.0049	0.0049
Benzo[b]fluoranthene		ND		0.0033	0.0033
Benzo[k]fluoranthene		ND		0.0041	0.0041

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	75	36 - 145
Phenol-d5	74	38 - 149
Nitrobenzene-d5	85	38 - 141
2-Fluorobiphenyl	75	42 - 140
2,4,6-Tribromophenol	102	28 - 143
Terphenyl-d14	86	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW05-070115-100**

Lab Sample ID: 580-4730-5 | Date Sampled: 01/15/2007 1315
Client Matrix: Solid | % Moisture: 29.0 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07050.D
Dilution: 1.0 | Initial Weight/Volume: 20.2494 g
Date Analyzed: 01/22/2007 1418 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Phenol		ND		0.014	0.014
Bis(2-chloroethyl)ether		ND		0.014	0.014
2-Chlorophenol		ND		0.014	0.014
1,3-Dichlorobenzene		ND		0.0070	0.0070
1,4-Dichlorobenzene		ND		0.0070	0.0070
Benzyl alcohol		ND		0.014	0.014
1,2-Dichlorobenzene		ND		0.0070	0.0070
2-Methylphenol		ND	*	0.014	0.014
Bis(2-chloroisopropyl) ether		ND		0.021	0.021
3 & 4 Methylphenol		ND		0.028	0.028
N-Nitrosodi-n-propylamine		ND		0.014	0.014
Hexachloroethane		ND		0.014	0.014
Nitrobenzene		ND		0.014	0.014
Isophorone		ND		0.014	0.014
2-Nitrophenol		ND		0.014	0.014
2,4-Dimethylphenol		ND		0.014	0.014
Benzoic acid		ND		0.35	0.35
Bis(2-chloroethoxy)methane		ND		0.014	0.014
2,4-Dichlorophenol		ND		0.014	0.014
1,2,4-Trichlorobenzene		ND		0.0070	0.0070
Naphthalene		ND		0.0028	0.0028
4-Chloroaniline		ND		0.014	0.014
Hexachlorobutadiene		ND		0.0070	0.0070
4-Chloro-3-methylphenol		ND		0.014	0.014
2-Methylnaphthalene		ND		0.0028	0.0028
Hexachlorocyclopentadiene		ND		0.014	0.014
2,4,6-Trichlorophenol		ND		0.021	0.021
2,4,5-Trichlorophenol		ND		0.014	0.014
2-Chloronaphthalene		ND		0.0028	0.0028
2-Nitroaniline		ND		0.014	0.014
Dimethyl phthalate		ND		0.014	0.014
Acenaphthylene		0.0028		0.0028	0.0028
2,6-Dinitrotoluene		ND		0.014	0.014
3-Nitroaniline		ND		0.014	0.014
Acenaphthene		ND		0.0028	0.0028
2,4-Dinitrophenol		ND		0.14	0.14
4-Nitrophenol		ND		0.14	0.14
Dibenzofuran		ND		0.014	0.014
2,4-Dinitrotoluene		ND		0.014	0.014
Diethyl phthalate		ND		0.014	0.014
4-Chlorophenyl phenyl ether		ND		0.014	0.014
Fluorene		ND		0.0028	0.0028
4-Nitroaniline		ND	*	0.014	0.014

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW05-070115-100**

Lab Sample ID: 580-4730-5 | Date Sampled: 01/15/2007 1315
Client Matrix: Solid | % Moisture: 29.0 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-15054	Instrument ID:	SEA002	
Preparation:	3550B	Prep Batch: 580-14867	Lab File ID:	AT07050.D	
Dilution:	1.0		Initial Weight/Volume:	20.2494	g
Date Analyzed:	01/22/2007 1418		Final Weight/Volume:	2	mL
Date Prepared:	01/18/2007 1109		Injection Volume:		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		0.14	0.14
N-Nitrosodiphenylamine		ND		0.0070	0.0070
4-Bromophenyl phenyl ether		ND		0.014	0.014
Hexachlorobenzene		ND		0.0070	0.0070
Pentachlorophenol		ND		0.014	0.014
Phenanthrene		0.038		0.0028	0.0028
Anthracene		0.0056		0.0028	0.0028
Di-n-butyl phthalate		ND		0.028	0.028
Fluoranthene		0.12		0.0028	0.0028
Pyrene		0.11		0.0028	0.0028
Butyl benzyl phthalate		ND		0.014	0.014
3,3'-Dichlorobenzidine		ND	*	0.028	0.028
Benzo[a]anthracene		0.10		0.0035	0.0035
Chrysene		0.098		0.0035	0.0035
Bis(2-ethylhexyl) phthalate		ND		0.21	0.21
Di-n-octyl phthalate		ND		0.028	0.028
Benzo[a]pyrene		0.097		0.0042	0.0042
Indeno[1,2,3-cd]pyrene		0.11		0.0056	0.0056
Dibenz(a,h)anthracene		0.031		0.0056	0.0056
Benzo[g,h,i]perylene		0.082		0.0035	0.0035
Carbazole		ND		0.021	0.021
1-Methylnaphthalene		ND		0.0042	0.0042
Benzo[b]fluoranthene		0.11		0.0028	0.0028
Benzo[k]fluoranthene		0.091		0.0035	0.0035

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	87	36 - 145
Phenol-d5	86	38 - 149
Nitrobenzene-d5	56	38 - 141
2-Fluorobiphenyl	67	42 - 140
2,4,6-Tribromophenol	99	28 - 143
Terphenyl-d14	98	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-020**

Lab Sample ID: 580-4730-6 | Date Sampled: 01/15/2007 1430
Client Matrix: Solid | % Moisture: 38.0 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07079.D
Dilution: 10 | Initial Weight/Volume: 20.4728 g
Date Analyzed: 01/23/2007 2337 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Phenol		ND		0.16	0.16
Bis(2-chloroethyl)ether		ND		0.16	0.16
2-Chlorophenol		ND		0.16	0.16
1,3-Dichlorobenzene		ND		0.079	0.079
1,4-Dichlorobenzene		ND		0.079	0.079
Benzyl alcohol		ND		0.16	0.16
1,2-Dichlorobenzene		ND		0.079	0.079
2-Methylphenol		ND	*	0.16	0.16
Bis(2-chloroisopropyl) ether		ND		0.24	0.24
3 & 4 Methylphenol		ND		0.32	0.32
N-Nitrosodi-n-propylamine		ND		0.16	0.16
Hexachloroethane		ND		0.16	0.16
Nitrobenzene		ND		0.16	0.16
Isophorone		ND		0.16	0.16
2-Nitrophenol		ND		0.16	0.16
2,4-Dimethylphenol		ND		0.16	0.16
Benzoic acid		ND		3.9	3.9
Bis(2-chloroethoxy)methane		ND		0.16	0.16
2,4-Dichlorophenol		ND		0.16	0.16
1,2,4-Trichlorobenzene		ND		0.079	0.079
Naphthalene		ND		0.032	0.032
4-Chloroaniline		ND		0.16	0.16
Hexachlorobutadiene		ND		0.079	0.079
4-Chloro-3-methylphenol		ND		0.16	0.16
2-Methylnaphthalene		ND		0.032	0.032
Hexachlorocyclopentadiene		ND		0.16	0.16
2,4,6-Trichlorophenol		ND		0.24	0.24
2,4,5-Trichlorophenol		ND		0.16	0.16
2-Chloronaphthalene		ND		0.032	0.032
2-Nitroaniline		ND		0.16	0.16
Dimethyl phthalate		ND		0.16	0.16
Acenaphthylene		ND		0.032	0.032
2,6-Dinitrotoluene		ND		0.16	0.16
3-Nitroaniline		ND		0.16	0.16
Acenaphthene		ND		0.032	0.032
2,4-Dinitrophenol		ND		1.6	1.6
4-Nitrophenol		ND		1.6	1.6
Dibenzofuran		ND		0.16	0.16
2,4-Dinitrotoluene		ND		0.16	0.16
Diethyl phthalate		ND		0.16	0.16
4-Chlorophenyl phenyl ether		ND		0.16	0.16
Fluorene		ND		0.032	0.032
4-Nitroaniline		ND	*	0.16	0.16

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-020**

Lab Sample ID: 580-4730-6 | Date Sampled: 01/15/2007 1430
Client Matrix: Solid | % Moisture: 38.0 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07079.D
Dilution: 10 | Initial Weight/Volume: 20.4728 g
Date Analyzed: 01/23/2007 2337 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		1.6	1.6
N-Nitrosodiphenylamine		ND		0.079	0.079
4-Bromophenyl phenyl ether		ND		0.16	0.16
Hexachlorobenzene		ND		0.079	0.079
Pentachlorophenol		ND		0.16	0.16
Phenanthrene		ND		0.032	0.032
Anthracene		ND		0.032	0.032
Di-n-butyl phthalate		ND		0.32	0.32
Fluoranthene		0.051		0.032	0.032
Pyrene		0.049		0.032	0.032
Butyl benzyl phthalate		ND		0.16	0.16
3,3'-Dichlorobenzidine		ND	*	0.32	0.32
Benzo[a]anthracene		ND		0.039	0.039
Chrysene		0.045		0.039	0.039
Bis(2-ethylhexyl) phthalate		ND		2.4	2.4
Di-n-octyl phthalate		ND		0.32	0.32
Benzo[a]pyrene		0.087		0.047	0.047
Indeno[1,2,3-cd]pyrene		0.080		0.063	0.063
Dibenz(a,h)anthracene		ND		0.063	0.063
Benzo[g,h,i]perylene		0.090		0.039	0.039
Carbazole		ND		0.24	0.24
1-Methylnaphthalene		ND		0.047	0.047
Benzo[b]fluoranthene		0.054		0.032	0.032
Benzo[k]fluoranthene		0.055		0.039	0.039

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	102	36 - 145
Phenol-d5	100	38 - 149
Nitrobenzene-d5	128	38 - 141
2-Fluorobiphenyl	89	42 - 140
2,4,6-Tribromophenol	139	28 - 143
Terphenyl-d14	142	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-100**

Lab Sample ID: 580-4730-7 | Date Sampled: 01/15/2007 1455
Client Matrix: Solid | % Moisture: 47.7 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07053.D
Dilution: 10 | Initial Weight/Volume: 20.4576 g
Date Analyzed: 01/22/2007 1540 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Phenol		ND		0.19	0.19
Bis(2-chloroethyl)ether		ND		0.19	0.19
2-Chlorophenol		ND		0.19	0.19
1,3-Dichlorobenzene		ND		0.093	0.093
1,4-Dichlorobenzene		ND		0.093	0.093
Benzyl alcohol		ND		0.19	0.19
1,2-Dichlorobenzene		ND		0.093	0.093
2-Methylphenol		ND	*	0.19	0.19
Bis(2-chloroisopropyl) ether		ND		0.28	0.28
3 & 4 Methylphenol		ND		0.37	0.37
N-Nitrosodi-n-propylamine		ND		0.19	0.19
Hexachloroethane		ND		0.19	0.19
Nitrobenzene		ND		0.19	0.19
Isophorone		ND		0.19	0.19
2-Nitrophenol		ND		0.19	0.19
2,4-Dimethylphenol		ND		0.19	0.19
Benzoic acid		ND		4.7	4.7
Bis(2-chloroethoxy)methane		ND		0.19	0.19
2,4-Dichlorophenol		ND		0.19	0.19
1,2,4-Trichlorobenzene		ND		0.093	0.093
Naphthalene		ND		0.037	0.037
4-Chloroaniline		ND		0.19	0.19
Hexachlorobutadiene		ND		0.093	0.093
4-Chloro-3-methylphenol		ND		0.19	0.19
2-Methylnaphthalene		ND		0.037	0.037
Hexachlorocyclopentadiene		ND		0.19	0.19
2,4,6-Trichlorophenol		ND		0.28	0.28
2,4,5-Trichlorophenol		ND		0.19	0.19
2-Chloronaphthalene		ND		0.037	0.037
2-Nitroaniline		ND		0.19	0.19
Dimethyl phthalate		ND		0.19	0.19
Acenaphthylene		ND		0.037	0.037
2,6-Dinitrotoluene		ND		0.19	0.19
3-Nitroaniline		ND		0.19	0.19
Acenaphthene		ND		0.037	0.037
2,4-Dinitrophenol		ND		1.9	1.9
4-Nitrophenol		ND		1.9	1.9
Dibenzofuran		ND		0.19	0.19
2,4-Dinitrotoluene		ND		0.19	0.19
Diethyl phthalate		ND		0.19	0.19
4-Chlorophenyl phenyl ether		ND		0.19	0.19
Fluorene		ND		0.037	0.037
4-Nitroaniline		ND	*	0.19	0.19

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-100**

Lab Sample ID: 580-4730-7 | Date Sampled: 01/15/2007 1455
Client Matrix: Solid | % Moisture: 47.7 | Date Received: 01/16/2007 1320

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15054 | Instrument ID: SEA002
Preparation: 3550B | Prep Batch: 580-14867 | Lab File ID: AT07053.D
Dilution: 10 | Initial Weight/Volume: 20.4576 g
Date Analyzed: 01/22/2007 1540 | Final Weight/Volume: 2 mL
Date Prepared: 01/18/2007 1109 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		1.9	1.9
N-Nitrosodiphenylamine		ND		0.093	0.093
4-Bromophenyl phenyl ether		ND		0.19	0.19
Hexachlorobenzene		ND		0.093	0.093
Pentachlorophenol		ND		0.19	0.19
Phenanthrene		0.094		0.037	0.037
Anthracene		ND		0.037	0.037
Di-n-butyl phthalate		ND		0.37	0.37
Fluoranthene		0.099		0.037	0.037
Pyrene		0.13		0.037	0.037
Butyl benzyl phthalate		ND		0.19	0.19
3,3'-Dichlorobenzidine		ND	*	0.37	0.37
Benzo[a]anthracene		0.065		0.047	0.047
Chrysene		0.079		0.047	0.047
Bis(2-ethylhexyl) phthalate		ND		2.8	2.8
Di-n-octyl phthalate		ND		0.37	0.37
Benzo[a]pyrene		0.077		0.056	0.056
Indeno[1,2,3-cd]pyrene		0.081		0.075	0.075
Dibenz(a,h)anthracene		ND		0.075	0.075
Benzo[g,h,i]perylene		0.067		0.047	0.047
Carbazole		ND		0.28	0.28
1-Methylnaphthalene		ND		0.056	0.056
Benzo[b]fluoranthene		0.047		0.037	0.037
Benzo[k]fluoranthene		ND		0.047	0.047

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	86	36 - 145
Phenol-d5	88	38 - 149
Nitrobenzene-d5	114	38 - 141
2-Fluorobiphenyl	77	42 - 140
2,4,6-Tribromophenol	116	28 - 143
Terphenyl-d14	120	42 - 151

Client: GeoEngineers Inc

Job Number: 580-4730-1

Client Sample ID: DP13-070115-040

Lab Sample ID: 580-4730-8
Client Matrix: Solid
% Moisture: 60.1
Date Sampled: 01/15/2007 1605
Date Received: 01/16/2007 1320

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 10
Date Analyzed: 01/22/2007 1608
Date Prepared: 01/18/2007 1109
Analysis Batch: 580-15054
Prep Batch: 580-14867
Instrument ID: SEA002
Lab File ID: AT07054.D
Initial Weight/Volume: 20.3507 g
Final Weight/Volume: 20 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		ND		0.62	0.62
Chrysene		ND		0.62	0.62
Benzo[a]pyrene		ND		0.74	0.74
Indeno[1,2,3-cd]pyrene		ND		0.99	0.99
Dibenz(a,h)anthracene		ND		0.99	0.99
Benzo[b]fluoranthene		ND		0.49	0.49
Benzo[k]fluoranthene		ND		0.62	0.62

Surrogate	%Rec		Acceptance Limits
Nitrobenzene-d5	292	X	38 - 141
2-Fluorobiphenyl	110		42 - 140
Terphenyl-d14	157	X	42 - 151

Client: GeoEngineers Inc

Job Number: 580-4730-1

Client Sample ID: DP13-070115-080

Lab Sample ID: 580-4730-9
Client Matrix: Solid
% Moisture: 22.9
Date Sampled: 01/15/2007 1615
Date Received: 01/16/2007 1320

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/22/2007 1445
Date Prepared: 01/18/2007 1109
Analysis Batch: 580-15054
Prep Batch: 580-14867
Instrument ID: SEA002
Lab File ID: AT07051.D
Initial Weight/Volume: 20.500 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		0.0071		0.0032	0.0032
Chrysene		0.011		0.0032	0.0032
Benzo[a]pyrene		0.013		0.0038	0.0038
Indeno[1,2,3-cd]pyrene		0.023		0.0051	0.0051
Dibenz(a,h)anthracene		0.0053		0.0051	0.0051
Benzo[b]fluoranthene		0.013		0.0025	0.0025
Benzo[k]fluoranthene		0.0063		0.0032	0.0032

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	68	38 - 141
2-Fluorobiphenyl	60	42 - 140
Terphenyl-d14	89	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **DP15-070115-020**

Lab Sample ID:	580-4730-1			Date Sampled:	01/15/2007 0955
Client Matrix:	Solid	% Moisture:	25.7	Date Received:	01/16/2007 1320

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14994		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14919		Lab File ID:	CS169102.D
Dilution:	1.0			Initial Weight/Volume:	3.60 g
Date Analyzed:	01/19/2007 1942			Final Weight/Volume:	400 mL
Date Prepared:	01/19/2007 1000			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		15	15

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	105	50 - 150
Trifluorotoluene (Surr)	89	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	101	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: DP15-070115-100

Lab Sample ID:	580-4730-2			Date Sampled:	01/15/2007 1008
Client Matrix:	Solid	% Moisture:	83.2	Date Received:	01/16/2007 1320

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14994		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14919		Lab File ID:	CS169101.D
Dilution:	1.0			Initial Weight/Volume:	3.28 g
Date Analyzed:	01/19/2007 1919			Final Weight/Volume:	400 mL
Date Prepared:	01/19/2007 1000			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		73	73

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	88	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	101	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-020**

Lab Sample ID:	580-4730-3			Date Sampled:	01/15/2007 1116
Client Matrix:	Solid	% Moisture:	13.5	Date Received:	01/16/2007 1320

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14994		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14919		Lab File ID:	CS169100.D
Dilution:	1.0			Initial Weight/Volume:	6.41 g
Date Analyzed:	01/19/2007 1857			Final Weight/Volume:	400 mL
Date Prepared:	01/19/2007 1000			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		7.2	7.2

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	104	50 - 150
Trifluorotoluene (Surr)	101	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	101	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-100**

Lab Sample ID:	580-4730-4			Date Sampled:	01/15/2007 1130
Client Matrix:	Solid	% Moisture:	39.2	Date Received:	01/16/2007 1320

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14994		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14919		Lab File ID:	CS169099.D
Dilution:	1.0			Initial Weight/Volume:	4.33 g
Date Analyzed:	01/19/2007 1834			Final Weight/Volume:	400 mL
Date Prepared:	01/19/2007 1000			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		34		15	15

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	50 - 150
Trifluorotoluene (Surr)	90	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	101	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW05-070115-100**

Lab Sample ID:	580-4730-5			Date Sampled:	01/15/2007 1315
Client Matrix:	Solid	% Moisture:	29.0	Date Received:	01/16/2007 1320

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14994		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14919		Lab File ID:	CS169098.D
Dilution:	1.0			Initial Weight/Volume:	6.61 g
Date Analyzed:	01/19/2007 1812			Final Weight/Volume:	400 mL
Date Prepared:	01/19/2007 1000			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		31		8.5	8.5

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	104	50 - 150
Trifluorotoluene (Surr)	96	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	101	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-020**

Lab Sample ID:	580-4730-6			Date Sampled:	01/15/2007 1430
Client Matrix:	Solid	% Moisture:	38.0	Date Received:	01/16/2007 1320

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14994		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14919		Lab File ID:	CS169097.D
Dilution:	1.0			Initial Weight/Volume:	5.66 g
Date Analyzed:	01/19/2007 1749			Final Weight/Volume:	400 mL
Date Prepared:	01/19/2007 1000			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		11	11

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	104	50 - 150
Trifluorotoluene (Surr)	97	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	101	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-100**

Lab Sample ID:	580-4730-7			Date Sampled:	01/15/2007 1455
Client Matrix:	Solid	% Moisture:	47.7	Date Received:	01/16/2007 1320

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-14994		Instrument ID:	SEA003
Preparation:	5035	Prep Batch: 580-14919		Lab File ID:	CS169096.D
Dilution:	1.0			Initial Weight/Volume:	5.01 g
Date Analyzed:	01/19/2007 1727			Final Weight/Volume:	400 mL
Date Prepared:	01/19/2007 1000			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		15	15

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	104	50 - 150
Trifluorotoluene (Surr)	92	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	101	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-020**

Lab Sample ID:	580-4730-3			Date Sampled:	01/15/2007 1116
Client Matrix:	Solid	% Moisture:	13.5	Date Received:	01/16/2007 1320

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14910		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14858		Lab File ID:	PCB5814.D
Dilution:	5.0			Initial Weight/Volume:	10.3400 g
Date Analyzed:	01/18/2007 1710			Final Weight/Volume:	20 mL
Date Prepared:	01/18/2007 0708			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.11	0.11
PCB-1221		ND		0.11	0.11
PCB-1232		ND		0.11	0.11
PCB-1242		ND		0.11	0.11
PCB-1248		ND		0.11	0.11
PCB-1254		ND		0.11	0.11
PCB-1260		ND		0.11	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	94	45 - 155
DCB Decachlorobiphenyl	103	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4730-1

Client Sample ID: **MW06-070115-100**

Lab Sample ID: 580-4730-4
Client Matrix: Solid
% Moisture: 39.2
Date Sampled: 01/15/2007 1130
Date Received: 01/16/2007 1320

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 01/18/2007 1734
Date Prepared: 01/18/2007 0708
Analysis Batch: 580-14910
Prep Batch: 580-14858
Instrument ID: SEA034
Lab File ID: PCB5815.D
Initial Weight/Volume: 10.2454 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.16	0.16
PCB-1221		ND		0.16	0.16
PCB-1232		ND		0.16	0.16
PCB-1242		ND		0.16	0.16
PCB-1248		ND		0.16	0.16
PCB-1254		ND		0.16	0.16
PCB-1260		ND		0.16	0.16

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	111	45 - 155
DCB Decachlorobiphenyl	128	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW05-070115-100**

Lab Sample ID:	580-4730-5			Date Sampled:	01/15/2007 1315
Client Matrix:	Solid	% Moisture:	29.0	Date Received:	01/16/2007 1320

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14910		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14858		Lab File ID:	PCB5816.D
Dilution:	5.0			Initial Weight/Volume:	10.4367 g
Date Analyzed:	01/18/2007 1757			Final Weight/Volume:	20 mL
Date Prepared:	01/18/2007 0708			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.13	0.13
PCB-1221		ND		0.13	0.13
PCB-1232		ND		0.13	0.13
PCB-1242		ND		0.13	0.13
PCB-1248		ND		0.13	0.13
PCB-1254		ND		0.13	0.13
PCB-1260		ND		0.13	0.13

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	95	45 - 155
DCB Decachlorobiphenyl	109	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4730-1

Client Sample ID: MW10-070115-020

Lab Sample ID: 580-4730-6
Client Matrix: Solid
% Moisture: 38.0
Date Sampled: 01/15/2007 1430
Date Received: 01/16/2007 1320

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 01/19/2007 0920
Date Prepared: 01/18/2007 0708
Analysis Batch: 580-14910
Prep Batch: 580-14858
Instrument ID: SEA034
Lab File ID: PCB5836.D
Initial Weight/Volume: 10.7582 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.15	0.15
PCB-1221		ND		0.15	0.15
PCB-1232		ND		0.15	0.15
PCB-1242		ND		0.15	0.15
PCB-1248		ND		0.15	0.15
PCB-1254		ND		0.15	0.15
PCB-1260		ND		0.15	0.15

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	128	45 - 155
DCB Decachlorobiphenyl	145	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: MW10-070115-100

Lab Sample ID:	580-4730-7			Date Sampled:	01/15/2007 1455
Client Matrix:	Solid	% Moisture:	47.7	Date Received:	01/16/2007 1320

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-14910		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14858		Lab File ID:	PCB5818.D
Dilution:	5.0			Initial Weight/Volume:	10.0003 g
Date Analyzed:	01/18/2007 1845			Final Weight/Volume:	20 mL
Date Prepared:	01/18/2007 0708			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.19	0.19
PCB-1221		ND		0.19	0.19
PCB-1232		ND		0.19	0.19
PCB-1242		ND		0.19	0.19
PCB-1248		ND		0.19	0.19
PCB-1254		ND		0.19	0.19
PCB-1260		ND		0.19	0.19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	118	45 - 155
DCB Decachlorobiphenyl	134	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: DP15-070115-020

Lab Sample ID:	580-4730-1			Date Sampled:	01/15/2007 0955
Client Matrix:	Solid	% Moisture:	25.7	Date Received:	01/16/2007 1320

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14951		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14875		Lab File ID:	FA28408.D
Dilution:	1.0			Initial Weight/Volume:	10.0861 g
Date Analyzed:	01/19/2007 1735			Final Weight/Volume:	10 mL
Date Prepared:	01/18/2007 1202			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		720		67	67
#2 Diesel (C10-C24)		72		33	33

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	58	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: DP15-070115-100

Lab Sample ID: 580-4730-2 | Date Sampled: 01/15/2007 1008
Client Matrix: Solid | % Moisture: 83.2 | Date Received: 01/16/2007 1320

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-14951 | Instrument ID: SEA013
Preparation: 3550B | Prep Batch: 580-14875 | Lab File ID: FA28409.D
Dilution: 1.0 | Initial Weight/Volume: 10.6193 g
Date Analyzed: 01/19/2007 1801 | Final Weight/Volume: 10 mL
Date Prepared: 01/18/2007 1202 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		1200		280	280
#2 Diesel (C10-C24)		ND		140	140

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	56	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4730-1

Client Sample ID: MW06-070115-020

Lab Sample ID: 580-4730-3
Client Matrix: Solid
% Moisture: 13.5
Date Sampled: 01/15/2007 1116
Date Received: 01/16/2007 1320

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/19/2007 1821
Date Prepared: 01/18/2007 1202
Analysis Batch: 580-14951
Prep Batch: 580-14875
Instrument ID: SEA013
Lab File ID: FA28410.D
Initial Weight/Volume: 10.4417 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		55	55
#2 Diesel (C10-C24)		ND		28	28

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	73	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW06-070115-100**

Lab Sample ID:	580-4730-4			Date Sampled:	01/15/2007 1130
Client Matrix:	Solid	% Moisture:	39.2	Date Received:	01/16/2007 1320

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14951		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14875		Lab File ID:	FA28411.D
Dilution:	1.0			Initial Weight/Volume:	10.8714 g
Date Analyzed:	01/19/2007 1841			Final Weight/Volume:	10 mL
Date Prepared:	01/18/2007 1202			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		2200		76	76
#2 Diesel (C10-C24)		1400		38	38

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	67	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: MW05-070115-100

Lab Sample ID: 580-4730-5 | Date Sampled: 01/15/2007 1315
Client Matrix: Solid | % Moisture: 29.0 | Date Received: 01/16/2007 1320

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-14951 | Instrument ID: SEA013
Preparation: 3550B | Prep Batch: 580-14875 | Lab File ID: FA28412.D
Dilution: 1.0 | Initial Weight/Volume: 10.3756 g
Date Analyzed: 01/19/2007 1901 | Final Weight/Volume: 10 mL
Date Prepared: 01/18/2007 1202 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		170		68	68
#2 Diesel (C10-C24)		38		34	34

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	76	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4730-1

Client Sample ID: MW10-070115-020

Lab Sample ID: 580-4730-6
Client Matrix: Solid
% Moisture: 38.0
Date Sampled: 01/15/2007 1430
Date Received: 01/16/2007 1320

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/19/2007 1922
Date Prepared: 01/18/2007 1202
Analysis Batch: 580-14951
Prep Batch: 580-14875
Instrument ID: SEA013
Lab File ID: FA28413.D
Initial Weight/Volume: 10.5432 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		550		77	77
#2 Diesel (C10-C24)		52		38	38

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	57	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: **MW10-070115-100**

Lab Sample ID: 580-4730-7 | Date Sampled: 01/15/2007 1455
Client Matrix: Solid | % Moisture: 47.7 | Date Received: 01/16/2007 1320

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-14951 | Instrument ID: SEA013
Preparation: 3550B | Prep Batch: 580-14875 | Lab File ID: FA28414.D
Dilution: 1.0 | Initial Weight/Volume: 10.8664 g
Date Analyzed: 01/19/2007 1947 | Final Weight/Volume: 10 mL
Date Prepared: 01/18/2007 1202 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		740		88	88
#2 Diesel (C10-C24)		77		44	44

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	53	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: DP13-070115-040

Lab Sample ID: 580-4730-8 | Date Sampled: 01/15/2007 1605
Client Matrix: Solid | % Moisture: 60.1 | Date Received: 01/16/2007 1320

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-14951 | Instrument ID: SEA013
Preparation: 3550B | Prep Batch: 580-14875 | Lab File ID: FA28422.D
Dilution: 10 | Initial Weight/Volume: 10.3221 g
Date Analyzed: 01/22/2007 1312 | Final Weight/Volume: 10 mL
Date Prepared: 01/18/2007 1202 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		21000		1200	1200
#2 Diesel (C10-C24)		2900		610	610

Surrogate	%Rec		Acceptance Limits
o-Terphenyl	0	D X	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: DP13-070115-080

Lab Sample ID:	580-4730-9			Date Sampled:	01/15/2007 1615
Client Matrix:	Solid	% Moisture:	22.9	Date Received:	01/16/2007 1320

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14951		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-14875		Lab File ID:	FA28416.D
Dilution:	1.0			Initial Weight/Volume:	10.6793 g
Date Analyzed:	01/19/2007 2038			Final Weight/Volume:	10 mL
Date Prepared:	01/18/2007 1202			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		400		61	61
#2 Diesel (C10-C24)		69		30	30

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	60	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: MW06-070115-020

Lab Sample ID:	580-4730-3	Date Sampled:	01/15/2007 1116
Client Matrix:	Solid % Moisture: 13.5	Date Received:	01/16/2007 1320

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14900		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-14890		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0975 g
Date Analyzed:	01/18/2007 1748			Final Weight/Volume:	50 mL
Date Prepared:	01/18/2007 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Barium		47		0.26	0.26
Cadmium		ND		0.26	0.26
Chromium		19		0.53	0.53
Lead		2.2		0.79	0.79
Selenium		ND		2.6	2.6
Silver		ND		0.53	0.53

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14922		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-14890		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.0975 g
Date Analyzed:	01/19/2007 0918			Final Weight/Volume:	50 mL
Date Prepared:	01/18/2007 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		3.7		0.21	0.21

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-15056		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-15022		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.6410 g
Date Analyzed:	01/24/2007 1159			Final Weight/Volume:	50 mL
Date Prepared:	01/24/2007 0904				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.023		0.018	0.018

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: MW06-070115-100

Lab Sample ID:	580-4730-4	Date Sampled:	01/15/2007 1130
Client Matrix:	Solid % Moisture: 39.2	Date Received:	01/16/2007 1320

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14900		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-14890		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.1054 g
Date Analyzed:	01/18/2007 1819			Final Weight/Volume:	50 mL
Date Prepared:	01/18/2007 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Barium		9.4		0.37	0.37
Cadmium		ND		0.37	0.37
Chromium		7.3		0.74	0.74
Lead		11		1.1	1.1
Selenium		ND		3.7	3.7
Silver		ND		0.74	0.74

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14922		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-14890		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.1054 g
Date Analyzed:	01/19/2007 0949			Final Weight/Volume:	50 mL
Date Prepared:	01/18/2007 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		2.5		0.30	0.30

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-15056		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-15022		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5680 g
Date Analyzed:	01/24/2007 1223			Final Weight/Volume:	50 mL
Date Prepared:	01/24/2007 0904				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.043		0.029	0.029

Client: GeoEngineers Inc | Job Number: 580-4730-1

Client Sample ID: MW05-070115-100

Lab Sample ID:	580-4730-5	Date Sampled:	01/15/2007 1315
Client Matrix:	Solid % Moisture: 29.0	Date Received:	01/16/2007 1320

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-14900		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-14890		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.1853 g
Date Analyzed:	01/18/2007 1822			Final Weight/Volume:	50 mL
Date Prepared:	01/18/2007 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Barium		320		0.30	0.30
Cadmium		3.7		0.30	0.30
Chromium		22		0.59	0.59
Lead		170		0.89	0.89
Selenium		3.9		3.0	3.0
Silver		0.62		0.59	0.59

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-14922		Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-14890		Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.1853 g
Date Analyzed:	01/19/2007 0952			Final Weight/Volume:	50 mL
Date Prepared:	01/18/2007 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		9.9		0.24	0.24

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-15056		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-15022		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5650 g
Date Analyzed:	01/24/2007 1228			Final Weight/Volume:	50 mL
Date Prepared:	01/24/2007 0904				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.025	0.025

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-14844

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-14844/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 1605
Date Prepared: 01/17/2007 1500

Analysis Batch: 580-14881
Prep Batch: 580-14844
Units: mg/Kg

Instrument ID: SEA001
Lab File ID: AG30604.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		0.0056	0.040
Chloromethane	ND		0.0073	0.040
Vinyl chloride	ND		0.0052	0.016
Bromomethane	0.039	J	0.028	0.20
Chloroethane	ND		0.029	0.20
Trichlorofluoromethane	ND		0.0038	0.040
1,1-Dichloroethene	ND		0.0053	0.016
Methylene Chloride	ND		0.0061	0.040
trans-1,2-Dichloroethene	ND		0.0043	0.040
1,1-Dichloroethane	ND		0.0095	0.040
2,2-Dichloropropane	ND		0.0047	0.040
cis-1,2-Dichloroethene	ND		0.0060	0.040
Chlorobromomethane	ND		0.0048	0.040
Chloroform	ND		0.0038	0.040
1,1,1-Trichloroethane	ND		0.0039	0.016
Carbon tetrachloride	ND		0.0030	0.016
1,1-Dichloropropene	ND		0.0031	0.040
Benzene	ND		0.0028	0.0080
1,2-Dichloroethane	ND		0.0081	0.040
Trichloroethene	ND		0.0030	0.016
1,2-Dichloropropane	ND		0.0025	0.0080
Dibromomethane	ND		0.0073	0.040
Dichlorobromomethane	ND		0.0028	0.040
cis-1,3-Dichloropropene	ND		0.0028	0.040
Toluene	ND		0.0074	0.040
trans-1,3-Dichloropropene	ND		0.0028	0.040
1,1,2-Trichloroethane	ND		0.0036	0.040
Tetrachloroethene	ND		0.0073	0.025
1,3-Dichloropropane	ND		0.0042	0.016
Chlorodibromomethane	ND		0.0025	0.040
Ethylene Dibromide	ND		0.0066	0.040
Chlorobenzene	ND		0.012	0.040
Ethylbenzene	ND		0.0072	0.040
1,1,1,2-Tetrachloroethane	ND		0.0038	0.040
1,1,2,2-Tetrachloroethane	ND		0.0024	0.0080
m-Xylene & p-Xylene	ND		0.015	0.040
o-Xylene	ND		0.0072	0.040
Styrene	ND		0.0032	0.040
Bromoform	ND		0.0028	0.040
Isopropylbenzene	ND		0.0061	0.040
Bromobenzene	ND		0.0036	0.040

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-14844

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-14844/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 1605
Date Prepared: 01/17/2007 1500

Analysis Batch: 580-14881
Prep Batch: 580-14844
Units: mg/Kg

Instrument ID: SEA001
Lab File ID: AG30604.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
N-Propylbenzene	ND		0.0069	0.040
1,2,3-Trichloropropane	ND		0.0071	0.040
2-Chlorotoluene	ND		0.0058	0.040
1,3,5-Trimethylbenzene	ND		0.0060	0.040
4-Chlorotoluene	ND		0.0035	0.040
tert-Butylbenzene	ND		0.0034	0.040
1,2,4-Trimethylbenzene	ND		0.0069	0.040
sec-Butylbenzene	ND		0.0016	0.040
1,3-Dichlorobenzene	ND		0.0041	0.040
4-Isopropyltoluene	ND		0.0028	0.040
1,4-Dichlorobenzene	ND		0.0020	0.040
n-Butylbenzene	ND		0.0024	0.040
1,2-Dichlorobenzene	ND		0.0034	0.040
1,2-Dibromo-3-Chloropropane	ND		0.0088	0.040
1,2,4-Trichlorobenzene	ND		0.0039	0.040
1,2,3-Trichlorobenzene	ND		0.0048	0.040
Hexachlorobutadiene	ND		0.0066	0.040

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	91	75 - 125
Ethylbenzene-d10	92	75 - 125
4-Bromofluorobenzene (Surr)	90	75 - 125
Trifluorotoluene (Surr)	115	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14844

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-14844/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 1441
Date Prepared: 01/17/2007 1500

Analysis Batch: 580-14881
Prep Batch: 580-14844
Units: mg/Kg

Instrument ID: SEA001
Lab File ID: AG30601.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-14844/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 1500
Date Prepared: 01/17/2007 1500

Analysis Batch: 580-14881
Prep Batch: 580-14844
Units: mg/Kg

Instrument ID: SEA001
Lab File ID: AG30602.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dichlorodifluoromethane	105	99	35 - 135	6	20		
Chloromethane	113	112	50 - 130	1	20		
Vinyl chloride	109	104	60 - 125	5	20		
Bromomethane	91	97	30 - 160	6	20	J	J
Chloroethane	37	33	40 - 155	12	20	J *	J *
Trichlorofluoromethane	111	27	25 - 185	121	20		*
1,1-Dichloroethene	96	104	65 - 135	9	26		
Methylene Chloride	100	108	55 - 140	8	20		
trans-1,2-Dichloroethene	96	104	65 - 135	9	20		
1,1-Dichloroethane	105	112	75 - 125	7	20		
2,2-Dichloropropane	87	90	65 - 135	3	20		
cis-1,2-Dichloroethene	100	107	65 - 125	7	20		
Chlorobromomethane	123	142	70 - 125	14	20		*
Chloroform	104	111	70 - 125	6	20		
1,1,1-Trichloroethane	101	103	70 - 135	2	20		
Carbon tetrachloride	99	94	65 - 135	6	20		
1,1-Dichloropropene	101	110	70 - 135	8	20		
Benzene	99	104	75 - 125	5	22		
1,2-Dichloroethane	100	107	70 - 135	6	20		
Trichloroethene	98	104	75 - 125	5	28		
1,2-Dichloropropane	101	107	70 - 120	6	20		
Dibromomethane	93	103	75 - 130	10	20		
Dichlorobromomethane	93	98	70 - 130	5	20		
cis-1,3-Dichloropropene	93	94	70 - 125	0	20		
Toluene	100	107	70 - 125	6	21		
trans-1,3-Dichloropropene	73	72	65 - 125	2	20		
1,1,2-Trichloroethane	94	103	60 - 125	9	20		
Tetrachloroethene	94	102	65 - 140	8	20		
1,3-Dichloropropane	96	106	75 - 125	10	20		
Chlorodibromomethane	92	96	65 - 130	3	20		
Ethylene Dibromide	95	104	70 - 125	9	20		
Chlorobenzene	102	108	75 - 125	6	24		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14844

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-14844/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 1441
Date Prepared: 01/17/2007 1500

Analysis Batch: 580-14881
Prep Batch: 580-14844
Units: mg/Kg

Instrument ID: SEA001
Lab File ID: AG30601.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-14844/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/17/2007 1500
Date Prepared: 01/17/2007 1500

Analysis Batch: 580-14881
Prep Batch: 580-14844
Units: mg/Kg

Instrument ID: SEA001
Lab File ID: AG30602.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethylbenzene	106	109	75 - 125	3	20		
1,1,1,2-Tetrachloroethane	93	92	75 - 125	1	20		
1,1,2,2-Tetrachloroethane	93	105	55 - 130	12	20		
m-Xylene & p-Xylene	103	110	80 - 125	6	20		
o-Xylene	100	108	75 - 125	7	20		
Styrene	89	97	75 - 125	9	20		
Bromoform	78	81	55 - 135	3	20		
Isopropylbenzene	93	100	75 - 130	8	20		
Bromobenzene	100	106	65 - 120	7	20		
N-Propylbenzene	107	117	65 - 135	9	20		
1,2,3-Trichloropropane	91	103	65 - 130	13	20		
2-Chlorotoluene	98	106	70 - 130	8	20		
1,3,5-Trimethylbenzene	93	100	65 - 135	7	20		
4-Chlorotoluene	100	109	75 - 125	8	20		
tert-Butylbenzene	93	100	65 - 130	7	20		
1,2,4-Trimethylbenzene	94	103	65 - 135	8	20		
sec-Butylbenzene	94	100	65 - 130	5	20		
1,3-Dichlorobenzene	96	104	70 - 125	7	20		
4-Isopropyltoluene	91	97	75 - 135	6	20		
1,4-Dichlorobenzene	102	113	70 - 125	11	20		
n-Butylbenzene	96	108	65 - 140	11	20		
1,2-Dichlorobenzene	100	108	75 - 120	8	20		
1,2-Dibromo-3-Chloropropane	85	92	40 - 135	8	20		
1,2,4-Trichlorobenzene	100	111	65 - 130	11	20		
1,2,3-Trichlorobenzene	94	111	60 - 135	17	20		
Hexachlorobutadiene	112	118	55 - 140	5	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	91	91	75 - 125
Toluene-d8 (Surr)	93	94	75 - 125
Ethylbenzene-d10	98	99	75 - 125
4-Bromofluorobenzene (Surr)	95	96	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	115	113	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-14867

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-14867/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1038
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867
Units: mg/Kg

Instrument ID: SEA002
Lab File ID: AT07042.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Phenol	ND		0.010	0.010
Bis(2-chloroethyl)ether	ND		0.010	0.010
2-Chlorophenol	ND		0.010	0.010
1,3-Dichlorobenzene	ND		0.0050	0.0050
1,4-Dichlorobenzene	ND		0.0050	0.0050
Benzyl alcohol	ND		0.010	0.010
1,2-Dichlorobenzene	ND		0.0050	0.0050
2-Methylphenol	ND		0.010	0.010
Bis(2-chloroisopropyl) ether	ND		0.015	0.015
3 & 4 Methylphenol	ND		0.020	0.020
N-Nitrosodi-n-propylamine	ND		0.010	0.010
Hexachloroethane	ND		0.010	0.010
Nitrobenzene	ND		0.010	0.010
Isophorone	ND		0.010	0.010
2-Nitrophenol	ND		0.010	0.010
2,4-Dimethylphenol	ND		0.010	0.010
Benzoic acid	ND		0.25	0.25
Bis(2-chloroethoxy)methane	ND		0.010	0.010
2,4-Dichlorophenol	ND		0.010	0.010
1,2,4-Trichlorobenzene	ND		0.0050	0.0050
Naphthalene	ND		0.0020	0.0020
4-Chloroaniline	ND		0.010	0.010
Hexachlorobutadiene	ND		0.0050	0.0050
4-Chloro-3-methylphenol	ND		0.010	0.010
2-Methylnaphthalene	ND		0.0020	0.0020
Hexachlorocyclopentadiene	ND		0.010	0.010
2,4,6-Trichlorophenol	ND		0.015	0.015
2,4,5-Trichlorophenol	ND		0.010	0.010
2-Chloronaphthalene	ND		0.0020	0.0020
2-Nitroaniline	ND		0.010	0.010
Dimethyl phthalate	ND		0.010	0.010
Acenaphthylene	ND		0.0020	0.0020
2,6-Dinitrotoluene	ND		0.010	0.010
3-Nitroaniline	ND		0.010	0.010
Acenaphthene	ND		0.0020	0.0020
2,4-Dinitrophenol	ND		0.10	0.10
4-Nitrophenol	ND		0.10	0.10
Dibenzofuran	ND		0.010	0.010
2,4-Dinitrotoluene	ND		0.010	0.010
Diethyl phthalate	ND		0.010	0.010
4-Chlorophenyl phenyl ether	ND		0.010	0.010

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-14867

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-14867/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1038
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867
Units: mg/Kg

Instrument ID: SEA002
Lab File ID: AT07042.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Fluorene	ND		0.0020	0.0020
4-Nitroaniline	ND		0.010	0.010
4,6-Dinitro-2-methylphenol	ND		0.10	0.10
N-Nitrosodiphenylamine	ND		0.0050	0.0050
4-Bromophenyl phenyl ether	ND		0.010	0.010
Hexachlorobenzene	ND		0.0050	0.0050
Pentachlorophenol	ND		0.010	0.010
Phenanthrene	ND		0.0020	0.0020
Anthracene	ND		0.0020	0.0020
Di-n-butyl phthalate	ND		0.020	0.020
Fluoranthene	ND		0.0020	0.0020
Pyrene	ND		0.0020	0.0020
Butyl benzyl phthalate	ND		0.010	0.010
3,3'-Dichlorobenzidine	ND		0.020	0.020
Benzo[a]anthracene	ND		0.0025	0.0025
Chrysene	ND		0.0025	0.0025
Bis(2-ethylhexyl) phthalate	ND		0.15	0.15
Di-n-octyl phthalate	ND		0.020	0.020
Benzo[a]pyrene	ND		0.0030	0.0030
Indeno[1,2,3-cd]pyrene	ND		0.0040	0.0040
Dibenz(a,h)anthracene	ND		0.0040	0.0040
Benzo[g,h,i]perylene	ND		0.0025	0.0025
Carbazole	ND		0.015	0.015
1-Methylnaphthalene	ND		0.0030	0.0030
Benzo[b]fluoranthene	ND		0.0020	0.0020
Benzo[k]fluoranthene	ND		0.0025	0.0025

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	80	36 - 145
Phenol-d5	80	38 - 149
Nitrobenzene-d5	77	38 - 141
2-Fluorobiphenyl	76	42 - 140
2,4,6-Tribromophenol	66	28 - 143
Terphenyl-d14	96	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14867

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-14867/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1228
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867
Units: mg/Kg

Instrument ID: SEA002
Lab File ID: AT07046.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-14867/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1133
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867
Units: mg/Kg

Instrument ID: SEA002
Lab File ID: AT07044.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	89	86	66 - 126	4	26		
Bis(2-chloroethyl)ether	86	82	57 - 122	5	60		
2-Chlorophenol	92	88	65 - 125	4	27		
1,3-Dichlorobenzene	85	83	64 - 124	2	60		
1,4-Dichlorobenzene	85	83	62 - 132	2	32		
Benzyl alcohol	86	84	42 - 147	2	60		
1,2-Dichlorobenzene	88	85	68 - 118	4	60		
2-Methylphenol	123	125	56 - 121	1	25	*	*
Bis(2-chloroisopropyl) ether	87	85	44 - 140	1	60		
3 & 4 Methylphenol	92	88	61 - 126	4	27		
N-Nitrosodi-n-propylamine	83	83	52 - 127	1	28		
Hexachloroethane	90	88	56 - 131	3	60		
Nitrobenzene	93	95	59 - 134	1	60		
Isophorone	100	98	53 - 118	2	60		
2-Nitrophenol	87	90	58 - 128	2	60		
2,4-Dimethylphenol	86	83	58 - 133	3	60		
Benzoic acid	20	21	10 - 130	1	60		
Bis(2-chloroethoxy)methane	93	90	63 - 128	4	60		
2,4-Dichlorophenol	86	86	59 - 124	0	60		
1,2,4-Trichlorobenzene	92	91	63 - 128	1	28		
Naphthalene	92	91	64 - 129	1	26		
4-Chloroaniline	66	69	20 - 181	5	60		
Hexachlorobutadiene	92	90	59 - 134	2	60		
4-Chloro-3-methylphenol	94	88	58 - 128	7	27		
2-Methylnaphthalene	90	89	65 - 125	0	27		
Hexachlorocyclopentadiene	80	80	30 - 132	0	60		
2,4,6-Trichlorophenol	91	87	66 - 131	5	60		
2,4,5-Trichlorophenol	100	95	64 - 124	6	60		
2-Chloronaphthalene	96	92	69 - 129	4	25		
2-Nitroaniline	106	99	58 - 133	7	60		
Dimethyl phthalate	107	99	65 - 125	8	60		
Acenaphthylene	98	94	69 - 129	5	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14867

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-14867/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1228
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867
Units: mg/Kg

Instrument ID: SEA002
Lab File ID: AT07046.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-14867/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1133
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867
Units: mg/Kg

Instrument ID: SEA002
Lab File ID: AT07044.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	103	97	65 - 125	6	60		
3-Nitroaniline	120	121	80 - 165	0	60	E	E
Acenaphthene	98	92	65 - 130	6	27		
2,4-Dinitrophenol	91	68	53 - 168	30	60		
4-Nitrophenol	104	94	47 - 172	10	33		
Dibenzofuran	98	92	70 - 125	7	60		
2,4-Dinitrotoluene	104	98	57 - 122	6	31		
Diethyl phthalate	112	103	64 - 129	8	26		
4-Chlorophenyl phenyl ether	101	95	65 - 130	7	60		
Fluorene	103	96	68 - 128	7	31		
4-Nitroaniline	195	185	70 - 150	5	60	*	*
4,6-Dinitro-2-methylphenol	101	78	38 - 143	25	60		
N-Nitrosodiphenylamine	120	106	88 - 153	12	60		
4-Bromophenyl phenyl ether	108	97	64 - 134	11	60		
Hexachlorobenzene	110	99	61 - 136	10	60		
Pentachlorophenol	87	79	29 - 124	9	68		
Phenanthrene	103	96	65 - 125	7	28		
Anthracene	113	105	73 - 123	7	27		
Di-n-butyl phthalate	115	110	69 - 124	5	60		
Fluoranthene	106	98	61 - 121	8	36		
Pyrene	103	96	54 - 134	7	31		
Butyl benzyl phthalate	107	108	65 - 140	1	60		
3,3'-Dichlorobenzidine	173	174	73 - 163	0	60	*	*
Benzo[a]anthracene	105	103	64 - 124	3	27		
Chrysene	109	105	71 - 126	4	26		
Bis(2-ethylhexyl) phthalate	116	118	64 - 144	2	60		
Di-n-octyl phthalate	114	118	58 - 148	3	31		
Benzo[a]pyrene	107	105	68 - 128	2	30		
Indeno[1,2,3-cd]pyrene	105	99	59 - 139	6	29		
Dibenz(a,h)anthracene	114	105	57 - 142	8	30		
Benzo[g,h,i]perylene	116	106	57 - 142	8	28		
Carbazole	136	127	88 - 158	7	60	E	E

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14867

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-14867/2-AA	Analysis Batch: 580-15054	Instrument ID: SEA002
Client Matrix:	Solid	Prep Batch: 580-14867	Lab File ID: AT07046.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 20 g
Date Analyzed:	01/22/2007 1228		Final Weight/Volume: 2 mL
Date Prepared:	01/18/2007 1109		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-14867/3-AA	Analysis Batch: 580-15054	Instrument ID: SEA002
Client Matrix:	Solid	Prep Batch: 580-14867	Lab File ID: AT07044.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 20 g
Date Analyzed:	01/22/2007 1133		Final Weight/Volume: 2 mL
Date Prepared:	01/18/2007 1109		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1-Methylnaphthalene	97	94	48 - 148	3	30		
Benzo[b]fluoranthene	110	109	66 - 136	1	31		
Benzo[k]fluoranthene	114	112	63 - 143	2	31		

Surrogate	LCS % Rec		LCSD % Rec	Acceptance Limits
2-Fluorophenol	114		78	36 - 145
Phenol-d5	124		77	38 - 149
Nitrobenzene-d5	93		68	38 - 141
2-Fluorobiphenyl	107		73	42 - 140
2,4,6-Tribromophenol	149	X	93	28 - 143
Terphenyl-d14	146		92	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14867

Method: 8270C
Preparation: 3550B

MS Lab Sample ID: 580-4730-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1730
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867

Instrument ID: SEA002
Lab File ID: AT07057.D
Initial Weight/Volume: 20.8935 g
Final Weight/Volume: 2 mL
Injection Volume:

MSD Lab Sample ID: 580-4730-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1758
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867

Instrument ID: SEA002
Lab File ID: AT07058.D
Initial Weight/Volume: 20.1884 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Phenol	80	91	66 - 126	17	26		
Bis(2-chloroethyl)ether	102	93	57 - 122	6	60		
2-Chlorophenol	103	97	65 - 125	3	27		
1,3-Dichlorobenzene	95	86	64 - 124	7	60		
1,4-Dichlorobenzene	95	86	62 - 132	6	32		
Benzyl alcohol	96	89	42 - 147	4	60		
1,2-Dichlorobenzene	99	90	68 - 118	6	60		
2-Methylphenol	153	149	56 - 121	1	25	F	F
Bis(2-chloroisopropyl) ether	104	96	44 - 140	5	60		
3 & 4 Methylphenol	79	62	61 - 126	20	27		
N-Nitrosodi-n-propylamine	92	84	52 - 127	5	28		
Hexachloroethane	95	85	56 - 131	8	60		
Nitrobenzene	116	110	59 - 134	2	60		
Isophorone	123	118	53 - 118	1	60	F	
2-Nitrophenol	101	98	58 - 128	0	60		
2,4-Dimethylphenol	97	99	58 - 133	5	60		
Benzoic acid	41	50	10 - 130	NC	60		
Bis(2-chloroethoxy)methane	109	100	63 - 128	5	60		
2,4-Dichlorophenol	91	82	59 - 124	7	60		
1,2,4-Trichlorobenzene	106	100	63 - 128	2	28		
Naphthalene	108	102	64 - 129	2	26		
4-Chloroaniline	18	28	20 - 181	NC	60	F	
Hexachlorobutadiene	115	105	59 - 134	5	60		
4-Chloro-3-methylphenol	103	90	58 - 128	10	27		
2-Methylnaphthalene	116	115	65 - 125	2	27		
Hexachlorocyclopentadiene	16	11	30 - 132	NC	60	F	F
2,4,6-Trichlorophenol	98	88	66 - 131	8	60		
2,4,5-Trichlorophenol	116	139	64 - 124	22	60		F
2-Chloronaphthalene	102	100	69 - 129	2	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14867

Method: 8270C
Preparation: 3550B

MS Lab Sample ID: 580-4730-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1730
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867

Instrument ID: SEA002
Lab File ID: AT07057.D
Initial Weight/Volume: 20.8935 g
Final Weight/Volume: 2 mL
Injection Volume:

MSD Lab Sample ID: 580-4730-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1758
Date Prepared: 01/18/2007 1109

Analysis Batch: 580-15054
Prep Batch: 580-14867

Instrument ID: SEA002
Lab File ID: AT07058.D
Initial Weight/Volume: 20.1884 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2-Nitroaniline	134	154	58 - 133	18	60	F	F
Dimethyl phthalate	120	122	65 - 125	5	60		
Acenaphthylene	113	119	69 - 129	8	28		
2,6-Dinitrotoluene	117	116	65 - 125	2	60		
3-Nitroaniline	39	8	80 - 165	NC	60	F	F
Acenaphthene	113	116	65 - 130	6	27		
2,4-Dinitrophenol	61	62	53 - 168	NC	60		
4-Nitrophenol	100	94	47 - 172	NC	33		
Dibenzofuran	107	110	70 - 125	6	60		
2,4-Dinitrotoluene	92	150	57 - 122	52	31		F
Diethyl phthalate	125	124	64 - 129	2	26		
4-Chlorophenyl phenyl ether	109	112	65 - 130	6	60		
Fluorene	117	119	68 - 128	5	31		
4-Nitroaniline	51	0	70 - 150	NC	60	F	F
4,6-Dinitro-2-methylphenol	74	71	38 - 143	NC	60		
N-Nitrosodiphenylamine	131	147	88 - 153	15	60		
4-Bromophenyl phenyl ether	115	118	64 - 134	6	60		
Hexachlorobenzene	110	116	61 - 136	9	60		
Pentachlorophenol	126	125	29 - 124	2	68	F	F
Phenanthrene	136	151	65 - 125	14	28	F	F
Anthracene	101	114	73 - 123	16	27		
Di-n-butyl phthalate	130	140	69 - 124	10	60	F	F
Fluoranthene	100	133	61 - 121	23	36		F
Pyrene	90	124	54 - 134	22	31		
Butyl benzyl phthalate	127	133	65 - 140	8	60		
3,3'-Dichlorobenzidine	0	0	73 - 163	NC	60	F	F
Benzo[a]anthracene	132	125	64 - 124	2	27	F	F
Chrysene	85	91	71 - 126	6	26		
Bis(2-ethylhexyl) phthalate	178	162	64 - 144	NC	60	F	F

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14867

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-4730-1	Analysis Batch:	580-15054	Instrument ID:	SEA002
Client Matrix:	Solid	Prep Batch:	580-14867	Lab File ID:	AT07057.D
Dilution:	1.0			Initial Weight/Volume:	20.8935 g
Date Analyzed:	01/22/2007 1730			Final Weight/Volume:	2 mL
Date Prepared:	01/18/2007 1109			Injection Volume:	

MSD Lab Sample ID:	580-4730-1	Analysis Batch:	580-15054	Instrument ID:	SEA002
Client Matrix:	Solid	Prep Batch:	580-14867	Lab File ID:	AT07058.D
Dilution:	1.0			Initial Weight/Volume:	20.1884 g
Date Analyzed:	01/22/2007 1758			Final Weight/Volume:	2 mL
Date Prepared:	01/18/2007 1109			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Di-n-octyl phthalate	172	212	58 - 148	24	31	F	F
Benzo[a]pyrene	141	160	68 - 128	16	30	F	F
Indeno[1,2,3-cd]pyrene	160	150	59 - 139	3	29	F	F
Dibenz(a,h)anthracene	112	114	57 - 142	5	30		
Benzo[g,h,i]perylene	123	121	57 - 142	2	28		
Carbazole	143	151	88 - 158	9	60		
1-Methylnaphthalene	117	110	48 - 148	2	30		
Benzo[b]fluoranthene	141	133	66 - 136	3	31	F	
Benzo[k]fluoranthene	120	159	63 - 143	32	31		F

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	88	84	36 - 145
Phenol-d5	85	83	38 - 149
Nitrobenzene-d5	99	94	38 - 141
2-Fluorobiphenyl	69	71	42 - 140
2,4,6-Tribromophenol	106	113	28 - 143
Terphenyl-d14	101	112	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-14919

Method: NWTPH-Gx
Preparation: 5035

Lab Sample ID: MB 580-14919/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/19/2007 1228
Date Prepared: 01/19/2007 1000

Analysis Batch: 580-14994
Prep Batch: 580-14919
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS169085.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
Gasoline	ND		4.0	4.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	104	50 - 150
Trifluorotoluene (Surr)	101	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	100	50 - 150
Toluene-d8 (Surr)	114	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14919

Method: NWTPH-Gx
Preparation: 5035

LCS Lab Sample ID: LCS 580-14919/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/19/2007 1342
Date Prepared: 01/19/2007 1000

Analysis Batch: 580-14994
Prep Batch: 580-14919
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS169086.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-14919/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/19/2007 1404
Date Prepared: 01/19/2007 1000

Analysis Batch: 580-14994
Prep Batch: 580-14919
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS169087.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	91	88	68 - 120	3	10		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	106	50 - 150
Trifluorotoluene (Surr)	103	100	50 - 150
Ethylbenzene-d10	114	114	50 - 150
Fluorobenzene (Surr)	109	109	50 - 150
Toluene-d8 (Surr)	109	109	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-14858

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-14858/1-AA
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 01/18/2007 1115
Date Prepared: 01/18/2007 0708

Analysis Batch: 580-14910
Prep Batch: 580-14858
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB5799.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
PCB-1016	ND		0.10	0.10
PCB-1221	ND		0.10	0.10
PCB-1232	ND		0.10	0.10
PCB-1242	ND		0.10	0.10
PCB-1248	ND		0.10	0.10
PCB-1254	ND		0.10	0.10
PCB-1260	ND		0.10	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	99	45 - 155
DCB Decachlorobiphenyl	104	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14858

Method: 8082
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-14858/2-AA	Analysis Batch: 580-14910	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-14858	Lab File ID: PCB5800.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	01/18/2007 1139		Final Weight/Volume: 20 mL
Date Prepared:	01/18/2007 0708		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-14858/3-AA	Analysis Batch: 580-14910	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-14858	Lab File ID: PCB5801.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	01/18/2007 1203		Final Weight/Volume: 20 mL
Date Prepared:	01/18/2007 0708		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	87	86	57 - 128	2	8		
PCB-1260	97	97	65 - 132	0	8		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	96	92	45 - 155
DCB Decachlorobiphenyl	97	96	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-14875

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-14875/1-AB
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/19/2007 1624
Date Prepared: 01/18/2007 1202

Analysis Batch: 580-14951
Prep Batch: 580-14875
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA28405.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Motor Oil (>C24-C36)	ND		50	50
#2 Diesel (C10-C24)	ND		25	25

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	87	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14875

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID: LCS 580-14875/2-AB
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/19/2007 1644
Date Prepared: 01/18/2007 1202

Analysis Batch: 580-14951
Prep Batch: 580-14875
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA28406.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-14875/3-AB
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/19/2007 1709
Date Prepared: 01/18/2007 1202

Analysis Batch: 580-14951
Prep Batch: 580-14875
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA28407.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Motor Oil (>C24-C36)	97	101	70 - 125	4	17		
#2 Diesel (C10-C24)	94	98	64 - 127	4	16		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	92	95	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-14890

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-14890/12-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/18/2007 1738
Date Prepared: 01/18/2007 1400

Analysis Batch: 580-14900
Prep Batch: 580-14890
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Barium	ND		0.25	0.25
Cadmium	ND		0.25	0.25
Chromium	ND		0.50	0.50
Lead	ND		0.75	0.75
Selenium	ND		2.5	2.5
Silver	ND		0.50	0.50

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14890

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-14890/13-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/18/2007 1805
Date Prepared: 01/18/2007 1400

Analysis Batch: 580-14900
Prep Batch: 580-14890
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-14890/14-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/18/2007 1807
Date Prepared: 01/18/2007 1400

Analysis Batch: 580-14900
Prep Batch: 580-14890
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Barium	94	90	80 - 120	5	35		
Cadmium	91	87	80 - 120	3	35		
Chromium	88	84	80 - 120	5	35		
Lead	93	91	80 - 120	2	35		
Selenium	89	86	80 - 120	3	35		
Silver	91	88	80 - 120	4	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14890

Method: 6010B
Preparation: 3050B

MS Lab Sample ID: 580-4730-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/18/2007 1756
Date Prepared: 01/18/2007 1400

Analysis Batch: 580-14900
Prep Batch: 580-14890

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.1828 g
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 580-4730-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/18/2007 1759
Date Prepared: 01/18/2007 1400

Analysis Batch: 580-14900
Prep Batch: 580-14890

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.1907 g
Final Weight/Volume: 50 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Barium	92	93	75 - 125	1	35		
Cadmium	86	90	75 - 125	4	35		
Chromium	88	90	75 - 125	0	35		
Lead	91	95	75 - 125	4	35		
Selenium	90	94	75 - 125	4	35		
Silver	95	97	75 - 125	2	35		

Duplicate - Batch: 580-14890

Method: 6010B
Preparation: 3050B

Lab Sample ID: 580-4730-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/18/2007 1752
Date Prepared: 01/18/2007 1400

Analysis Batch: 580-14900
Prep Batch: 580-14890
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.1385 g
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Barium	47.0	44.9	5	35	
Cadmium	-0.121	-0.135	NC	35	
Chromium	18.9	19.1	1	35	
Lead	2.23	2.82	23	35	
Selenium	0.397	0.336	NC	35	
Silver	-0.211	-0.206	NC	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-14890

Method: 6020
Preparation: 3050B

Lab Sample ID: MB 580-14890/12-AA
Client Matrix: Solid
Dilution: 10
Date Analyzed: 01/19/2007 0912
Date Prepared: 01/18/2007 1400

Analysis Batch: 580-14922
Prep Batch: 580-14890
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Arsenic	ND		0.20	0.20

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14890

Method: 6020
Preparation: 3050B

LCS Lab Sample ID: LCS 580-14890/13-AA
Client Matrix: Solid
Dilution: 50
Date Analyzed: 01/19/2007 0936
Date Prepared: 01/18/2007 1400

Analysis Batch: 580-14922
Prep Batch: 580-14890
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-14890/14-AA
Client Matrix: Solid
Dilution: 50
Date Analyzed: 01/19/2007 0939
Date Prepared: 01/18/2007 1400

Analysis Batch: 580-14922
Prep Batch: 580-14890
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	91	91	80 - 120	0	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14890

Method: 6020
Preparation: 3050B

MS Lab Sample ID:	580-4730-3	Analysis Batch: 580-14922	Instrument ID: SEA026
Client Matrix:	Solid	Prep Batch: 580-14890	Lab File ID: N/A
Dilution:	50		Initial Weight/Volume: 1.1828 g
Date Analyzed:	01/19/2007 0927		Final Weight/Volume: 50 mL
Date Prepared:	01/18/2007 1400		

MSD Lab Sample ID:	580-4730-3	Analysis Batch: 580-14922	Instrument ID: SEA026
Client Matrix:	Solid	Prep Batch: 580-14890	Lab File ID: N/A
Dilution:	50		Initial Weight/Volume: 1.1907 g
Date Analyzed:	01/19/2007 0930		Final Weight/Volume: 50 mL
Date Prepared:	01/18/2007 1400		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	101	101	75 - 125	0	35		

Duplicate - Batch: 580-14890

Method: 6020
Preparation: 3050B

Lab Sample ID:	580-4730-3	Analysis Batch: 580-14922	Instrument ID: SEA026
Client Matrix:	Solid	Prep Batch: 580-14890	Lab File ID: N/A
Dilution:	10	Units: mg/Kg	Initial Weight/Volume: 1.1986 g
Date Analyzed:	01/19/2007 0921		Final Weight/Volume: 50 mL
Date Prepared:	01/18/2007 1400		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	3.67	3.04	19	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4730-1

Method Blank - Batch: 580-15022

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 580-15022/8-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1233
Date Prepared: 01/24/2007 0904

Analysis Batch: 580-15056
Prep Batch: 580-15022
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Mercury	ND		0.020	0.020

Duplicate - Batch: 580-15022

Method: 7471A
Preparation: 7471A

Lab Sample ID: 580-4730-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1209
Date Prepared: 01/24/2007 0904

Analysis Batch: 580-15056
Prep Batch: 580-15022
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5495 g
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.0234	0.0280	18	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-4730-1

Lab Section	Qualifier	Description
GC/MS VOA		
	B	Compound was found in the blank and sample.
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	*	RPD of the LCS and LCSD exceeds the control limits
GC/MS Semi VOA		
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	E	Result exceeded calibration range, secondary dilution required.
	F	RPD of the MS and MSD exceeds the control limits
	X	Surrogate exceeds the control limits
GC Semi VOA		
	X	Surrogate exceeds the control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL

Client	Project Manager	Date	Chain of Custody Number
GEI - Tacoma	Kevin Broom	1/15/07	21464
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page ____ of ____
	253.383.4940	4730	
City / State / Zip Code	Site Contact	Lab Contact	
Project Name and Location (State)	Carrier/Waybill Number		
Port of Olympia #0415-052-07			
Contract/Purchase Order/Quote No.			

	Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: NWTPH-Gx	NWTPH-Dx	VOC - 8260B	SVOC - 8270C	cPAH - 8270C	PCB - 8082	TMEA Metals	Special Instructions/ Conditions of Receipt
1	DP12-070115-020	1/15/07	0955				X							X	X	X	X				
2	DP12-070115-100		1116				X							X	X	X	X				
3	MW06-070115-020		1116				X							X	X	X	X	X	X	X	
4	MW06-070115-100		1130				X							X	X	X	X	X	X	X	
5	MW05-070115-100		1315				X							X	X	X	X	X	X	X	
6	MW04-070115-040		1430				X							X	X	X	X	X	X		
7	MW04-070115-400		1455				X							X	X	X	X	X	X		
8	DP13-070115-040		1605				X								X			X			
9	DP13-070115-080	↓	1615				X								X			X			

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Cooler	Possible Hazard Identification	Sample Disposal	
☐ Yes ☐ No Cooler Temp:____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months	(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other ____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1		1/15/07	1745		1-16-07	1:20
2						
3						

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

STL8274-580 (12/02)

LOGIN SAMPLE RECEIPT CHECK LIST

Client: GeoEngineers Inc

Job Number: 580-4730-1

Login Number: 4730

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

ANALYTICAL REPORT

Job Number: 580-4758-1

Job Description: Port of Olympia city hall 0415-052-03

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
hcurbow@stl-inc.com
01/30/2007

Project Manager: Heather Curbow

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Client: GeoEngineers Inc
Date: 01/30/2007

Semivolatile GC

Surrogate - Matrix

Surrogate recovery for sample 4758-3 was outside control limits. This sample shows evidence of matrix interference; therefore, re-extraction and/or re-analysis was not performed.

Affected Items

580-4758-A-3-D

Batch: 580-14985
Method: 580-NWTPH_Dx

Volatile Organics

Other Anomaly

5035/8260B: Chloromethane, Methylene chloride, Styrene, and 1,2,4-trimethylbenzene were detected in the MB above the MDL but below 1/2 the RL. No further action taken.

Affected Items

MB 580-15000/1-AA

Batch: 580-15012
Method: 580-8260B

Volatile Organics

Other Anomaly

5035/8260B: Bromchloromethane exceeds upper recovery QC limit in the LCS/LCSD. RPD within advisory limits and all associated samples ND. Chloroethane recovery low in LCS/LCSD due to additional methanol required to achieve requested RL. Interference is indicated by acceptable recovey in water LCS which is prepared in the same mannor as the soil LCS/LCSD less the additional methanol. No further action taken.

Affected Items

LCS 580-15000/2-AA

Batch: 580-15012
Method: 580-8260B

LCSD 580-15000/3-AA

Batch: 580-15012
Method: 580-8260B

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4758-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-4758-1	**MW08-070117-020**				
Benzo[a]anthracene		0.048	0.030	mg/Kg	8270C
Chrysene		0.099	0.030	mg/Kg	8270C
Motor Oil (>C24-C36)		71	58	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		32	29	mg/Kg	NWTPH-Dx
Barium		25	0.24	mg/Kg	6010B
Chromium		26	0.49	mg/Kg	6010B
Lead		14	0.73	mg/Kg	6010B
Arsenic		5.4	0.19	mg/Kg	6020
580-4758-2	**MW08-070117-040**				
Benzo[a]anthracene		0.030	0.028	mg/Kg	8270C
Chrysene		0.032	0.028	mg/Kg	8270C
Benzo[b]fluoranthene		0.035	0.023	mg/Kg	8270C
#2 Diesel (C10-C24)		48	29	mg/Kg	NWTPH-Dx
Barium		30	0.25	mg/Kg	6010B
Chromium		23	0.50	mg/Kg	6010B
Lead		11	0.74	mg/Kg	6010B
Arsenic		5.3	0.20	mg/Kg	6020
580-4758-3	**MW08-070117-080**				
Barium		15	0.58	mg/Kg	6010B
Chromium		27	1.2	mg/Kg	6010B
Lead		25	1.7	mg/Kg	6010B
Arsenic		9.5	0.46	mg/Kg	6020
580-4758-5	**DP14-070117-040**				
Benzo[a]anthracene		0.071	0.045	mg/Kg	8270C
Chrysene		0.10	0.045	mg/Kg	8270C
Benzo[a]pyrene		0.15	0.054	mg/Kg	8270C
Indeno[1,2,3-cd]pyrene		0.18	0.072	mg/Kg	8270C
Benzo[b]fluoranthene		0.15	0.036	mg/Kg	8270C
Benzo[k]fluoranthene		0.056	0.045	mg/Kg	8270C
Motor Oil (>C24-C36)		1300	92	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		190	46	mg/Kg	NWTPH-Dx
580-4758-6	**DP14-070117-080**				
Indeno[1,2,3-cd]pyrene		0.051	0.046	mg/Kg	8270C
Benzo[b]fluoranthene		0.026	0.023	mg/Kg	8270C
Motor Oil (>C24-C36)		490	58	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		76	29	mg/Kg	NWTPH-Dx

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-4758-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4758-8	**DP16-070117-040**					
Benzo[a]pyrene		0.079		0.036	mg/Kg	8270C
#2 Diesel (C10-C24)		34		31	mg/Kg	NWTPH-Dx
580-4758-9	**DP16-070117-080**					
Benzo[a]pyrene		0.14		0.037	mg/Kg	8270C
580-4758-10	**MW09-070117-020**					
Chloromethane		0.015	J B	0.065	mg/Kg	8260B
Barium		69		0.27	mg/Kg	6010B
Chromium		20		0.54	mg/Kg	6010B
Lead		2.6		0.81	mg/Kg	6010B
Arsenic		3.2		0.22	mg/Kg	6020
580-4758-11	**MW09-070117-040**					
Chloromethane		0.020	J B	0.072	mg/Kg	8260B
Barium		44		0.24	mg/Kg	6010B
Chromium		19		0.48	mg/Kg	6010B
Lead		1.8		0.71	mg/Kg	6010B
Arsenic		2.0		0.19	mg/Kg	6020

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-4758-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-4758-1	MW08-070117-020	Solid	01/17/2007 1026	01/19/2007 1035
580-4758-2	MW08-070117-040	Solid	01/17/2007 1035	01/19/2007 1035
580-4758-3	MW08-070117-080	Solid	01/17/2007 1043	01/19/2007 1035
580-4758-4	DP14-070117-020	Solid	01/17/2007 0943	01/19/2007 1035
580-4758-5	DP14-070117-040	Solid	01/17/2007 1341	01/19/2007 1035
580-4758-6	DP14-070117-080	Solid	01/17/2007 1348	01/19/2007 1035
580-4758-7	DP16-070117-020	Solid	01/17/2007 1308	01/19/2007 1035
580-4758-8	DP16-070117-040	Solid	01/17/2007 1315	01/19/2007 1035
580-4758-9	DP16-070117-080	Solid	01/17/2007 1321	01/19/2007 1035
580-4758-10	MW09-070117-020	Solid	01/17/2007 1520	01/19/2007 1035
580-4758-11	MW09-070117-040	Solid	01/17/2007 1525	01/19/2007 1035

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-020**

Lab Sample ID: 580-4758-10 | Date Sampled: 01/17/2007 1520
Client Matrix: Solid | % Moisture: 11.6 | Date Received: 01/19/2007 1035

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-15012 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-15000 | Lab File ID: VB0002800.D
Dilution: 1.0 | Initial Weight/Volume: 6.95 g
Date Analyzed: 01/23/2007 1400 | Final Weight/Volume: 400 mL
Date Prepared: 01/23/2007 1110

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.0091	0.065
Chloromethane		0.015	J B	0.012	0.065
Vinyl chloride		ND		0.0085	0.026
Bromomethane		ND		0.046	0.33
Chloroethane		ND	*	0.047	0.33
Trichlorofluoromethane		ND		0.0062	0.065
1,1-Dichloroethene		ND		0.0086	0.026
Methylene Chloride		ND		0.0099	0.065
trans-1,2-Dichloroethene		ND		0.0070	0.065
1,1-Dichloroethane		ND		0.015	0.065
2,2-Dichloropropane		ND		0.0077	0.065
cis-1,2-Dichloroethene		ND		0.0098	0.065
Chlorobromomethane		ND	*	0.0078	0.065
Chloroform		ND		0.0062	0.065
1,1,1-Trichloroethane		ND		0.0064	0.026
Carbon tetrachloride		ND		0.0049	0.026
1,1-Dichloropropene		ND		0.0050	0.065
Benzene		ND		0.0046	0.013
1,2-Dichloroethane		ND		0.013	0.065
Trichloroethene		ND		0.0049	0.026
1,2-Dichloropropane		ND		0.0041	0.013
Dibromomethane		ND		0.012	0.065
Dichlorobromomethane		ND		0.0046	0.065
cis-1,3-Dichloropropene		ND		0.0046	0.065
Toluene		ND		0.012	0.065
trans-1,3-Dichloropropene		ND		0.0046	0.065
1,1,2-Trichloroethane		ND		0.0059	0.065
Tetrachloroethene		ND		0.012	0.041
1,3-Dichloropropane		ND		0.0068	0.026
Chlorodibromomethane		ND		0.0041	0.065
Ethylene Dibromide		ND		0.011	0.065
Chlorobenzene		ND		0.020	0.065
Ethylbenzene		ND		0.012	0.065
1,1,1,2-Tetrachloroethane		ND		0.0062	0.065
1,1,2,2-Tetrachloroethane		ND		0.0039	0.013
m-Xylene & p-Xylene		ND		0.024	0.065
o-Xylene		ND		0.012	0.065
Styrene		ND		0.0052	0.065
Bromoform		ND		0.0046	0.065
Isopropylbenzene		ND		0.0099	0.065
Bromobenzene		ND		0.0059	0.065
N-Propylbenzene		ND		0.011	0.065
1,2,3-Trichloropropane		ND		0.012	0.065

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW09-070117-020**

Lab Sample ID: 580-4758-10
Client Matrix: Solid
% Moisture: 11.6
Date Sampled: 01/17/2007 1520
Date Received: 01/19/2007 1035

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035
Dilution: 1.0
Date Analyzed: 01/23/2007 1400
Date Prepared: 01/23/2007 1110
Analysis Batch: 580-15012
Prep Batch: 580-15000
Instrument ID: SEA043
Lab File ID: VB0002800.D
Initial Weight/Volume: 6.95 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		0.0094	0.065
1,3,5-Trimethylbenzene		ND		0.0098	0.065
4-Chlorotoluene		ND		0.0057	0.065
tert-Butylbenzene		ND		0.0055	0.065
1,2,4-Trimethylbenzene		ND		0.011	0.065
sec-Butylbenzene		ND		0.0026	0.065
1,3-Dichlorobenzene		ND		0.0067	0.065
4-Isopropyltoluene		ND		0.0046	0.065
1,4-Dichlorobenzene		ND		0.0033	0.065
n-Butylbenzene		ND		0.0039	0.065
1,2-Dichlorobenzene		ND		0.0055	0.065
1,2-Dibromo-3-Chloropropane		ND		0.014	0.065
1,2,4-Trichlorobenzene		ND		0.0064	0.065
1,2,3-Trichlorobenzene		ND		0.0078	0.065
Hexachlorobutadiene		ND		0.011	0.065

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	111	75 - 125
Toluene-d8 (Surr)	95	75 - 125
Ethylbenzene-d10	95	75 - 125
4-Bromofluorobenzene (Surr)	86	75 - 125
Trifluorotoluene (Surr)	102	75 - 125

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-040**

Lab Sample ID: 580-4758-11 | Date Sampled: 01/17/2007 1525
Client Matrix: Solid | % Moisture: 11.2 | Date Received: 01/19/2007 1035

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-15012 | Instrument ID: SEA043
Preparation: 5035 | Prep Batch: 580-15000 | Lab File ID: VB0002802.D
Dilution: 1.0 | Initial Weight/Volume: 6.23 g
Date Analyzed: 01/23/2007 1425 | Final Weight/Volume: 400 mL
Date Prepared: 01/23/2007 1110

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.010	0.072
Chloromethane		0.020	J B	0.013	0.072
Vinyl chloride		ND		0.0094	0.029
Bromomethane		ND		0.051	0.36
Chloroethane		ND	*	0.052	0.36
Trichlorofluoromethane		ND		0.0069	0.072
1,1-Dichloroethene		ND		0.0096	0.029
Methylene Chloride		ND		0.011	0.072
trans-1,2-Dichloroethene		ND		0.0078	0.072
1,1-Dichloroethane		ND		0.017	0.072
2,2-Dichloropropane		ND		0.0085	0.072
cis-1,2-Dichloroethene		ND		0.011	0.072
Chlorobromomethane		ND	*	0.0087	0.072
Chloroform		ND		0.0069	0.072
1,1,1-Trichloroethane		ND		0.0070	0.029
Carbon tetrachloride		ND		0.0054	0.029
1,1-Dichloropropene		ND		0.0056	0.072
Benzene		ND		0.0051	0.014
1,2-Dichloroethane		ND		0.015	0.072
Trichloroethene		ND		0.0054	0.029
1,2-Dichloropropane		ND		0.0045	0.014
Dibromomethane		ND		0.013	0.072
Dichlorobromomethane		ND		0.0051	0.072
cis-1,3-Dichloropropene		ND		0.0051	0.072
Toluene		ND		0.013	0.072
trans-1,3-Dichloropropene		ND		0.0051	0.072
1,1,2-Trichloroethane		ND		0.0065	0.072
Tetrachloroethene		ND		0.013	0.045
1,3-Dichloropropane		ND		0.0076	0.029
Chlorodibromomethane		ND		0.0045	0.072
Ethylene Dibromide		ND		0.012	0.072
Chlorobenzene		ND		0.022	0.072
Ethylbenzene		ND		0.013	0.072
1,1,1,2-Tetrachloroethane		ND		0.0069	0.072
1,1,2,2-Tetrachloroethane		ND		0.0043	0.014
m-Xylene & p-Xylene		ND		0.027	0.072
o-Xylene		ND		0.013	0.072
Styrene		ND		0.0058	0.072
Bromoform		ND		0.0051	0.072
Isopropylbenzene		ND		0.011	0.072
Bromobenzene		ND		0.0065	0.072
N-Propylbenzene		ND		0.012	0.072
1,2,3-Trichloropropane		ND		0.013	0.072

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW09-070117-040**

Lab Sample ID: 580-4758-11
Client Matrix: Solid
% Moisture: 11.2
Date Sampled: 01/17/2007 1525
Date Received: 01/19/2007 1035

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035
Dilution: 1.0
Date Analyzed: 01/23/2007 1425
Date Prepared: 01/23/2007 1110
Analysis Batch: 580-15012
Prep Batch: 580-15000
Instrument ID: SEA043
Lab File ID: VB0002802.D
Initial Weight/Volume: 6.23 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
2-Chlorotoluene		ND		0.010	0.072
1,3,5-Trimethylbenzene		ND		0.011	0.072
4-Chlorotoluene		ND		0.0063	0.072
tert-Butylbenzene		ND		0.0061	0.072
1,2,4-Trimethylbenzene		ND		0.012	0.072
sec-Butylbenzene		ND		0.0029	0.072
1,3-Dichlorobenzene		ND		0.0074	0.072
4-Isopropyltoluene		ND		0.0051	0.072
1,4-Dichlorobenzene		ND		0.0036	0.072
n-Butylbenzene		ND		0.0043	0.072
1,2-Dichlorobenzene		ND		0.0061	0.072
1,2-Dibromo-3-Chloropropane		ND		0.016	0.072
1,2,4-Trichlorobenzene		ND		0.0070	0.072
1,2,3-Trichlorobenzene		ND		0.0087	0.072
Hexachlorobutadiene		ND		0.012	0.072

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	109	75 - 125
Toluene-d8 (Surr)	95	75 - 125
Ethylbenzene-d10	95	75 - 125
4-Bromofluorobenzene (Surr)	86	75 - 125
Trifluorotoluene (Surr)	98	75 - 125

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW08-070117-020**

Lab Sample ID: 580-4758-1
Client Matrix: Solid
% Moisture: 17.9
Date Sampled: 01/17/2007 1026
Date Received: 01/19/2007 1035

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/24/2007 1440
Date Prepared: 01/22/2007 1155
Analysis Batch: 580-15071
Prep Batch: 580-14960
Instrument ID: SEA023
Lab File ID: HP03476.D
Initial Weight/Volume: 10.1565 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		0.048		0.030	0.030
Chrysene		0.099		0.030	0.030
Benzo[a]pyrene		ND		0.036	0.036
Indeno[1,2,3-cd]pyrene		ND		0.048	0.048
Dibenz(a,h)anthracene		ND		0.048	0.048
Benzo[b]fluoranthene		ND		0.024	0.024
Benzo[k]fluoranthene		ND		0.030	0.030

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	90	38 - 141
2-Fluorobiphenyl	101	42 - 140
Terphenyl-d14	101	42 - 151

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW08-070117-040**

Lab Sample ID: 580-4758-2
Client Matrix: Solid
% Moisture: 18.1
Date Sampled: 01/17/2007 1035
Date Received: 01/19/2007 1035

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/24/2007 1507
Date Prepared: 01/22/2007 1155
Analysis Batch: 580-15071
Prep Batch: 580-14960
Instrument ID: SEA023
Lab File ID: HP03477.D
Initial Weight/Volume: 10.7428 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		0.030		0.028	0.028
Chrysene		0.032		0.028	0.028
Benzo[a]pyrene		ND		0.034	0.034
Indeno[1,2,3-cd]pyrene		ND		0.045	0.045
Dibenz(a,h)anthracene		ND		0.045	0.045
Benzo[b]fluoranthene		0.035		0.023	0.023
Benzo[k]fluoranthene		ND		0.028	0.028

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	88	38 - 141
2-Fluorobiphenyl	97	42 - 140
Terphenyl-d14	101	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW08-070117-080**

Lab Sample ID:	580-4758-3			Date Sampled:	01/17/2007 1043
Client Matrix:	Solid	% Moisture:	58.8	Date Received:	01/19/2007 1035

8270C PAH

Method:	8270C	Analysis Batch: 580-15071		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14960		Lab File ID:	HP03478.D
Dilution:	1.0			Initial Weight/Volume:	10.1035 g
Date Analyzed:	01/24/2007 1534			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 1155			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		ND		0.060	0.060
Chrysene		ND		0.060	0.060
Benzo[a]pyrene		ND		0.072	0.072
Indeno[1,2,3-cd]pyrene		ND		0.096	0.096
Dibenz(a,h)anthracene		ND		0.096	0.096
Benzo[b]fluoranthene		ND		0.048	0.048
Benzo[k]fluoranthene		ND		0.060	0.060

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	87	38 - 141
2-Fluorobiphenyl	95	42 - 140
Terphenyl-d14	102	42 - 151

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **DP14-070117-020**

Lab Sample ID: 580-4758-4
Client Matrix: Solid
% Moisture: 11.6
Date Sampled: 01/17/2007 0943
Date Received: 01/19/2007 1035

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/24/2007 1602
Date Prepared: 01/22/2007 1155
Analysis Batch: 580-15071
Prep Batch: 580-14960
Instrument ID: SEA023
Lab File ID: HP03479.D
Initial Weight/Volume: 10.1865 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		ND		0.028	0.028
Chrysene		ND		0.028	0.028
Benzo[a]pyrene		ND		0.033	0.033
Indeno[1,2,3-cd]pyrene		ND		0.044	0.044
Dibenz(a,h)anthracene		ND		0.044	0.044
Benzo[b]fluoranthene		ND		0.022	0.022
Benzo[k]fluoranthene		ND		0.028	0.028

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	88	38 - 141
2-Fluorobiphenyl	100	42 - 140
Terphenyl-d14	97	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **DP14-070117-040**

Lab Sample ID:	580-4758-5			Date Sampled:	01/17/2007 1341
Client Matrix:	Solid	% Moisture:	47.5	Date Received:	01/19/2007 1035

8270C PAH

Method:	8270C	Analysis Batch: 580-15071		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14960		Lab File ID:	HP03487.D
Dilution:	1.0			Initial Weight/Volume:	10.5953 g
Date Analyzed:	01/24/2007 1941			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 1155			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		0.071		0.045	0.045
Chrysene		0.10		0.045	0.045
Benzo[a]pyrene		0.15		0.054	0.054
Indeno[1,2,3-cd]pyrene		0.18		0.072	0.072
Dibenz(a,h)anthracene		ND		0.072	0.072
Benzo[b]fluoranthene		0.15		0.036	0.036
Benzo[k]fluoranthene		0.056		0.045	0.045

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	89	38 - 141
2-Fluorobiphenyl	94	42 - 140
Terphenyl-d14	91	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: DP14-070117-080

Lab Sample ID:	580-4758-6			Date Sampled:	01/17/2007 1348
Client Matrix:	Solid	% Moisture:	16.1	Date Received:	01/19/2007 1035

8270C PAH

Method:	8270C	Analysis Batch: 580-15071		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-14960		Lab File ID:	HP03488.D
Dilution:	1.0			Initial Weight/Volume:	10.3721 g
Date Analyzed:	01/24/2007 2008			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 1155			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		ND		0.029	0.029
Chrysene		ND		0.029	0.029
Benzo[a]pyrene		ND		0.034	0.034
Indeno[1,2,3-cd]pyrene		0.051		0.046	0.046
Dibenz(a,h)anthracene		ND		0.046	0.046
Benzo[b]fluoranthene		0.026		0.023	0.023
Benzo[k]fluoranthene		ND		0.029	0.029

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	94	38 - 141
2-Fluorobiphenyl	99	42 - 140
Terphenyl-d14	103	42 - 151

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **DP16-070117-020**

Lab Sample ID: 580-4758-7
Client Matrix: Solid
% Moisture: 11.6
Date Sampled: 01/17/2007 1308
Date Received: 01/19/2007 1035

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/24/2007 1629
Date Prepared: 01/22/2007 1155
Analysis Batch: 580-15071
Prep Batch: 580-14960
Instrument ID: SEA023
Lab File ID: HP03480.D
Initial Weight/Volume: 10.0276 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		ND		0.028	0.028
Chrysene		ND		0.028	0.028
Benzo[a]pyrene		ND		0.034	0.034
Indeno[1,2,3-cd]pyrene		ND		0.045	0.045
Dibenz(a,h)anthracene		ND		0.045	0.045
Benzo[b]fluoranthene		ND		0.023	0.023
Benzo[k]fluoranthene		ND		0.028	0.028

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	90	38 - 141
2-Fluorobiphenyl	101	42 - 140
Terphenyl-d14	102	42 - 151

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: DP16-070117-040

Lab Sample ID: 580-4758-8
Client Matrix: Solid
% Moisture: 24.5
Date Sampled: 01/17/2007 1315
Date Received: 01/19/2007 1035

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/24/2007 1656
Date Prepared: 01/22/2007 1155
Analysis Batch: 580-15071
Prep Batch: 580-14960
Instrument ID: SEA023
Lab File ID: HP03481.D
Initial Weight/Volume: 10.9359 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		ND		0.030	0.030
Chrysene		ND		0.030	0.030
Benzo[a]pyrene		0.079		0.036	0.036
Indeno[1,2,3-cd]pyrene		ND		0.048	0.048
Dibenz(a,h)anthracene		ND		0.048	0.048
Benzo[b]fluoranthene		ND		0.024	0.024
Benzo[k]fluoranthene		ND		0.030	0.030

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	88	38 - 141
2-Fluorobiphenyl	101	42 - 140
Terphenyl-d14	104	42 - 151

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: DP16-070117-080

Lab Sample ID: 580-4758-9
Client Matrix: Solid
% Moisture: 22.1
Date Sampled: 01/17/2007 1321
Date Received: 01/19/2007 1035

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/24/2007 1724
Date Prepared: 01/22/2007 1155
Analysis Batch: 580-15071
Prep Batch: 580-14960
Instrument ID: SEA023
Lab File ID: HP03482.D
Initial Weight/Volume: 10.5319 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		ND		0.030	0.030
Chrysene		ND		0.030	0.030
Benzo[a]pyrene		0.14		0.037	0.037
Indeno[1,2,3-cd]pyrene		ND		0.049	0.049
Dibenz(a,h)anthracene		ND		0.049	0.049
Benzo[b]fluoranthene		ND		0.024	0.024
Benzo[k]fluoranthene		ND		0.030	0.030

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	104	42 - 140
Terphenyl-d14	104	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-020**

Lab Sample ID: 580-4758-10 | Date Sampled: 01/17/2007 1520
Client Matrix: Solid | % Moisture: 11.6 | Date Received: 01/19/2007 1035

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15071 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14960 | Lab File ID: HP03485.D
Dilution: 1.0 | Initial Weight/Volume: 10.9201 g
Date Analyzed: 01/24/2007 1846 | Final Weight/Volume: 10 mL
Date Prepared: 01/22/2007 1155 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Phenol		ND		0.10	0.10
Bis(2-chloroethyl)ether		ND		0.10	0.10
2-Chlorophenol		ND		0.10	0.10
1,3-Dichlorobenzene		ND		0.052	0.052
1,4-Dichlorobenzene		ND		0.052	0.052
Benzyl alcohol		ND		0.10	0.10
1,2-Dichlorobenzene		ND		0.052	0.052
2-Methylphenol		ND		0.10	0.10
Bis(2-chloroisopropyl) ether		ND		0.16	0.16
3 & 4 Methylphenol		ND		0.21	0.21
N-Nitrosodi-n-propylamine		ND		0.10	0.10
Hexachloroethane		ND		0.10	0.10
Nitrobenzene		ND		0.10	0.10
Isophorone		ND		0.10	0.10
2-Nitrophenol		ND		0.10	0.10
2,4-Dimethylphenol		ND		0.10	0.10
Benzoic acid		ND	*	2.6	2.6
Bis(2-chloroethoxy)methane		ND		0.10	0.10
2,4-Dichlorophenol		ND		0.10	0.10
1,2,4-Trichlorobenzene		ND		0.052	0.052
Naphthalene		ND		0.021	0.021
4-Chloroaniline		ND		0.10	0.10
Hexachlorobutadiene		ND		0.052	0.052
4-Chloro-3-methylphenol		ND		0.10	0.10
2-Methylnaphthalene		ND		0.021	0.021
Hexachlorocyclopentadiene		ND		0.10	0.10
2,4,6-Trichlorophenol		ND		0.16	0.16
2,4,5-Trichlorophenol		ND		0.10	0.10
2-Chloronaphthalene		ND		0.021	0.021
2-Nitroaniline		ND		0.10	0.10
Dimethyl phthalate		ND		0.10	0.10
Acenaphthylene		ND		0.021	0.021
2,6-Dinitrotoluene		ND		0.10	0.10
3-Nitroaniline		ND		0.10	0.10
Acenaphthene		ND		0.021	0.021
2,4-Dinitrophenol		ND		1.0	1.0
4-Nitrophenol		ND		1.0	1.0
Dibenzofuran		ND		0.10	0.10
2,4-Dinitrotoluene		ND		0.10	0.10
Diethyl phthalate		ND		0.10	0.10
4-Chlorophenyl phenyl ether		ND		0.10	0.10
Fluorene		ND		0.021	0.021
4-Nitroaniline		ND		0.10	0.10

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-020**

Lab Sample ID: 580-4758-10 | Date Sampled: 01/17/2007 1520
Client Matrix: Solid | % Moisture: 11.6 | Date Received: 01/19/2007 1035

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15071 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14960 | Lab File ID: HP03485.D
Dilution: 1.0 | Initial Weight/Volume: 10.9201 g
Date Analyzed: 01/24/2007 1846 | Final Weight/Volume: 10 mL
Date Prepared: 01/22/2007 1155 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		1.0	1.0
N-Nitrosodiphenylamine		ND		0.052	0.052
4-Bromophenyl phenyl ether		ND		0.10	0.10
Hexachlorobenzene		ND		0.052	0.052
Pentachlorophenol		ND		0.10	0.10
Phenanthrene		ND		0.021	0.021
Anthracene		ND		0.021	0.021
Di-n-butyl phthalate		ND		0.21	0.21
Fluoranthene		ND		0.021	0.021
Pyrene		ND		0.021	0.021
Butyl benzyl phthalate		ND		0.10	0.10
3,3'-Dichlorobenzidine		ND		0.21	0.21
Benzo[a]anthracene		ND		0.026	0.026
Chrysene		ND		0.026	0.026
Bis(2-ethylhexyl) phthalate		ND		1.6	1.6
Di-n-octyl phthalate		ND		0.21	0.21
Benzo[a]pyrene		ND		0.031	0.031
Indeno[1,2,3-cd]pyrene		ND		0.041	0.041
Dibenz(a,h)anthracene		ND		0.041	0.041
Benzo[g,h,i]perylene		ND		0.026	0.026
Carbazole		ND		0.16	0.16
1-Methylnaphthalene		ND		0.031	0.031
Benzo[b]fluoranthene		ND		0.021	0.021
Benzo[k]fluoranthene		ND		0.026	0.026

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	107	36 - 145
Phenol-d5	97	38 - 149
Nitrobenzene-d5	93	38 - 141
2-Fluorobiphenyl	102	42 - 140
2,4,6-Tribromophenol	110	28 - 143
Terphenyl-d14	105	42 - 151

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-040**

Lab Sample ID: 580-4758-11 | Date Sampled: 01/17/2007 1525
Client Matrix: Solid | % Moisture: 11.2 | Date Received: 01/19/2007 1035

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15071 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14960 | Lab File ID: HP03486.D
Dilution: 1.0 | Initial Weight/Volume: 10.1831 g
Date Analyzed: 01/24/2007 1913 | Final Weight/Volume: 10 mL
Date Prepared: 01/22/2007 1155 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Phenol		ND		0.11	0.11
Bis(2-chloroethyl)ether		ND		0.11	0.11
2-Chlorophenol		ND		0.11	0.11
1,3-Dichlorobenzene		ND		0.055	0.055
1,4-Dichlorobenzene		ND		0.055	0.055
Benzyl alcohol		ND		0.11	0.11
1,2-Dichlorobenzene		ND		0.055	0.055
2-Methylphenol		ND		0.11	0.11
Bis(2-chloroisopropyl) ether		ND		0.17	0.17
3 & 4 Methylphenol		ND		0.22	0.22
N-Nitrosodi-n-propylamine		ND		0.11	0.11
Hexachloroethane		ND		0.11	0.11
Nitrobenzene		ND		0.11	0.11
Isophorone		ND		0.11	0.11
2-Nitrophenol		ND		0.11	0.11
2,4-Dimethylphenol		ND		0.11	0.11
Benzoic acid		ND	*	2.8	2.8
Bis(2-chloroethoxy)methane		ND		0.11	0.11
2,4-Dichlorophenol		ND		0.11	0.11
1,2,4-Trichlorobenzene		ND		0.055	0.055
Naphthalene		ND		0.022	0.022
4-Chloroaniline		ND		0.11	0.11
Hexachlorobutadiene		ND		0.055	0.055
4-Chloro-3-methylphenol		ND		0.11	0.11
2-Methylnaphthalene		ND		0.022	0.022
Hexachlorocyclopentadiene		ND		0.11	0.11
2,4,6-Trichlorophenol		ND		0.17	0.17
2,4,5-Trichlorophenol		ND		0.11	0.11
2-Chloronaphthalene		ND		0.022	0.022
2-Nitroaniline		ND		0.11	0.11
Dimethyl phthalate		ND		0.11	0.11
Acenaphthylene		ND		0.022	0.022
2,6-Dinitrotoluene		ND		0.11	0.11
3-Nitroaniline		ND		0.11	0.11
Acenaphthene		ND		0.022	0.022
2,4-Dinitrophenol		ND		1.1	1.1
4-Nitrophenol		ND		1.1	1.1
Dibenzofuran		ND		0.11	0.11
2,4-Dinitrotoluene		ND		0.11	0.11
Diethyl phthalate		ND		0.11	0.11
4-Chlorophenyl phenyl ether		ND		0.11	0.11
Fluorene		ND		0.022	0.022
4-Nitroaniline		ND		0.11	0.11

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-040**

Lab Sample ID: 580-4758-11 | Date Sampled: 01/17/2007 1525
Client Matrix: Solid | % Moisture: 11.2 | Date Received: 01/19/2007 1035

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-15071 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-14960 | Lab File ID: HP03486.D
Dilution: 1.0 | Initial Weight/Volume: 10.1831 g
Date Analyzed: 01/24/2007 1913 | Final Weight/Volume: 10 mL
Date Prepared: 01/22/2007 1155 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
4,6-Dinitro-2-methylphenol		ND		1.1	1.1
N-Nitrosodiphenylamine		ND		0.055	0.055
4-Bromophenyl phenyl ether		ND		0.11	0.11
Hexachlorobenzene		ND		0.055	0.055
Pentachlorophenol		ND		0.11	0.11
Phenanthrene		ND		0.022	0.022
Anthracene		ND		0.022	0.022
Di-n-butyl phthalate		ND		0.22	0.22
Fluoranthene		ND		0.022	0.022
Pyrene		ND		0.022	0.022
Butyl benzyl phthalate		ND		0.11	0.11
3,3'-Dichlorobenzidine		ND		0.22	0.22
Benzo[a]anthracene		ND		0.028	0.028
Chrysene		ND		0.028	0.028
Bis(2-ethylhexyl) phthalate		ND		1.7	1.7
Di-n-octyl phthalate		ND		0.22	0.22
Benzo[a]pyrene		ND		0.033	0.033
Indeno[1,2,3-cd]pyrene		ND		0.044	0.044
Dibenz(a,h)anthracene		ND		0.044	0.044
Benzo[g,h,i]perylene		ND		0.028	0.028
Carbazole		ND		0.17	0.17
1-Methylnaphthalene		ND		0.033	0.033
Benzo[b]fluoranthene		ND		0.022	0.022
Benzo[k]fluoranthene		ND		0.028	0.028

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	105	36 - 145
Phenol-d5	95	38 - 149
Nitrobenzene-d5	90	38 - 141
2-Fluorobiphenyl	99	42 - 140
2,4,6-Tribromophenol	102	28 - 143
Terphenyl-d14	100	42 - 151

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW09-070117-020**

Lab Sample ID: 580-4758-10
Client Matrix: Solid
% Moisture: 11.6
Date Sampled: 01/17/2007 1520
Date Received: 01/19/2007 1035

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5035
Dilution: 1.0
Date Analyzed: 01/23/2007 1138
Date Prepared: 01/22/2007 1049
Analysis Batch: 580-15008
Prep Batch: 580-14957
Instrument ID: SEA041
Lab File ID: GX0004862.D
Initial Weight/Volume: 6.95 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		6.5	6.5

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	97	50 - 150
Trifluorotoluene (Surr)	91	50 - 150
Ethylbenzene-d10	99	50 - 150
Fluorobenzene (Surr)	94	50 - 150
Toluene-d8 (Surr)	101	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-040**

Lab Sample ID:	580-4758-11			Date Sampled:	01/17/2007 1525
Client Matrix:	Solid	% Moisture:	11.2	Date Received:	01/19/2007 1035

NWTPH-Gx Volatile Petroleum Products

Method:	NWTPH-Gx	Analysis Batch: 580-15008		Instrument ID:	SEA041
Preparation:	5035	Prep Batch: 580-14957		Lab File ID:	GX0004863.D
Dilution:	1.0			Initial Weight/Volume:	6.23 g
Date Analyzed:	01/23/2007 1200			Final Weight/Volume:	400 mL
Date Prepared:	01/22/2007 1049			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		7.2	7.2

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	95	50 - 150
Trifluorotoluene (Surr)	89	50 - 150
Ethylbenzene-d10	96	50 - 150
Fluorobenzene (Surr)	93	50 - 150
Toluene-d8 (Surr)	96	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW08-070117-020**

Lab Sample ID: 580-4758-1
Client Matrix: Solid
% Moisture: 17.9
Date Sampled: 01/17/2007 1026
Date Received: 01/19/2007 1035

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 01/23/2007 0117
Date Prepared: 01/22/2007 0638
Analysis Batch: 580-15039
Prep Batch: 580-14943
Instrument ID: SEA034
Lab File ID: PCB5886.D
Initial Weight/Volume: 10.3671 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.12	0.12
PCB-1221		ND		0.12	0.12
PCB-1232		ND		0.12	0.12
PCB-1242		ND		0.12	0.12
PCB-1248		ND		0.12	0.12
PCB-1254		ND		0.12	0.12
PCB-1260		ND		0.12	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	81	45 - 155
DCB Decachlorobiphenyl	87	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW08-070117-040**

Lab Sample ID: 580-4758-2
Client Matrix: Solid
% Moisture: 18.1
Date Sampled: 01/17/2007 1035
Date Received: 01/19/2007 1035

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 01/23/2007 0140
Date Prepared: 01/22/2007 0638
Analysis Batch: 580-15039
Prep Batch: 580-14943
Instrument ID: SEA034
Lab File ID: PCB5887.D
Initial Weight/Volume: 10.5864 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.12	0.12
PCB-1221		ND		0.12	0.12
PCB-1232		ND		0.12	0.12
PCB-1242		ND		0.12	0.12
PCB-1248		ND		0.12	0.12
PCB-1254		ND		0.12	0.12
PCB-1260		ND		0.12	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	82	45 - 155
DCB Decachlorobiphenyl	89	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW08-070117-080**

Lab Sample ID: 580-4758-3
Client Matrix: Solid
% Moisture: 58.8
Date Sampled: 01/17/2007 1043
Date Received: 01/19/2007 1035

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 01/23/2007 0204
Date Prepared: 01/22/2007 0638
Analysis Batch: 580-15039
Prep Batch: 580-14943
Instrument ID: SEA034
Lab File ID: PCB5888.D
Initial Weight/Volume: 10.7034 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.23	0.23
PCB-1221		ND		0.23	0.23
PCB-1232		ND		0.23	0.23
PCB-1242		ND		0.23	0.23
PCB-1248		ND		0.23	0.23
PCB-1254		ND		0.23	0.23
PCB-1260		ND		0.23	0.23

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	95	45 - 155
DCB Decachlorobiphenyl	103	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-020**

Lab Sample ID:	580-4758-10			Date Sampled:	01/17/2007 1520
Client Matrix:	Solid	% Moisture:	11.6	Date Received:	01/19/2007 1035

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-15039		Instrument ID:	SEA034
Preparation:	3550B	Prep Batch: 580-14943		Lab File ID:	PCB5889.D
Dilution:	5.0			Initial Weight/Volume:	10.1367 g
Date Analyzed:	01/23/2007 0228			Final Weight/Volume:	20 mL
Date Prepared:	01/22/2007 0638			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.11	0.11
PCB-1221		ND		0.11	0.11
PCB-1232		ND		0.11	0.11
PCB-1242		ND		0.11	0.11
PCB-1248		ND		0.11	0.11
PCB-1254		ND		0.11	0.11
PCB-1260		ND		0.11	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	78	45 - 155
DCB Decachlorobiphenyl	87	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW09-070117-040**

Lab Sample ID: 580-4758-11
Client Matrix: Solid
% Moisture: 11.2
Date Sampled: 01/17/2007 1525
Date Received: 01/19/2007 1035

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 01/23/2007 0251
Date Prepared: 01/22/2007 0638
Analysis Batch: 580-15039
Prep Batch: 580-14943
Instrument ID: SEA034
Lab File ID: PCB5890.D
Initial Weight/Volume: 10.1248 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.11	0.11
PCB-1221		ND		0.11	0.11
PCB-1232		ND		0.11	0.11
PCB-1242		ND		0.11	0.11
PCB-1248		ND		0.11	0.11
PCB-1254		ND		0.11	0.11
PCB-1260		ND		0.11	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	76	45 - 155
DCB Decachlorobiphenyl	87	50 - 150

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: **MW08-070117-020**

Lab Sample ID: 580-4758-1
Client Matrix: Solid
% Moisture: 17.9
Date Sampled: 01/17/2007 1026
Date Received: 01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 01/22/2007 1703
Date Prepared: 01/22/2007 0800
Analysis Batch: 580-14985
Prep Batch: 580-14945
Instrument ID: SEA015
Lab File ID: PL14936.D
Initial Weight/Volume: 10.4404 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		71		58	58
#2 Diesel (C10-C24)		32		29	29

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	60	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW08-070117-040**

Lab Sample ID: 580-4758-2 | Date Sampled: 01/17/2007 1035
Client Matrix: Solid | % Moisture: 18.1 | Date Received: 01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-14985 | Instrument ID: SEA015
Preparation: 3550B | Prep Batch: 580-14945 | Lab File ID: PL14937.D
Dilution: 1.0 | Initial Weight/Volume: 10.6434 g
Date Analyzed: 01/22/2007 1723 | Final Weight/Volume: 10 mL
Date Prepared: 01/22/2007 0800 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		57	57
#2 Diesel (C10-C24)		48		29	29

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	56	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW08-070117-080**

Lab Sample ID:	580-4758-3			Date Sampled:	01/17/2007 1043
Client Matrix:	Solid	% Moisture:	58.8	Date Received:	01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14985		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-14945		Lab File ID:	PL14938.D
Dilution:	1.0			Initial Weight/Volume:	10.3719 g
Date Analyzed:	01/22/2007 1743			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 0800			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		120	120
#2 Diesel (C10-C24)		ND		58	58

Surrogate	%Rec		Acceptance Limits
o-Terphenyl	43	X	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: DP14-070117-020

Lab Sample ID: 580-4758-4 | Date Sampled: 01/17/2007 0943
Client Matrix: Solid | % Moisture: 11.6 | Date Received: 01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-14985 | Instrument ID: SEA015
Preparation: 3550B | Prep Batch: 580-14945 | Lab File ID: PL14939.D
Dilution: 1.0 | Initial Weight/Volume: 10.1151 g
Date Analyzed: 01/22/2007 1803 | Final Weight/Volume: 10 mL
Date Prepared: 01/22/2007 0800 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		56	56
#2 Diesel (C10-C24)		ND		28	28

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	62	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **DP14-070117-040**

Lab Sample ID:	580-4758-5			Date Sampled:	01/17/2007 1341
Client Matrix:	Solid	% Moisture:	47.5	Date Received:	01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14985		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-14945		Lab File ID:	PL14940.D
Dilution:	1.0			Initial Weight/Volume:	10.2981 g
Date Analyzed:	01/22/2007 1823			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 0800			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		1300		92	92
#2 Diesel (C10-C24)		190		46	46

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	55	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: DP14-070117-080

Lab Sample ID:	580-4758-6			Date Sampled:	01/17/2007 1348
Client Matrix:	Solid	% Moisture:	16.1	Date Received:	01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14985		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-14945		Lab File ID:	PL14941.D
Dilution:	1.0			Initial Weight/Volume:	10.3364 g
Date Analyzed:	01/22/2007 1849			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 0800			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		490		58	58
#2 Diesel (C10-C24)		76		29	29

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	67	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **DP16-070117-020**

Lab Sample ID:	580-4758-7			Date Sampled:	01/17/2007 1308
Client Matrix:	Solid	% Moisture:	11.6	Date Received:	01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14985		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-14945		Lab File ID:	PL14942.D
Dilution:	1.0			Initial Weight/Volume:	10.7508 g
Date Analyzed:	01/22/2007 1915			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 0800			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		53	53
#2 Diesel (C10-C24)		ND		26	26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	69	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: DP16-070117-040

Lab Sample ID:	580-4758-8			Date Sampled:	01/17/2007 1315
Client Matrix:	Solid	% Moisture:	24.5	Date Received:	01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14985		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-14945		Lab File ID:	PL14943.D
Dilution:	1.0			Initial Weight/Volume:	10.7962 g
Date Analyzed:	01/22/2007 1940			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 0800			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		61	61
#2 Diesel (C10-C24)		34		31	31

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	60	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: DP16-070117-080

Lab Sample ID:	580-4758-9			Date Sampled:	01/17/2007 1321
Client Matrix:	Solid	% Moisture:	22.1	Date Received:	01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14985		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-14945		Lab File ID:	PL14944.D
Dilution:	1.0			Initial Weight/Volume:	10.9647 g
Date Analyzed:	01/22/2007 2000			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 0800			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		59	59
#2 Diesel (C10-C24)		ND		29	29

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	68	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-020**

Lab Sample ID:	580-4758-10			Date Sampled:	01/17/2007 1520
Client Matrix:	Solid	% Moisture:	11.6	Date Received:	01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14985		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-14945		Lab File ID:	PL14946.D
Dilution:	1.0			Initial Weight/Volume:	10.5046 g
Date Analyzed:	01/22/2007 2040			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 0800			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		54	54
#2 Diesel (C10-C24)		ND		27	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	69	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: **MW09-070117-040**

Lab Sample ID:	580-4758-11			Date Sampled:	01/17/2007 1525
Client Matrix:	Solid	% Moisture:	11.2	Date Received:	01/19/2007 1035

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-14985		Instrument ID:	SEA015
Preparation:	3550B	Prep Batch: 580-14945		Lab File ID:	PL14947.D
Dilution:	1.0			Initial Weight/Volume:	10.5951 g
Date Analyzed:	01/22/2007 2101			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 0800			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		53	53
#2 Diesel (C10-C24)		ND		27	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	75	50 - 150

Client: GeoEngineers Inc | Job Number: 580-4758-1

Client Sample ID: MW08-070117-020

Lab Sample ID:	580-4758-1		Date Sampled: 01/17/2007 1026
Client Matrix:	Solid	% Moisture: 17.9	Date Received: 01/19/2007 1035

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-15031	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.2533 g
Date Analyzed:	01/23/2007 1807		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Barium		25		0.24	0.24
Cadmium		ND		0.24	0.24
Chromium		26		0.49	0.49
Lead		14		0.73	0.73
Selenium		ND		2.4	2.4
Silver		ND		0.49	0.49

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-15058	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.2533 g
Date Analyzed:	01/24/2007 1047		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		5.4		0.19	0.19

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: MW08-070117-040

Lab Sample ID:	580-4758-2		Date Sampled: 01/17/2007 1035
Client Matrix:	Solid	% Moisture: 18.1	Date Received: 01/19/2007 1035

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-15031	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.2327 g
Date Analyzed:	01/23/2007 1841		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Barium		30		0.25	0.25
Cadmium		ND		0.25	0.25
Chromium		23		0.50	0.50
Lead		11		0.74	0.74
Selenium		ND		2.5	2.5
Silver		ND		0.50	0.50

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-15058	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.2327 g
Date Analyzed:	01/24/2007 1118		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		5.3		0.20	0.20

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: MW08-070117-080

Lab Sample ID:	580-4758-3	Date Sampled:	01/17/2007 1043
Client Matrix:	Solid % Moisture: 58.8	Date Received:	01/19/2007 1035

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-15031	Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-15010	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	1.0482 g
Date Analyzed:	01/23/2007 1844		Final Weight/Volume:	50 mL
Date Prepared:	01/23/2007 1415			

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Barium		15		0.58	0.58
Cadmium		ND		0.58	0.58
Chromium		27		1.2	1.2
Lead		25		1.7	1.7
Selenium		ND		5.8	5.8
Silver		ND		1.2	1.2

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-15058	Instrument ID:	SEA026
Preparation:	3050B	Prep Batch: 580-15010	Lab File ID:	N/A
Dilution:	10		Initial Weight/Volume:	1.0482 g
Date Analyzed:	01/24/2007 1121		Final Weight/Volume:	50 mL
Date Prepared:	01/23/2007 1415			

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		9.5		0.46	0.46

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: MW09-070117-020

Lab Sample ID:	580-4758-10	Date Sampled:	01/17/2007 1520
Client Matrix:	Solid % Moisture: 11.6	Date Received:	01/19/2007 1035

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-15031	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0519 g
Date Analyzed:	01/23/2007 1848		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Barium		69		0.27	0.27
Cadmium		ND		0.27	0.27
Chromium		20		0.54	0.54
Lead		2.6		0.81	0.81
Selenium		ND		2.7	2.7
Silver		ND		0.54	0.54

6020 Inductively Coupled Plasma - Mass Spectrometry

Method:	6020	Analysis Batch: 580-15058	Instrument ID: SEA026
Preparation:	3050B	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	10		Initial Weight/Volume: 1.0519 g
Date Analyzed:	01/24/2007 1124		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		3.2		0.22	0.22

Client: GeoEngineers Inc

Job Number: 580-4758-1

Client Sample ID: MW09-070117-040

Lab Sample ID: 580-4758-11
Client Matrix: Solid
% Moisture: 11.2
Date Sampled: 01/17/2007 1525
Date Received: 01/19/2007 1035

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 01/23/2007 1852
Date Prepared: 01/23/2007 1415
Analysis Batch: 580-15031
Prep Batch: 580-15010
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.1825 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Barium		44		0.24	0.24
Cadmium		ND		0.24	0.24
Chromium		19		0.48	0.48
Lead		1.8		0.71	0.71
Selenium		ND		2.4	2.4
Silver		ND		0.48	0.48

6020 Inductively Coupled Plasma - Mass Spectrometry

Method: 6020
Preparation: 3050B
Dilution: 10
Date Analyzed: 01/24/2007 1127
Date Prepared: 01/23/2007 1415
Analysis Batch: 580-15058
Prep Batch: 580-15010
Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.1825 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		2.0		0.19	0.19

Client: GeoEngineers Inc

Job Number: 580-4758-1

Method Blank - Batch: 580-15000

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-15000/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1336
Date Prepared: 01/23/2007 1110

Analysis Batch: 580-15012
Prep Batch: 580-15000
Units: mg/Kg

Instrument ID: SEA043
Lab File ID: VB0002798.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		0.0056	0.040
Chloromethane	0.0082	J	0.0073	0.040
Vinyl chloride	ND		0.0052	0.016
Bromomethane	ND		0.028	0.20
Chloroethane	ND		0.029	0.20
Trichlorofluoromethane	ND		0.0038	0.040
1,1-Dichloroethene	ND		0.0053	0.016
Methylene Chloride	0.015	J	0.0061	0.040
trans-1,2-Dichloroethene	ND		0.0043	0.040
1,1-Dichloroethane	ND		0.0095	0.040
2,2-Dichloropropane	ND		0.0047	0.040
cis-1,2-Dichloroethene	ND		0.0060	0.040
Chlorobromomethane	ND		0.0048	0.040
Chloroform	ND		0.0038	0.040
1,1,1-Trichloroethane	ND		0.0039	0.016
Carbon tetrachloride	ND		0.0030	0.016
1,1-Dichloropropene	ND		0.0031	0.040
Benzene	ND		0.0028	0.0080
1,2-Dichloroethane	ND		0.0081	0.040
Trichloroethene	ND		0.0030	0.016
1,2-Dichloropropane	ND		0.0025	0.0080
Dibromomethane	ND		0.0073	0.040
Dichlorobromomethane	ND		0.0028	0.040
cis-1,3-Dichloropropene	ND		0.0028	0.040
Toluene	ND		0.0074	0.040
trans-1,3-Dichloropropene	ND		0.0028	0.040
1,1,2-Trichloroethane	ND		0.0036	0.040
Tetrachloroethene	ND		0.0073	0.025
1,3-Dichloropropane	ND		0.0042	0.016
Chlorodibromomethane	ND		0.0025	0.040
Ethylene Dibromide	ND		0.0066	0.040
Chlorobenzene	ND		0.012	0.040
Ethylbenzene	ND		0.0072	0.040
1,1,1,2-Tetrachloroethane	ND		0.0038	0.040
1,1,2,2-Tetrachloroethane	ND		0.0024	0.0080
m-Xylene & p-Xylene	ND		0.015	0.040
o-Xylene	ND		0.0072	0.040
Styrene	0.011	J	0.0032	0.040
Bromoform	ND		0.0028	0.040
Isopropylbenzene	ND		0.0061	0.040
Bromobenzene	ND		0.0036	0.040

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Method Blank - Batch: 580-15000

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-15000/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1336
Date Prepared: 01/23/2007 1110

Analysis Batch: 580-15012
Prep Batch: 580-15000
Units: mg/Kg

Instrument ID: SEA043
Lab File ID: VB0002798.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
N-Propylbenzene	ND		0.0069	0.040
1,2,3-Trichloropropane	ND		0.0071	0.040
2-Chlorotoluene	ND		0.0058	0.040
1,3,5-Trimethylbenzene	ND		0.0060	0.040
4-Chlorotoluene	ND		0.0035	0.040
tert-Butylbenzene	ND		0.0034	0.040
1,2,4-Trimethylbenzene	0.017	J	0.0069	0.040
sec-Butylbenzene	ND		0.0016	0.040
1,3-Dichlorobenzene	ND		0.0041	0.040
4-Isopropyltoluene	ND		0.0028	0.040
1,4-Dichlorobenzene	ND		0.0020	0.040
n-Butylbenzene	ND		0.0024	0.040
1,2-Dichlorobenzene	ND		0.0034	0.040
1,2-Dibromo-3-Chloropropane	ND		0.0088	0.040
1,2,4-Trichlorobenzene	ND		0.0039	0.040
1,2,3-Trichlorobenzene	ND		0.0048	0.040
Hexachlorobutadiene	ND		0.0066	0.040

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	110	75 - 125
Toluene-d8 (Surr)	96	75 - 125
Ethylbenzene-d10	92	75 - 125
4-Bromofluorobenzene (Surr)	87	75 - 125
Trifluorotoluene (Surr)	88	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-15000

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-15000/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1223
Date Prepared: 01/23/2007 1110

Analysis Batch: 580-15012
Prep Batch: 580-15000
Units: mg/Kg

Instrument ID: SEA043
Lab File ID: VB0002792.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-15000/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1247
Date Prepared: 01/23/2007 1110

Analysis Batch: 580-15012
Prep Batch: 580-15000
Units: mg/Kg

Instrument ID: SEA043
Lab File ID: VB0002794.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dichlorodifluoromethane	83	84	35 - 135	1	20		
Chloromethane	90	91	50 - 130	1	20		
Vinyl chloride	89	93	60 - 125	5	20		
Bromomethane	49	48	30 - 160	3	20	J	J
Chloroethane	36	24	40 - 155	40	20	J *	J *
Trichlorofluoromethane	96	99	25 - 185	3	20		
1,1-Dichloroethene	90	92	65 - 135	3	26		
Methylene Chloride	102	101	55 - 140	0	20		
trans-1,2-Dichloroethene	94	98	65 - 135	5	20		
1,1-Dichloroethane	98	98	75 - 125	0	20		
2,2-Dichloropropane	107	106	65 - 135	2	20		
cis-1,2-Dichloroethene	99	103	65 - 125	3	20		
Chlorobromomethane	161	173	70 - 125	7	20	*	*
Chloroform	93	91	70 - 125	2	20		
1,1,1-Trichloroethane	88	89	70 - 135	1	20		
Carbon tetrachloride	101	102	65 - 135	1	20		
1,1-Dichloropropene	103	106	70 - 135	3	20		
Benzene	102	105	75 - 125	2	22		
1,2-Dichloroethane	95	93	70 - 135	2	20		
Trichloroethene	90	94	75 - 125	5	28		
1,2-Dichloropropane	96	102	70 - 120	6	20		
Dibromomethane	78	85	75 - 130	9	20		
Dichlorobromomethane	87	82	70 - 130	5	20		
cis-1,3-Dichloropropene	85	86	70 - 125	0	20		
Toluene	96	98	70 - 125	2	21		
trans-1,3-Dichloropropene	80	81	65 - 125	1	20		
1,1,2-Trichloroethane	86	88	60 - 125	2	20		
Tetrachloroethene	91	93	65 - 140	3	20		
1,3-Dichloropropane	92	94	75 - 125	3	20		
Chlorodibromomethane	78	76	65 - 130	3	20		
Ethylene Dibromide	87	89	70 - 125	2	20		
Chlorobenzene	89	90	75 - 125	2	24		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-15000

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-15000/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1223
Date Prepared: 01/23/2007 1110

Analysis Batch: 580-15012
Prep Batch: 580-15000
Units: mg/Kg

Instrument ID: SEA043
Lab File ID: VB0002792.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-15000/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1247
Date Prepared: 01/23/2007 1110

Analysis Batch: 580-15012
Prep Batch: 580-15000
Units: mg/Kg

Instrument ID: SEA043
Lab File ID: VB0002794.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethylbenzene	94	100	75 - 125	6	20		
1,1,1,2-Tetrachloroethane	80	80	75 - 125	0	20		
1,1,2,2-Tetrachloroethane	84	85	55 - 130	2	20		
m-Xylene & p-Xylene	91	97	80 - 125	6	20		
o-Xylene	92	94	75 - 125	2	20		
Styrene	91	93	75 - 125	2	20		
Bromoform	77	73	55 - 135	6	20		
Isopropylbenzene	95	98	75 - 130	2	20		
Bromobenzene	96	94	65 - 120	2	20		
N-Propylbenzene	101	101	65 - 135	0	20		
1,2,3-Trichloropropane	87	87	65 - 130	1	20		
2-Chlorotoluene	98	101	70 - 130	4	20		
1,3,5-Trimethylbenzene	91	93	65 - 135	3	20		
4-Chlorotoluene	96	97	75 - 125	1	20		
tert-Butylbenzene	99	97	65 - 130	2	20		
1,2,4-Trimethylbenzene	91	91	65 - 135	0	20		
sec-Butylbenzene	98	100	65 - 130	2	20		
1,3-Dichlorobenzene	96	98	70 - 125	2	20		
4-Isopropyltoluene	94	94	75 - 135	0	20		
1,4-Dichlorobenzene	94	96	70 - 125	2	20		
n-Butylbenzene	99	98	65 - 140	0	20		
1,2-Dichlorobenzene	89	92	75 - 120	3	20		
1,2-Dibromo-3-Chloropropane	73	78	40 - 135	7	20		
1,2,4-Trichlorobenzene	92	94	65 - 130	3	20		
1,2,3-Trichlorobenzene	89	94	60 - 135	5	20		
Hexachlorobutadiene	97	90	55 - 140	7	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	107	105	75 - 125
Toluene-d8 (Surr)	98	98	75 - 125
Ethylbenzene-d10	99	100	75 - 125
4-Bromofluorobenzene (Surr)	95	94	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	89	91	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Method Blank - Batch: 580-14960

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-14960/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1318
Date Prepared: 01/22/2007 1155

Analysis Batch: 580-15071
Prep Batch: 580-14960
Units: mg/Kg

Instrument ID: SEA023
Lab File ID: HP03473.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Phenol	ND		0.10	0.10
Bis(2-chloroethyl)ether	ND		0.10	0.10
2-Chlorophenol	ND		0.10	0.10
1,3-Dichlorobenzene	ND		0.050	0.050
1,4-Dichlorobenzene	ND		0.050	0.050
Benzyl alcohol	ND		0.10	0.10
1,2-Dichlorobenzene	ND		0.050	0.050
2-Methylphenol	ND		0.10	0.10
Bis(2-chloroisopropyl) ether	ND		0.15	0.15
3 & 4 Methylphenol	ND		0.20	0.20
N-Nitrosodi-n-propylamine	ND		0.10	0.10
Hexachloroethane	ND		0.10	0.10
Nitrobenzene	ND		0.10	0.10
Isophorone	ND		0.10	0.10
2-Nitrophenol	ND		0.10	0.10
2,4-Dimethylphenol	ND		0.10	0.10
Benzoic acid	ND		2.5	2.5
Bis(2-chloroethoxy)methane	ND		0.10	0.10
2,4-Dichlorophenol	ND		0.10	0.10
1,2,4-Trichlorobenzene	ND		0.050	0.050
Naphthalene	ND		0.020	0.020
4-Chloroaniline	ND		0.10	0.10
Hexachlorobutadiene	ND		0.050	0.050
4-Chloro-3-methylphenol	ND		0.10	0.10
2-Methylnaphthalene	ND		0.020	0.020
Hexachlorocyclopentadiene	ND		0.10	0.10
2,4,6-Trichlorophenol	ND		0.15	0.15
2,4,5-Trichlorophenol	ND		0.10	0.10
2-Chloronaphthalene	ND		0.020	0.020
2-Nitroaniline	ND		0.10	0.10
Dimethyl phthalate	ND		0.10	0.10
Acenaphthylene	ND		0.020	0.020
2,6-Dinitrotoluene	ND		0.10	0.10
3-Nitroaniline	ND		0.10	0.10
Acenaphthene	ND		0.020	0.020
2,4-Dinitrophenol	ND		1.0	1.0
4-Nitrophenol	ND		1.0	1.0
Dibenzofuran	ND		0.10	0.10
2,4-Dinitrotoluene	ND		0.10	0.10
Diethyl phthalate	ND		0.10	0.10
4-Chlorophenyl phenyl ether	ND		0.10	0.10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Method Blank - Batch: 580-14960

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-14960/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1318
Date Prepared: 01/22/2007 1155

Analysis Batch: 580-15071
Prep Batch: 580-14960
Units: mg/Kg

Instrument ID: SEA023
Lab File ID: HP03473.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Fluorene	ND		0.020	0.020
4-Nitroaniline	ND		0.10	0.10
4,6-Dinitro-2-methylphenol	ND		1.0	1.0
N-Nitrosodiphenylamine	ND		0.050	0.050
4-Bromophenyl phenyl ether	ND		0.10	0.10
Hexachlorobenzene	ND		0.050	0.050
Pentachlorophenol	ND		0.10	0.10
Phenanthrene	ND		0.020	0.020
Anthracene	ND		0.020	0.020
Di-n-butyl phthalate	ND		0.20	0.20
Fluoranthene	ND		0.020	0.020
Pyrene	ND		0.020	0.020
Butyl benzyl phthalate	ND		0.10	0.10
3,3'-Dichlorobenzidine	ND		0.20	0.20
Benzo[a]anthracene	ND		0.025	0.025
Chrysene	ND		0.025	0.025
Bis(2-ethylhexyl) phthalate	ND		1.5	1.5
Di-n-octyl phthalate	ND		0.20	0.20
Benzo[a]pyrene	ND		0.030	0.030
Indeno[1,2,3-cd]pyrene	ND		0.040	0.040
Dibenz(a,h)anthracene	ND		0.040	0.040
Benzo[g,h,i]perylene	ND		0.025	0.025
Carbazole	ND		0.15	0.15
1-Methylnaphthalene	ND		0.030	0.030
Benzo[b]fluoranthene	ND		0.020	0.020
Benzo[k]fluoranthene	ND		0.025	0.025

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	108	36 - 145
Phenol-d5	98	38 - 149
Nitrobenzene-d5	95	38 - 141
2-Fluorobiphenyl	108	42 - 140
2,4,6-Tribromophenol	98	28 - 143
Terphenyl-d14	101	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14960

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-14960/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1345
Date Prepared: 01/22/2007 1155

Analysis Batch: 580-15071
Prep Batch: 580-14960
Units: mg/Kg

Instrument ID: SEA023
Lab File ID: HP03474.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-14960/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1412
Date Prepared: 01/22/2007 1155

Analysis Batch: 580-15071
Prep Batch: 580-14960
Units: mg/Kg

Instrument ID: SEA023
Lab File ID: HP03475.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	87	84	66 - 126	3	26		
Bis(2-chloroethyl)ether	96	94	57 - 122	2	60		
2-Chlorophenol	96	93	65 - 125	3	27		
1,3-Dichlorobenzene	93	90	64 - 124	3	60		
1,4-Dichlorobenzene	98	97	62 - 132	1	32		
Benzyl alcohol	90	86	42 - 147	4	60		
1,2-Dichlorobenzene	97	98	68 - 118	1	60		
2-Methylphenol	91	90	56 - 121	2	25		
Bis(2-chloroisopropyl) ether	94	96	44 - 140	1	60		
3 & 4 Methylphenol	88	85	61 - 126	3	27		
N-Nitrosodi-n-propylamine	86	81	52 - 127	6	28		
Hexachloroethane	100	100	56 - 131	0	60		
Nitrobenzene	95	92	59 - 134	3	60		
Isophorone	98	95	53 - 118	3	60		
2-Nitrophenol	99	93	58 - 128	7	60		
2,4-Dimethylphenol	98	90	58 - 133	8	60		
Benzoic acid	48	16	10 - 130	99	60		*
Bis(2-chloroethoxy)methane	95	87	63 - 128	8	60		
2,4-Dichlorophenol	93	85	59 - 124	9	60		
1,2,4-Trichlorobenzene	97	93	63 - 128	4	28		
Naphthalene	94	93	64 - 129	1	26		
4-Chloroaniline	85	87	20 - 181	2	60		
Hexachlorobutadiene	102	101	59 - 134	1	60		
4-Chloro-3-methylphenol	95	89	58 - 128	6	27		
2-Methylnaphthalene	97	93	65 - 125	4	27		
Hexachlorocyclopentadiene	79	78	30 - 132	2	60		
2,4,6-Trichlorophenol	96	99	66 - 131	3	60		
2,4,5-Trichlorophenol	91	91	64 - 124	0	60		
2-Chloronaphthalene	98	95	69 - 129	3	25		
2-Nitroaniline	91	88	58 - 133	4	60		
Dimethyl phthalate	99	97	65 - 125	2	60		
Acenaphthylene	95	94	69 - 129	1	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14960

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-14960/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1345
Date Prepared: 01/22/2007 1155

Analysis Batch: 580-15071
Prep Batch: 580-14960
Units: mg/Kg

Instrument ID: SEA023
Lab File ID: HP03474.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-14960/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1412
Date Prepared: 01/22/2007 1155

Analysis Batch: 580-15071
Prep Batch: 580-14960
Units: mg/Kg

Instrument ID: SEA023
Lab File ID: HP03475.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	98	93	65 - 125	5	60		
3-Nitroaniline	110	112	80 - 165	1	60		
Acenaphthene	97	97	65 - 130	0	27		
2,4-Dinitrophenol	93	79	53 - 168	17	60		
4-Nitrophenol	100	90	47 - 172	10	33		
Dibenzofuran	95	94	70 - 125	1	60		
2,4-Dinitrotoluene	97	94	57 - 122	3	31		
Diethyl phthalate	98	97	64 - 129	1	26		
4-Chlorophenyl phenyl ether	96	97	65 - 130	0	60		
Fluorene	98	97	68 - 128	1	31		
4-Nitroaniline	113	120	70 - 150	6	60		
4,6-Dinitro-2-methylphenol	104	98	38 - 143	6	60		
N-Nitrosodiphenylamine	99	97	88 - 153	2	60		
4-Bromophenyl phenyl ether	100	96	64 - 134	4	60		
Hexachlorobenzene	106	103	61 - 136	3	60		
Pentachlorophenol	93	92	29 - 124	1	68		
Phenanthrene	99	96	65 - 125	3	28		
Anthracene	98	95	73 - 123	3	27		
Di-n-butyl phthalate	102	99	69 - 124	3	60		
Fluoranthene	102	100	61 - 121	2	36		
Pyrene	103	101	54 - 134	2	31		
Butyl benzyl phthalate	98	95	65 - 140	3	60		
3,3'-Dichlorobenzidine	112	114	73 - 163	1	60		
Benzo[a]anthracene	93	92	64 - 124	1	27		
Chrysene	101	97	71 - 126	4	26		
Bis(2-ethylhexyl) phthalate	100	98	64 - 144	1	60		
Di-n-octyl phthalate	90	88	58 - 148	3	31		
Benzo[a]pyrene	96	95	68 - 128	1	30		
Indeno[1,2,3-cd]pyrene	94	93	59 - 139	1	29		
Dibenz(a,h)anthracene	92	91	57 - 142	1	30		
Benzo[g,h,i]perylene	105	104	57 - 142	1	28		
Carbazole	104	102	88 - 158	3	60		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14960

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-14960/2-AA	Analysis Batch: 580-15071	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-14960	Lab File ID: HP03474.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	01/24/2007 1345		Final Weight/Volume: 10 mL
Date Prepared:	01/22/2007 1155		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-14960/3-AA	Analysis Batch: 580-15071	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-14960	Lab File ID: HP03475.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	01/24/2007 1412		Final Weight/Volume: 10 mL
Date Prepared:	01/22/2007 1155		Injection Volume:

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1-Methylnaphthalene	98	94	48 - 148	3	30		
Benzo[b]fluoranthene	94	96	66 - 136	2	31		
Benzo[k]fluoranthene	91	93	63 - 143	2	31		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	105	103	36 - 145
Phenol-d5	98	94	38 - 149
Nitrobenzene-d5	95	93	38 - 141
2-Fluorobiphenyl	104	103	42 - 140
2,4,6-Tribromophenol	114	104	28 - 143
Terphenyl-d14	101	96	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14960

Method: 8270C
Preparation: 3550B

MS Lab Sample ID: 580-4758-9
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1751
Date Prepared: 01/22/2007 1155

Analysis Batch: 580-15071
Prep Batch: 580-14960

Instrument ID: SEA023
Lab File ID: HP03483.D
Initial Weight/Volume: 10.5974 g
Final Weight/Volume: 10 mL
Injection Volume:

MSD Lab Sample ID: 580-4758-9
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/24/2007 1818
Date Prepared: 01/22/2007 1155

Analysis Batch: 580-15071
Prep Batch: 580-14960

Instrument ID: SEA023
Lab File ID: HP03484.D
Initial Weight/Volume: 10.4588 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Phenol	90	87	66 - 126	2	26		
Bis(2-chloroethyl)ether	83	82	57 - 122	0	60		
2-Chlorophenol	98	99	65 - 125	2	27		
1,3-Dichlorobenzene	101	96	64 - 124	4	60		
1,4-Dichlorobenzene	99	100	62 - 132	2	32		
Benzyl alcohol	94	95	42 - 147	2	60		
1,2-Dichlorobenzene	100	100	68 - 118	1	60		
2-Methylphenol	91	91	56 - 121	1	25		
Bis(2-chloroisopropyl) ether	98	100	44 - 140	3	60		
3 & 4 Methylphenol	89	89	61 - 126	1	27		
N-Nitrosodi-n-propylamine	92	92	52 - 127	1	28		
Hexachloroethane	101	104	56 - 131	4	60		
Nitrobenzene	101	99	59 - 134	1	60		
Isophorone	102	104	53 - 118	3	60		
2-Nitrophenol	105	107	58 - 128	4	60		
2,4-Dimethylphenol	99	99	58 - 133	2	60		
Benzoic acid	38	38	10 - 130	NC	60		
Bis(2-chloroethoxy)methane	96	94	63 - 128	1	60		
2,4-Dichlorophenol	91	89	59 - 124	1	60		
1,2,4-Trichlorobenzene	97	97	63 - 128	2	28		
Naphthalene	97	96	64 - 129	1	26		
4-Chloroaniline	64	75	20 - 181	16	60		
Hexachlorobutadiene	105	104	59 - 134	0	60		
4-Chloro-3-methylphenol	101	96	58 - 128	3	27		
2-Methylnaphthalene	99	99	65 - 125	1	27		
Hexachlorocyclopentadiene	68	73	30 - 132	9	60		
2,4,6-Trichlorophenol	103	104	66 - 131	2	60		
2,4,5-Trichlorophenol	98	97	64 - 124	0	60		
2-Chloronaphthalene	100	98	69 - 129	0	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14960

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-4758-9	Analysis Batch:	580-15071	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-14960	Lab File ID:	HP03483.D
Dilution:	1.0			Initial Weight/Volume:	10.5974 g
Date Analyzed:	01/24/2007 1751			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 1155			Injection Volume:	

MSD Lab Sample ID:	580-4758-9	Analysis Batch:	580-15071	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-14960	Lab File ID:	HP03484.D
Dilution:	1.0			Initial Weight/Volume:	10.4588 g
Date Analyzed:	01/24/2007 1818			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 1155			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2-Nitroaniline	94	95	58 - 133	2	60		
Dimethyl phthalate	102	102	65 - 125	1	60		
Acenaphthylene	99	98	69 - 129	0	28		
2,6-Dinitrotoluene	99	97	65 - 125	0	60		
3-Nitroaniline	93	104	80 - 165	12	60		
Acenaphthene	100	102	65 - 130	4	27		
2,4-Dinitrophenol	96	98	53 - 168	NC	60		
4-Nitrophenol	94	78	47 - 172	NC	33		
Dibenzofuran	97	97	70 - 125	1	60		
2,4-Dinitrotoluene	99	101	57 - 122	3	31		
Diethyl phthalate	104	99	64 - 129	4	26		
4-Chlorophenyl phenyl ether	100	99	65 - 130	0	60		
Fluorene	103	103	68 - 128	1	31		
4-Nitroaniline	90	116	70 - 150	27	60		
4,6-Dinitro-2-methylphenol	107	108	38 - 143	2	60		
N-Nitrosodiphenylamine	102	101	88 - 153	0	60		
4-Bromophenyl phenyl ether	101	100	64 - 134	1	60		
Hexachlorobenzene	106	105	61 - 136	1	60		
Pentachlorophenol	104	107	29 - 124	4	68		
Phenanthrene	100	100	65 - 125	1	28		
Anthracene	101	99	73 - 123	1	27		
Di-n-butyl phthalate	107	108	69 - 124	2	60		
Fluoranthene	108	108	61 - 121	1	36		
Pyrene	107	106	54 - 134	1	31		
Butyl benzyl phthalate	113	111	65 - 140	0	60		
3,3'-Dichlorobenzidine	109	113	73 - 163	5	60		
Benzo[a]anthracene	100	97	64 - 124	2	27		
Chrysene	103	103	71 - 126	2	26		
Bis(2-ethylhexyl) phthalate	109	108	64 - 144	NC	60		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-14960

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-4758-9	Analysis Batch:	580-15071	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-14960	Lab File ID:	HP03483.D
Dilution:	1.0			Initial Weight/Volume:	10.5974 g
Date Analyzed:	01/24/2007 1751			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 1155			Injection Volume:	

MSD Lab Sample ID:	580-4758-9	Analysis Batch:	580-15071	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-14960	Lab File ID:	HP03484.D
Dilution:	1.0			Initial Weight/Volume:	10.4588 g
Date Analyzed:	01/24/2007 1818			Final Weight/Volume:	10 mL
Date Prepared:	01/22/2007 1155			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Di-n-octyl phthalate	105	102	58 - 148	2	31		
Benzo[a]pyrene	85	85	68 - 128	1	30		
Indeno[1,2,3-cd]pyrene	91	101	59 - 139	12	29		
Dibenz(a,h)anthracene	88	98	57 - 142	12	30		
Benzo[g,h,i]perylene	98	108	57 - 142	11	28		
Carbazole	108	108	88 - 158	1	60		
1-Methylnaphthalene	100	98	48 - 148	0	30		
Benzo[b]fluoranthene	101	99	66 - 136	1	31		
Benzo[k]fluoranthene	98	96	63 - 143	1	31		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	106	108	36 - 145
Phenol-d5	101	101	38 - 149
Nitrobenzene-d5	98	96	38 - 141
2-Fluorobiphenyl	105	106	42 - 140
2,4,6-Tribromophenol	117	115	28 - 143
Terphenyl-d14	104	103	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Method Blank - Batch: 580-14957

Method: NWTPH-Gx
Preparation: 5035

Lab Sample ID: MB 580-14957/1-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1008
Date Prepared: 01/22/2007 1049

Analysis Batch: 580-15008
Prep Batch: 580-14957
Units: mg/Kg

Instrument ID: SEA041
Lab File ID: GX0004858.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
Gasoline	ND		4.0	4.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	95	50 - 150
Trifluorotoluene (Surr)	88	50 - 150
Ethylbenzene-d10	96	50 - 150
Fluorobenzene (Surr)	93	50 - 150
Toluene-d8 (Surr)	97	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14957

Method: NWTPH-Gx
Preparation: 5035

LCS Lab Sample ID: LCS 580-14957/2-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1030
Date Prepared: 01/22/2007 1049

Analysis Batch: 580-15008
Prep Batch: 580-14957
Units: mg/Kg

Instrument ID: SEA041
Lab File ID: GX0004859.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-14957/3-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1053
Date Prepared: 01/22/2007 1049

Analysis Batch: 580-15008
Prep Batch: 580-14957
Units: mg/Kg

Instrument ID: SEA041
Lab File ID: GX0004860.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	90	90	68 - 120	1	10		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	97	101	50 - 150
Trifluorotoluene (Surr)	96	88	50 - 150
Ethylbenzene-d10	100	100	50 - 150
Fluorobenzene (Surr)	106	106	50 - 150
Toluene-d8 (Surr)	100	100	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Method Blank - Batch: 580-14943

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-14943/1-AA
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 01/22/2007 2208
Date Prepared: 01/22/2007 0638

Analysis Batch: 580-15039
Prep Batch: 580-14943
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB5878.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
PCB-1016	ND		0.10	0.10
PCB-1221	ND		0.10	0.10
PCB-1232	ND		0.10	0.10
PCB-1242	ND		0.10	0.10
PCB-1248	ND		0.10	0.10
PCB-1254	ND		0.10	0.10
PCB-1260	ND		0.10	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	85	45 - 155
DCB Decachlorobiphenyl	88	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14943

Method: 8082
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-14943/2-AA	Analysis Batch: 580-15039	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-14943	Lab File ID: PCB5879.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	01/22/2007 2231		Final Weight/Volume: 20 mL
Date Prepared:	01/22/2007 0638		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-14943/3-AA	Analysis Batch: 580-15039	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-14943	Lab File ID: PCB5880.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	01/22/2007 2255		Final Weight/Volume: 20 mL
Date Prepared:	01/22/2007 0638		Injection Volume:
			Column ID: PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	86	89	57 - 128	3	8		
PCB-1260	96	96	65 - 132	0	8		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	88	88	45 - 155
DCB Decachlorobiphenyl	85	88	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Method Blank - Batch: 580-14945

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-14945/1-AB
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1552
Date Prepared: 01/22/2007 0800

Analysis Batch: 580-14985
Prep Batch: 580-14945
Units: mg/Kg

Instrument ID: SEA015
Lab File ID: PL14933.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Motor Oil (>C24-C36)	ND		50	50
#2 Diesel (C10-C24)	ND		25	25

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	73	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-14945

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID: LCS 580-14945/2-AB
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1612
Date Prepared: 01/22/2007 0800

Analysis Batch: 580-14985
Prep Batch: 580-14945
Units: mg/Kg

Instrument ID: SEA015
Lab File ID: PL14934.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-14945/3-AB
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/22/2007 1637
Date Prepared: 01/22/2007 0800

Analysis Batch: 580-14985
Prep Batch: 580-14945
Units: mg/Kg

Instrument ID: SEA015
Lab File ID: PL14935.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Motor Oil (>C24-C36)	97	98	70 - 125	1	17		
#2 Diesel (C10-C24)	100	100	64 - 127	1	16		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	91	92	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Method Blank - Batch: 580-15010

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-15010/24-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1801
Date Prepared: 01/23/2007 1415

Analysis Batch: 580-15031
Prep Batch: 580-15010
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Barium	ND		0.25	0.25
Cadmium	ND		0.25	0.25
Chromium	ND		0.50	0.50
Lead	ND		0.75	0.75
Selenium	ND		2.5	2.5
Silver	ND		0.50	0.50

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-15010

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-15010/25-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1935
Date Prepared: 01/23/2007 1415

Analysis Batch: 580-15031
Prep Batch: 580-15010
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-15010/26-AA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 01/23/2007 1939
Date Prepared: 01/23/2007 1415

Analysis Batch: 580-15031
Prep Batch: 580-15010
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Barium	102	100	80 - 120	2	35		
Cadmium	97	97	80 - 120	0	35		
Chromium	95	93	80 - 120	2	35		
Lead	96	97	80 - 120	1	35		
Selenium	92	93	80 - 120	1	35		
Silver	99	97	80 - 120	2	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-15010

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	580-4758-1	Analysis Batch: 580-15031	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.1108 g
Date Analyzed:	01/23/2007 1818		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

MSD Lab Sample ID:	580-4758-1	Analysis Batch: 580-15031	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.2383 g
Date Analyzed:	01/23/2007 1821		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Barium	98	102	75 - 125	6	35		
Cadmium	97	98	75 - 125	10	35		
Chromium	86	105	75 - 125	4	35		
Lead	92	94	75 - 125	7	35		
Selenium	97	98	75 - 125	10	35		
Silver	100	101	75 - 125	10	35		

Duplicate - Batch: 580-15010

Method: 6010B
Preparation: 3050B

Lab Sample ID:	580-4758-1	Analysis Batch: 580-15031	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 1.2124 g
Date Analyzed:	01/23/2007 1811		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Barium	25.5	26.0	2	35	
Cadmium	0.108	0.0326	NC	35	
Chromium	25.7	21.8	17	35	
Lead	14.0	11.5	19	35	
Selenium	1.06	1.24	NC	35	
Silver	-0.250	-0.249	NC	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Method Blank - Batch: 580-15010

Method: 6020
Preparation: 3050B

Lab Sample ID: MB 580-15010/24-AA
Client Matrix: Solid
Dilution: 10
Date Analyzed: 01/24/2007 1041
Date Prepared: 01/23/2007 1415

Analysis Batch: 580-15058
Prep Batch: 580-15010
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Arsenic	ND		0.20	0.20

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-15010

Method: 6020
Preparation: 3050B

LCS Lab Sample ID: LCS 580-15010/25-AA
Client Matrix: Solid
Dilution: 50
Date Analyzed: 01/24/2007 1105
Date Prepared: 01/23/2007 1415

Analysis Batch: 580-15058
Prep Batch: 580-15010
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-15010/26-AA
Client Matrix: Solid
Dilution: 50
Date Analyzed: 01/24/2007 1108
Date Prepared: 01/23/2007 1415

Analysis Batch: 580-15058
Prep Batch: 580-15010
Units: mg/Kg

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	95	95	80 - 120	0	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-4758-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-15010

Method: 6020
Preparation: 3050B

MS Lab Sample ID:	580-4758-1	Analysis Batch: 580-15058	Instrument ID: SEA026
Client Matrix:	Solid	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	50		Initial Weight/Volume: 1.1108 g
Date Analyzed:	01/24/2007 1056		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

MSD Lab Sample ID:	580-4758-1	Analysis Batch: 580-15058	Instrument ID: SEA026
Client Matrix:	Solid	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	50		Initial Weight/Volume: 1.2383 g
Date Analyzed:	01/24/2007 1059		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	94	98	75 - 125	7	35		

Duplicate - Batch: 580-15010

Method: 6020
Preparation: 3050B

Lab Sample ID:	580-4758-1	Analysis Batch: 580-15058	Instrument ID: SEA026
Client Matrix:	Solid	Prep Batch: 580-15010	Lab File ID: N/A
Dilution:	10	Units: mg/Kg	Initial Weight/Volume: 1.2124 g
Date Analyzed:	01/24/2007 1050		Final Weight/Volume: 50 mL
Date Prepared:	01/23/2007 1415		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	5.35	5.16	4	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-4758-1

Lab Section	Qualifier	Description
GC/MS VOA		
	B	Compound was found in the blank and sample.
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	*	RPD of the LCS and LCSD exceeds the control limits
GC/MS Semi VOA		
	*	RPD of the LCS and LCSD exceeds the control limits
GC Semi VOA		
	X	Surrogate exceeds the control limits

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL

Client	Project Manager	Date	Chain of Custody Number
GeoEngineers - Tacoma	Kevin Broom	1/19/07	21465
Address: Project # 0415-052-03	Telephone Number (Area Code)/Fax Number: 253.383.4940	Lab Number: 4758	Page 1 of 1
City / State / Zip Code	Site Contact / Lab Contact		
Project Name and Location (State): Port of Olympia	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: MTCA metals	NWTPH-Dx	cPAH - 8270C	PCB - 8082	NWTPH-Gx	VOC - 8260B	SVOC - 8270C	Special Instructions/ Conditions of Receipt
1 MW08-070117-020	1/17/07	1026				X							X	X	X	X				2
2 MW08-070117-040		1035				X							X	X	X	X				2
3 MW08-070117-080		1043				X							X	X	X	Y				
4 DP14-070117-020		0943				X								X	X					
5 DP14-070117-040		1341				X								X	X					
6 DP14-070117-080		1348				X								X	X					
7 DP16-070117-020		1308				X								X	X					
8 DP16-070117-040		1315				X								X	X					
9 DP16-070117-080		1321				X								X	Y					
10 MW09-070117-020		1520				X							X	X	X	X	X	X	X	2
11 MW09-070117-040		1525				X							X	X	X	X	X	X	Y	2

Page 68 of 69

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☒ Other STD

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	1/17/07	1850	1. Received By	1/19/07	1035
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

LOGIN SAMPLE RECEIPT CHECK LIST

Client: GeoEngineers Inc

Job Number: 580-4758-1

Login Number: 4758

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

DRAFT Phase II Environmental Site Assessment

East Bay Port of Olympia Property
316 Jefferson Street, Olympia, WA

Prepared for:

LOTT Alliance
111 Market Street, Suite 250
Olympia, Washington 98501

Prepared by:

BROWN AND CALDWELL

606 Columbia Street NW, Suite 217
Olympia, WA 98501

Brown and Caldwell Project No. 131358
January 5, 2007

Joshua Johnson, EIT
Engineer

Mark Gagnon, LH
Senior Environmental Professional

TABLE 1
Concentrations Exceeding MTCA Method A Limits
316 Jefferson Street, Olympia, WA

SOIL SAMPLES						
		Measured Concentration			MTCA Method A Limit, Unrestricted Land Use	
Boring Number	Analyte	Concentration	Units	Method	Concentration	Units
1	#2 Diesel	3300	mg/Kg	NWTPH-Dx	2000	mg/Kg
	Motor Oil	9900	mg/Kg	NWTPH-Dx	2000	mg/Kg

GROUNDWATER SAMPLES						
		Measured Concentration			MTCA Method A Limit	
Boring Number	Analyte	Concentration	Units	Method	Concentration	Units
1	Arsenic	0.029	mg/L	6010B	0.005	mg/L
	Lead	0.33	mg/L	6010B	0.015	mg/L
	Chromium	0.094	mg/L	6010B	0.05	mg/L
1 Duplicate	Arsenic	0.050	mg/L	6010B	0.005	mg/L
	Lead	0.49	mg/L	6010B	0.015	mg/L
	Chromium	0.15	mg/L	6010B	0.05	mg/L
2	Arsenic	0.049	mg/L	6010B	0.005	mg/L
	Lead	0.28	mg/L	6010B	0.015	mg/L
	Cadmium	0.11	mg/L	6010B	0.005	mg/L
2 Duplicate	Arsenic	0.014	mg/L	6010B	0.005	mg/L
	Lead	0.082	mg/L	6010B	0.015	mg/L
	Cadmium	0.018	mg/L	6010B	0.005	mg/L

TABLE 2
Soil Sample Detections
316 Jefferson Street, Olympia, WA

		Measured Soil Concentration					
	Boring Number	**1**	**2**	**3**	**4**	**Units**	**Method**
Substance	1,2,4- Trimethylbenzene	ND	12	ND	ND	ug/Kg	8260B
	Benzo[a]anthracene	130	32	ND	26	ug/Kg	8270C
	Chrysene	560	36	ND	24	ug/Kg	8270C
	Benzo[a]pyrene	ND	34	ND	25	ug/Kg	8270C
	Indeno[1,2,3-cd]pyrene	ND	23	ND	ND	ug/Kg	8270C
	Benzo[b]fluoranthene	ND	34	ND	22	ug/Kg	8270C
	Benzo[k]fluoranthene	ND	23	ND	8.2	ug/Kg	8270C
	Gasoline	0.70	1.0	0.53	1.5	mg/Kg	NWTPH-Gx
	# 2 Diesel	3300	52	8	60	mg/Kg	NWTPH-Dx
	Motor Oil	9900	250	74	340	mg/Kg	NWTPH-Dx

TABLE 3
cPAH Toxic Equivalency Calculations
316 Jefferson Street, Olympia, WA

		Measured Soil Concentration, ug/Kg				TEQ	TEQ Soil Concentration, ug/Kg			
	Boring Number	**1**	**2**	**3**	**4**	**Factor**	**1**	**2**	**3**	**4**
Substance	Benzo[a]anthracene	130	32	0	26	0.10	13.00	3.20	0.00	2.60
	Chrysene	560	36	0	24	0.01	5.60	0.36	0.00	0.24
	Benzo[a]pyrene	0	34	0	25	1.00	0.00	34.00	0.00	25.00
	Indeno[1,2,3-cd]pyrene	0	23	0	0	0.10	0.00	2.30	0.00	0.00
	Benzo[b]fluoranthene	0	34	0	22	0.10	0.00	3.40	0.00	2.20
	Benzo[k]fluoranthene	0	23	0	8.2	0.10	0.00	2.30	0.00	0.82
	Total	**690**	**182**	**0**	**105**		**18.60**	**45.56**	**0.00**	**30.86**
	MTCA A Limit						**100**	**100**	**100**	**100**

TABLE 4
Groundwater Sample Detections
316 Jefferson Street, Olympia, WA

	Boring Number	Measured Groundwater Concentration								Units	Method
		1	1 Duplicate	2	2 Duplicate	3	3 Duplicate	4	4 Duplicate		
Substance	Acetone	1.5	1.7	ND	ND	ND	ND	ND	ND	ug/L	8260B
	Toluene	0.079	0.083	ND	ND	ND	ND	ND	ND	ug/L	8260B
	Ethylbenzene	0.091	ND	ND	ND	ND	ND	ND	ND	ug/L	8260B
	m-Xylene & p-Xylene	0.34	0.31	ND	ND	ND	ND	ND	ND	ug/L	8260B
	o-Xylene	0.099	0.088	ND	ND	ND	ND	ND	ND	ug/L	8260B
	1,2-Dichlorobenzene	0.61	0.30	ND	ND	ND	ND	ND	ND	ug/L	8260B
	Arsenic	0.029	0.050	0.049	0.014	ND	ND	ND	ND	mg/L	6010B
	Lead	0.33	0.49	0.28	0.082	0.0045	0.0029	0.0080	0.0068	mg/L	6010B
	Antimony	0.054	0.052	0.0083	ND	ND	ND	0.0041	0.0049	mg/L	6010B
	Barium	1.3	1.3	0.10	0.045	0.028	0.026	0.050	0.050	mg/L	6010B
	Beryllium	0.0056	0.0055	0.00023	0.00014	0.000095	0.000078	0.000082	0.000086	mg/L	6010B
	Cadmium	ND	ND	0.11	0.018	0.00062	0.00055	0.0010	0.0012	mg/L	6010B
	Chromium	0.094	0.15	0.024	0.0094	0.0025	0.0018	0.0016	0.0015	mg/L	6010B
	Cobalt	0.034	0.056	0.018	0.0055	0.0016	0.0011	ND	ND	mg/L	6010B
	Copper	0.11	0.20	0.041	0.013	0.0011	ND	ND	ND	mg/L	6010B
	Nickel	0.092	0.15	0.033	0.013	0.0052	0.0024	0.0044	0.0012	mg/L	6010B
	Selenium	ND	ND	0.010	ND	0.0047	ND	0.0048	0.012	mg/L	6010B
	Vanadium	0.59	0.66	0.032	0.0080	0.0058	0.0043	0.0028	0.0024	mg/L	6010B
	Zinc	0.34	0.42	12	2.0	0.13	0.070	0.049	0.013	mg/L	6010B

TABLE 5
Quality Control Detections

	Blank	Measured Concentration: Equipment Blank	Method Blank 580-13183	Method Blank 580-13444	Method Blank 580-13315	Units	Method	Matrix
Substance	Acetone	15	ND	NA	NA	ug/L	8260B	Water
	2-Butanone	6.3	ND	NA	NA	ug/L	8260B	Water
	2-Hexanone	0.94	ND	NA	NA	ug/L	8260B	Water
	Carbon Disulfide	ND	0.23	NA	NA	ug/L	8260B	Water
	o-Xylene	ND	0.12	NA	NA	ug/L	8260B	Water
	Barium	ND	NA	0.0013	NA	mg/L	6010B	Water
	Beryllium	0.000066	NA	ND	NA	mg/L	6010B	Water
	Cadmium	0.00016	NA	ND	NA	mg/L	6010B	Water
	Cobalt	ND	NA	0.0016	NA	mg/L	6010B	Water
	Copper	ND	NA	0.0034	NA	mg/L	6010B	Water
	Nickel	ND	NA	0.0016	NA	mg/L	6010B	Water
	Vanadium	0.00055	NA	0.00047	NA	mg/L	6010B	Water
	Gasoline	ND	NA	NA	0.76	mg/Kg	NWTPH-Gx	Solid

BROWN AND CALDWELL

March 15, 2007

Mr. Rick Hughes
General Counsel
LOTT Alliance
111 Market Street NW, Suite 250
Olympia, WA 98501

131358

Subject: Environmental Investigation
Port of Olympia East Bay Property
316 Jefferson Street
Olympia, WA

Dear Mr. Hughes:

This letter report documents Brown and Caldwell's observations and field activities associated with subsurface investigations conducted at the Port of Olympia East Bay Property (the Site) on February 14, 2007. This investigation was conducted to supplement the findings of the initial Phase II Environmental Site Assessment (ESA) of the Site (Brown and Caldwell, 2007).

Scope of Work

The field activities conducted on February 14, 2007 included soil and groundwater sampling. Sampling locations from the February 14, 2007 field work, as well as sampling locations from the previous field work for the Phase II ESA, are shown on Figure 2.

The soil and groundwater investigation was conducted using truck-mounted direct push sampling equipment. The sampling equipment was driven to first contact with groundwater, and composite samples from the deepest five feet of soil were taken. One groundwater sample was collected from each location using disposable polyethylene tubing inserted into the interior of the drill rod and a peristaltic pump to extract groundwater. A field duplicate soil sample and a field duplicate groundwater sample, labeled "duplicate" were collected from one of the sample locations.

Samples were submitted for analysis for diesel-range petroleum hydrocarbons by NWTPH-Dx, for arsenic, barium, chromium, cadmium, lead, selenium, and silver by EPA Method 6020, mercury by EPA Method 7471A. Analysis was performed by TestAmerica, Inc., Bothell, WA.

No deviations from scope occurred during the field work.

Tables

TABLE 1
Diesel and Lube Oil Range Hydrocarbons, Soil
316 Jefferson Street, Olympia, WA
2/14/2007

Measured Soil Concentration by NWTPH-Dx, milligrams per kilogram (mg/Kg)		
Boring Number	**Diesel Range Hydrocarbons**	**Lube Oil Range Hydrocarbons**
5	72.4	208
6	790	4500
7	23.3	81.7
8	91.0	606
9	45.0	286
10	16.2	107
MTCA Method A Cleanup Level, Unrestricted Land Use	**2,000**	**2,000**

TABLE 2
Metal Concentrations, Soil
316 Jefferson Street, Olympia, WA
2/14/2007

		Measured Soil Concentration, milligrams per kilogram (mg/Kg)							
		Arsenic	**Barium**	**Cadmium**	**Chromium**	**Lead**	**Mercury**	**Selenium**	**Silver**
	Method	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 7471A	EPA 6020	EPA 6020
Boring Number	**5**	9.45	115	<0.05	28.7	73.1	<0.01	<0.16	<0.05
	6	5.03	76.5	<0.05	20.3	199	<0.01	<0.16	<0.05
	7	7.14	65.9	<0.05	34.6	7.2	<0.01	<0.16	<0.05
	8	3.89	62.2	<0.05	27.7	4.9	<0.01	<0.16	<0.05
	9	3.80	68.1	<0.05	33.7	11.5	<0.01	<0.16	<0.05
	10	6.98	894	<0.05	34.6	48.8	<0.01	<0.16	<0.05
Natural Background Concentration[a]		**7.3**	**NA[b]**	**0.77**	**48.15**	**16.83**	**0.07**	**NA[b]**	**NA[b]**
MTCA Method A Cleanup Level, Unrestricted Land Use		**20**	**NA[c]**	**2**	**2000**	**250**	**2**	**NA[c]**	**NA[c]**

a) San Juan, Charles. "Natural Background Metal Concentrations in Washington State". Toxics Cleanup Program, Olympia, WA 98504-7600. Publication No. 94-115. October 1994.

b) Background metal concentration is not determined in "Natural Background Metal Concentrations in Washington State"

c) MTCA Method A does not set a cleanup level

TABLE 3
Diesel and Lube Oil Range Hydrocarbons, Groundwater
316 Jefferson Street, Olympia, WA
2/14/2007

Measured Groundwater Concentration by NWTPH-Dx, milligrams per liter (mg/L)		
Boring Number	**Diesel Range Hydrocarbons**	**Lube Oil Range Hydrocarbons**
5	0.352	<0.09
6	1.38	2
7	0.248	0.621
8	0.899	1.21
9	<0.04	0.62
10	<0.04	1.14
MTCA Method A Cleanup Level	**0.5**	**0.5**

TABLE 4
Metal Concentrations, Groundwater
316 Jefferson Street, Olympia, WA
2/14/2007

		Measured Soil Concentration, milligrams per kilogram (mg/L)							
		Arsenic	**Barium**	**Cadmium**	**Chromium**	**Lead**	**Mercury**	**Selenium**	**Silver**
	Method	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 7471A	EPA 6020	EPA 6020
Boring Number	**5**	0.0324	0.216	<0.00013	0.0314	0.156	<0.00009	<0.00022	<0.00003
	6	0.0985	0.341	0.00366	0.0838	0.950	0.00026	0.00172	0.00175
	7	0.102	0.0124	<0.00013	0.00143	<0.00008	<0.00009	<0.00022	<0.00003
	8	0.0134	0.126	0.00110	0.0400	0.221	<0.00009	0.00233	<0.00003
	9	0.0113	0.0350	<0.00013	0.0130	0.102	<0.00009	<0.00022	<0.00003
	10	0.0228	1.42	0.00142	0.122	0.0712	<0.00009	0.00189	0.00114
MTCA Method A Cleanup Level		**0.005**	**NA[a]**	**0.005**	**0.050**	**0.015**	**0.002**	**NA[a]**	**NA[a]**

a) MTCA Method A does not set a cleanup level

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 580-6773-1

Job Description: 0615-034-02 Port of Olympia PhaseII

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
08/27/2007

cc: Tonya Kauhi

TestAmerica Tacoma is a part of TestAmerica Laboratories, Inc.

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ACCREDITED IN ACCORDANCE WITH nelac

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method 8260B: 5035/8260B

The target compound Methylene Chloride was detected in the method blank at a concentration above the MDL but less than one half the reporting limit. The anomaly was flagged on the appropriate forms and all associated detections of Methylene Chloride in the samples were B flagged. No further corrective action was performed.

The 22% RPD for the compound Tetrachlorethene exceeded the QC limit of 20% between the LCS and LCSD analyses. Since both of the individual recoveries were within QC control limits, the anomaly was flagged on the appropriate form, and no further corrective action was performed.

The recoveries of the spiking compounds Chloroethane; Dichlorobromomethane; cis-1,3-Dichloropropene; trans-1,3-Dichloropropene; Chlorodibromomethane; 1,1,1,2-Tetrachloroethane; and Bromoform fell below the QC recovery ranges in the LCS and LCSD. Since a water LCS (data file: VB 0008213), which was prepared using the same spiking solutions, was in control for all listed compounds, the anomalies were attributed to the increased amount of methanol in the sparged volume of methanolic extracts. The anomalies were flagged on the appropriate forms, and no further corrective action was performed.

The recovery of Carbon Tetrachloride; Ethylene Dibromide; and 1,2-Dibromo-3-Chloropropane fell below QC limits in the LCSD. The LCS recovery for these analytes was within QC control limits. Also, the RPD for the compound 1,2-Dibromo-3-Chloropropane was affected by the LCSD outlier. no further action was taken.

No other analytical or quality issues were noted.

GC/MS Semi VOA
Method 8270C: The laboratory control standard (LCS) for preparation batch 21475 exceeded control limits for the following analytesDi-n-butylphthalate. Total does not exceed max. allowable(3).

No other analytical or quality issues were noted.

GC Semi VOA
Method NWTPH-Dx: NWDX
The %R failed high for the LCS and LCSD in the motor oil range. It appears the LCS and LCSD concentrated during the silica gel clean up. The LCS and LCSD were re-silica gel'ed with acceptable results for the motor oil range. The samples were examined for similar concentration but non of the samples had failing high surrogetes. The re-run results for the motor oil range were marked as primary.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6773-2	**MW16-073107-040**					
Methylene Chloride		15	J B	78	ug/Kg	8260B
Phenanthrene		8.2		2.2	ug/Kg	8270C
Fluoranthene		9.8		2.2	ug/Kg	8270C
Pyrene		9.9		2.2	ug/Kg	8270C
Benzo[a]anthracene		4.2		2.8	ug/Kg	8270C
Chrysene		4.3		2.8	ug/Kg	8270C
Benzo[a]pyrene		4.1		3.3	ug/Kg	8270C
Benzo[g,h,i]perylene		2.9		2.8	ug/Kg	8270C
Benzo[b]fluoranthene		4.6		2.2	ug/Kg	8270C
#2 Diesel (C10-C24)		28	*	26	mg/Kg	NWTPH-Dx
Barium		23		0.55	mg/Kg	6010B
Chromium		13		1.4	mg/Kg	6010B
Percent Solids		89		0.10	%	PercentMoisture
Percent Moisture		11		0.10	%	PercentMoisture
580-6773-6	**MW16-073107-140**					
4-Isopropyltoluene		1400		200	ug/Kg	8260B
580-6773-7	**MW16-073107-160**					
Methylene Chloride		18	J B	100	ug/Kg	8260B
4-Isopropyltoluene		11	J	100	ug/Kg	8260B
Motor Oil (>C24-C36)		91	*	74	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		48	*	37	mg/Kg	NWTPH-Dx
Arsenic		6.4		4.8	mg/Kg	6010B
Barium		11		0.80	mg/Kg	6010B
Chromium		18		2.1	mg/Kg	6010B
Percent Solids		61		0.10	%	PercentMoisture
Percent Moisture		39		0.10	%	PercentMoisture

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6773-12	**MW13-080107-060**					
4-Isopropyltoluene		94		90	ug/Kg	8260B
Naphthalene		85	J	90	ug/Kg	8260B
Naphthalene		49		23	ug/Kg	8270C
2-Methylnaphthalene		29		23	ug/Kg	8270C
Acenaphthene		100		23	ug/Kg	8270C
Fluorene		61		23	ug/Kg	8270C
Phenanthrene		280		23	ug/Kg	8270C
Anthracene		40		23	ug/Kg	8270C
Fluoranthene		110		23	ug/Kg	8270C
Pyrene		95		23	ug/Kg	8270C
Gasoline		14		9.0	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		580	*	55	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		170	*	28	mg/Kg	NWTPH-Dx
Barium		33		0.55	mg/Kg	6010B
Chromium		15		1.4	mg/Kg	6010B
Lead		21		1.7	mg/Kg	6010B
Mercury		0.033		0.023	mg/Kg	7471A
Percent Solids		84		0.10	%	PercentMoisture
Percent Moisture		16		0.10	%	PercentMoisture

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6773-14	**MW13-080107-100**					
Methylene Chloride		18	J B	96	ug/Kg	8260B
4-Isopropyltoluene		24	J	96	ug/Kg	8260B
Naphthalene		360		96	ug/Kg	8260B
Naphthalene		350		27	ug/Kg	8270C
2-Methylnaphthalene		29		27	ug/Kg	8270C
Acenaphthene		47		27	ug/Kg	8270C
Phenanthrene		66		27	ug/Kg	8270C
Anthracene		34		27	ug/Kg	8270C
Fluoranthene		160		27	ug/Kg	8270C
Pyrene		160		27	ug/Kg	8270C
Benzo[a]anthracene		88		33	ug/Kg	8270C
Chrysene		100		33	ug/Kg	8270C
Benzo[a]pyrene		60		40	ug/Kg	8270C
Benzo[b]fluoranthene		82		27	ug/Kg	8270C
Gasoline		24		9.6	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		180	*	65	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		95	*	32	mg/Kg	NWTPH-Dx
Arsenic		4.4		3.8	mg/Kg	6010B
Barium		42		0.64	mg/Kg	6010B
Cadmium		0.67		0.64	mg/Kg	6010B
Chromium		28		1.7	mg/Kg	6010B
Lead		52		1.9	mg/Kg	6010B
Selenium		7.3		6.4	mg/Kg	6010B
Mercury		0.18		0.028	mg/Kg	7471A
Percent Solids		70		0.10	%	PercentMoisture
Percent Moisture		30		0.10	%	PercentMoisture
580-6773-17	**MW12-080107-040**					
Methylene Chloride		39	J B	90	ug/Kg	8260B
Naphthalene		6.9	J	90	ug/Kg	8260B
Barium		39		0.51	mg/Kg	6010B
Chromium		12		1.3	mg/Kg	6010B
Percent Solids		96		0.10	%	PercentMoisture
Percent Moisture		3.8		0.10	%	PercentMoisture
580-6773-20	**MW12-080107-100**					
Methylene Chloride		16	J B	87	ug/Kg	8260B
Barium		28		0.55	mg/Kg	6010B
Chromium		11		1.4	mg/Kg	6010B
Percent Solids		87		0.10	%	PercentMoisture
Percent Moisture		13		0.10	%	PercentMoisture

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6773-22	**MW11-080107-020**					
Methylene Chloride		30	J B	100	ug/Kg	8260B
#2 Diesel (C10-C24)		30	*	27	mg/Kg	NWTPH-Dx
Barium		22		0.59	mg/Kg	6010B
Chromium		6.5		1.5	mg/Kg	6010B
Percent Solids		82		0.10	%	PercentMoisture
Percent Moisture		18		0.10	%	PercentMoisture
580-6773-25	**MW11-080107-100**					
Methylene Chloride		20	J B	96	ug/Kg	8260B
Barium		81		0.65	mg/Kg	6010B
Chromium		35		1.7	mg/Kg	6010B
Lead		2.0		1.9	mg/Kg	6010B
Percent Solids		70		0.10	%	PercentMoisture
Percent Moisture		30		0.10	%	PercentMoisture
580-6773-26	**DP23-080107-120**					
#2 Diesel (C10-C24)		29	*	28	mg/Kg	NWTPH-Dx
Percent Solids		83		0.10	%	PercentMoisture
Percent Moisture		17		0.10	%	PercentMoisture
580-6773-30	**MW19-080107-040**					
Methylene Chloride		22	J B	130	ug/Kg	8260B
1,3,5-Trimethylbenzene		27	J	130	ug/Kg	8260B
1,2,4-Trimethylbenzene		87	J	130	ug/Kg	8260B
sec-Butylbenzene		20	J	130	ug/Kg	8260B
Naphthalene		210		130	ug/Kg	8260B
Gasoline		220		13	mg/Kg	NWTPH-Gx
Barium		45		0.75	mg/Kg	6010B
Chromium		24		2.0	mg/Kg	6010B
Lead		2.3		2.3	mg/Kg	6010B
Percent Solids		62		0.10	%	PercentMoisture
Percent Moisture		38		0.10	%	PercentMoisture

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6773-32	**MW19-080107-080**					
Methylene Chloride		49	J B	210	ug/Kg	8260B
Motor Oil (>C24-C36)		80	*	76	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		78	*	38	mg/Kg	NWTPH-Dx
Barium		6.3		0.82	mg/Kg	6010B
Chromium		2.3		2.1	mg/Kg	6010B
Percent Solids		60		0.10	%	PercentMoisture
Percent Moisture		40		0.10	%	PercentMoisture

METHOD SUMMARY

Client: GeoEngineers Inc Job Number: 580-6773-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds by GC/MS	TAL TAC	SW846 8260B	
Closed System Purge & Trap/Field Methanol	TAL TAC		SW846 5035
Volatile Petroleum Products	TAL TAC	NWTPH NWTPH-Gx	
Closed System Purge & Trap/Field Methanol	TAL TAC		SW846 5035
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL TAC	SW846 8270C	
Ultrasonic Extraction (Low Level)	TAL TAC		SW846 3550B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL TAC	SW846 8082	
Ultrasonic Extraction (Low Level)	TAL TAC		SW846 3550B
Semi-Volatile Petroleum Products by NWTPH-Dx	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Silica Gel Cleanup	TAL TAC		SW846 3630C
Inductively Coupled Plasma - Atomic Emission Spectrometry	TAL TAC	SW846 6010B	
Acid Digestion of Sediments, Sludges, and Soils	TAL TAC		SW846 3050B
Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)	TAL TAC	SW846 7471A	
Mercury in Solid or Semi-Solid Waste (Manual Cold	TAL TAC		SW846 7471A

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

NWTPH =

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-6773-2	MW16-073107-040	Solid	07/31/2007 1255	08/03/2007 1000
580-6773-6	MW16-073107-140	Solid	07/31/2007 1505	08/03/2007 1000
580-6773-7	MW16-073107-160	Solid	07/31/2007 1520	08/02/2007 1325
580-6773-12	MW13-080107-060	Solid	08/01/2007 0905	08/02/2007 1325
580-6773-14	MW13-080107-100	Solid	08/01/2007 0915	08/02/2007 1325
580-6773-17	MW12-080107-040	Solid	08/01/2007 1050	08/02/2007 1325
580-6773-20	MW12-080107-100	Solid	08/01/2007 1105	08/02/2007 1325
580-6773-22	MW11-080107-020	Solid	08/01/2007 1315	08/02/2007 1325
580-6773-25	MW11-080107-100	Solid	08/01/2007 1330	08/02/2007 1325
580-6773-26	DP23-080107-120	Solid	08/01/2007 1455	08/02/2007 1325
580-6773-30	MW19-080107-040	Solid	08/01/2007 1605	08/02/2007 1325
580-6773-32	MW19-080107-080	Solid	08/01/2007 1615	08/02/2007 1325

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-040**

Lab Sample ID: 580-6773-2 | Date Sampled: 07/31/2007 1255
Client Matrix: Solid | % Moisture: 10.6 | Date Received: 08/03/2007 1000

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008219.D
Dilution: 1.0 | Initial Weight/Volume: 5.74 g
Date Analyzed: 08/09/2007 1518 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		11	78
Chloromethane		ND		14	78
Vinyl chloride		ND		10	31
Bromomethane		ND		55	390
Chloroethane		ND	*	56	390
Trichlorofluoromethane		ND		7.4	78
1,1-Dichloroethene		ND		10	31
Methylene Chloride		15	J B	12	78
trans-1,2-Dichloroethene		ND		8.4	78
1,1-Dichloroethane		ND		19	78
2,2-Dichloropropane		ND		9.2	78
cis-1,2-Dichloroethene		ND		12	78
Chlorobromomethane		ND		9.4	78
Chloroform		ND		7.4	78
1,1,1-Trichloroethane		ND		7.6	31
Carbon tetrachloride		ND	*	5.8	31
1,1-Dichloropropene		ND		6.0	78
Benzene		ND		5.5	16
1,2-Dichloroethane		ND		16	78
Trichloroethene		ND		5.8	31
1,2-Dichloropropane		ND		4.9	16
Dibromomethane		ND		14	78
Dichlorobromomethane		ND	*	5.5	78
cis-1,3-Dichloropropene		ND	*	5.5	78
Toluene		ND		14	78
trans-1,3-Dichloropropene		ND	*	5.5	78
1,1,2-Trichloroethane		ND		7.0	78
Tetrachloroethene		ND	*	14	49
1,3-Dichloropropane		ND		8.2	31
Chlorodibromomethane		ND	*	4.9	78
Ethylene Dibromide		ND	*	13	78
Chlorobenzene		ND		23	78
Ethylbenzene		ND		14	78
1,1,1,2-Tetrachloroethane		ND	*	7.4	78
1,1,2,2-Tetrachloroethane		ND		4.7	16
m-Xylene & p-Xylene		ND		29	78
o-Xylene		ND		14	78
Styrene		ND		6.2	78
Bromoform		ND	*	5.5	78
Isopropylbenzene		ND		12	78
Bromobenzene		ND		7.0	78
N-Propylbenzene		ND		13	78
1,2,3-Trichloropropane		ND		14	78
2-Chlorotoluene		ND		11	78

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-040**

Lab Sample ID: 580-6773-2 | Date Sampled: 07/31/2007 1255
Client Matrix: Solid | % Moisture: 10.6 | Date Received: 08/03/2007 1000

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008219.D
Dilution: 1.0 | Initial Weight/Volume: 5.74 g
Date Analyzed: 08/09/2007 1518 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		12	78
4-Chlorotoluene		ND		6.8	78
tert-Butylbenzene		ND		6.6	78
1,2,4-Trimethylbenzene		ND		13	78
sec-Butylbenzene		ND		3.1	78
1,3-Dichlorobenzene		ND		8.0	78
4-Isopropyltoluene		ND		5.5	78
1,4-Dichlorobenzene		ND		3.9	78
n-Butylbenzene		ND		4.7	78
1,2-Dichlorobenzene		ND		6.6	78
1,2-Dibromo-3-Chloropropane		ND	*	17	78
1,2,4-Trichlorobenzene		ND		7.6	78
1,2,3-Trichlorobenzene		ND		9.4	78
Hexachlorobutadiene		ND		13	78
Naphthalene		ND		5.1	78

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	96	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	88	75 - 125
4-Bromofluorobenzene (Surr)	90	85 - 120
Trifluorotoluene (Surr)	92	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-140**

Lab Sample ID: 580-6773-6 | Date Sampled: 07/31/2007 1505
Client Matrix: Solid | Date Received: 08/03/2007 1000

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008220.D
Dilution: 1.0 | Initial Weight/Volume: 1.97 g
Date Analyzed: 08/09/2007 1541 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		28	200
Chloromethane		ND		37	200
Vinyl chloride		ND		26	81
Bromomethane		ND		140	1000
Chloroethane		ND	*	150	1000
Trichlorofluoromethane		ND		19	200
1,1-Dichloroethene		ND		27	81
Methylene Chloride		ND		31	200
trans-1,2-Dichloroethene		ND		22	200
1,1-Dichloroethane		ND		48	200
2,2-Dichloropropane		ND		24	200
cis-1,2-Dichloroethene		ND		30	200
Chlorobromomethane		ND		24	200
Chloroform		ND		19	200
1,1,1-Trichloroethane		ND		20	81
Carbon tetrachloride		ND	*	15	81
1,1-Dichloropropene		ND		16	200
Benzene		ND		14	41
1,2-Dichloroethane		ND		41	200
Trichloroethene		ND		15	81
1,2-Dichloropropane		ND		13	41
Dibromomethane		ND		37	200
Dichlorobromomethane		ND	*	14	200
cis-1,3-Dichloropropene		ND	*	14	200
Toluene		ND		38	200
trans-1,3-Dichloropropene		ND	*	14	200
1,1,2-Trichloroethane		ND		18	200
Tetrachloroethene		ND	*	37	130
1,3-Dichloropropane		ND		21	81
Chlorodibromomethane		ND	*	13	200
Ethylene Dibromide		ND	*	34	200
Chlorobenzene		ND		61	200
Ethylbenzene		ND		37	200
1,1,1,2-Tetrachloroethane		ND	*	19	200
1,1,2,2-Tetrachloroethane		ND		12	41
m-Xylene & p-Xylene		ND		76	200
o-Xylene		ND		37	200
Styrene		ND		16	200
Bromoform		ND	*	14	200
Isopropylbenzene		ND		31	200
Bromobenzene		ND		18	200
N-Propylbenzene		ND		35	200
1,2,3-Trichloropropane		ND		36	200
2-Chlorotoluene		ND		29	200

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: **MW16-073107-140**

Lab Sample ID: 580-6773-6
Client Matrix: Solid

Date Sampled: 07/31/2007 1505
Date Received: 08/03/2007 1000

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/09/2007 1541
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539

Instrument ID: SEA043
Lab File ID: VB0008220.D
Initial Weight/Volume: 1.97 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		30	200
4-Chlorotoluene		ND		18	200
tert-Butylbenzene		ND		17	200
1,2,4-Trimethylbenzene		ND		35	200
sec-Butylbenzene		ND		8.1	200
1,3-Dichlorobenzene		ND		21	200
4-Isopropyltoluene		1400		14	200
1,4-Dichlorobenzene		ND		10	200
n-Butylbenzene		ND		12	200
1,2-Dichlorobenzene		ND		17	200
1,2-Dibromo-3-Chloropropane		ND	*	45	200
1,2,4-Trichlorobenzene		ND		20	200
1,2,3-Trichlorobenzene		ND		24	200
Hexachlorobutadiene		ND		34	200
Naphthalene		ND		13	200

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	95	75 - 125
Toluene-d8 (Surr)	98	85 - 115
Ethylbenzene-d10	89	75 - 125
4-Bromofluorobenzene (Surr)	88	85 - 120
Trifluorotoluene (Surr)	92	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-160**

Lab Sample ID: 580-6773-7 | Date Sampled: 07/31/2007 1520
Client Matrix: Solid | % Moisture: 38.6 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008221.D
Dilution: 1.0 | Initial Weight/Volume: 6.25 g
Date Analyzed: 08/09/2007 1603 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		15	100
Chloromethane		ND		19	100
Vinyl chloride		ND		14	42
Bromomethane		ND		73	520
Chloroethane		ND	*	76	520
Trichlorofluoromethane		ND		9.9	100
1,1-Dichloroethene		ND		14	42
Methylene Chloride		18	J B	16	100
trans-1,2-Dichloroethene		ND		11	100
1,1-Dichloroethane		ND		25	100
2,2-Dichloropropane		ND		12	100
cis-1,2-Dichloroethene		ND		16	100
Chlorobromomethane		ND		12	100
Chloroform		ND		9.9	100
1,1,1-Trichloroethane		ND		10	42
Carbon tetrachloride		ND	*	7.8	42
1,1-Dichloropropene		ND		8.1	100
Benzene		ND		7.3	21
1,2-Dichloroethane		ND		21	100
Trichloroethene		ND		7.8	42
1,2-Dichloropropane		ND		6.5	21
Dibromomethane		ND		19	100
Dichlorobromomethane		ND	*	7.3	100
cis-1,3-Dichloropropene		ND	*	7.3	100
Toluene		ND		19	100
trans-1,3-Dichloropropene		ND	*	7.3	100
1,1,2-Trichloroethane		ND		9.4	100
Tetrachloroethene		ND	*	19	65
1,3-Dichloropropane		ND		11	42
Chlorodibromomethane		ND	*	6.5	100
Ethylene Dibromide		ND	*	17	100
Chlorobenzene		ND		31	100
Ethylbenzene		ND		19	100
1,1,1,2-Tetrachloroethane		ND	*	9.9	100
1,1,2,2-Tetrachloroethane		ND		6.2	21
m-Xylene & p-Xylene		ND		39	100
o-Xylene		ND		19	100
Styrene		ND		8.3	100
Bromoform		ND	*	7.3	100
Isopropylbenzene		ND		16	100
Bromobenzene		ND		9.4	100
N-Propylbenzene		ND		18	100
1,2,3-Trichloropropane		ND		18	100
2-Chlorotoluene		ND		15	100

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-160**

Lab Sample ID: 580-6773-7 | Date Sampled: 07/31/2007 1520
Client Matrix: Solid | % Moisture: 38.6 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008221.D
Dilution: 1.0 | Initial Weight/Volume: 6.25 g
Date Analyzed: 08/09/2007 1603 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		16	100
4-Chlorotoluene		ND		9.1	100
tert-Butylbenzene		ND		8.9	100
1,2,4-Trimethylbenzene		ND		18	100
sec-Butylbenzene		ND		4.2	100
1,3-Dichlorobenzene		ND		11	100
4-Isopropyltoluene		11	J	7.3	100
1,4-Dichlorobenzene		ND		5.2	100
n-Butylbenzene		ND		6.2	100
1,2-Dichlorobenzene		ND		8.9	100
1,2-Dibromo-3-Chloropropane		ND	*	23	100
1,2,4-Trichlorobenzene		ND		10	100
1,2,3-Trichlorobenzene		ND		12	100
Hexachlorobutadiene		ND		17	100
Naphthalene		ND		6.8	100

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	92	75 - 125
Toluene-d8 (Surr)	98	85 - 115
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	91	85 - 120
Trifluorotoluene (Surr)	87	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW13-080107-060

Lab Sample ID: 580-6773-12 | Date Sampled: 08/01/2007 0905
Client Matrix: Solid | % Moisture: 16.2 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008222.D
Dilution: 1.0 | Initial Weight/Volume: 5.29 g
Date Analyzed: 08/09/2007 1625 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		13	90
Chloromethane		ND		16	90
Vinyl chloride		ND		12	36
Bromomethane		ND		63	450
Chloroethane		ND	*	65	450
Trichlorofluoromethane		ND		8.6	90
1,1-Dichloroethene		ND		12	36
Methylene Chloride		ND		14	90
trans-1,2-Dichloroethene		ND		9.7	90
1,1-Dichloroethane		ND		21	90
2,2-Dichloropropane		ND		11	90
cis-1,2-Dichloroethene		ND		14	90
Chlorobromomethane		ND		11	90
Chloroform		ND		8.6	90
1,1,1-Trichloroethane		ND		8.8	36
Carbon tetrachloride		ND	*	6.8	36
1,1-Dichloropropene		ND		7.0	90
Benzene		ND		6.3	18
1,2-Dichloroethane		ND		18	90
Trichloroethene		ND		6.8	36
1,2-Dichloropropane		ND		5.6	18
Dibromomethane		ND		16	90
Dichlorobromomethane		ND	*	6.3	90
cis-1,3-Dichloropropene		ND	*	6.3	90
Toluene		ND		17	90
trans-1,3-Dichloropropene		ND	*	6.3	90
1,1,2-Trichloroethane		ND		8.1	90
Tetrachloroethene		ND	*	16	56
1,3-Dichloropropane		ND		9.5	36
Chlorodibromomethane		ND	*	5.6	90
Ethylene Dibromide		ND	*	15	90
Chlorobenzene		ND		27	90
Ethylbenzene		ND		16	90
1,1,1,2-Tetrachloroethane		ND	*	8.6	90
1,1,2,2-Tetrachloroethane		ND		5.4	18
m-Xylene & p-Xylene		ND		34	90
o-Xylene		ND		16	90
Styrene		ND		7.2	90
Bromoform		ND	*	6.3	90
Isopropylbenzene		ND		14	90
Bromobenzene		ND		8.1	90
N-Propylbenzene		ND		16	90
1,2,3-Trichloropropane		ND		16	90
2-Chlorotoluene		ND		13	90

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW13-080107-060

Lab Sample ID: 580-6773-12 | Date Sampled: 08/01/2007 0905
Client Matrix: Solid | % Moisture: 16.2 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008222.D
Dilution: 1.0 | Initial Weight/Volume: 5.29 g
Date Analyzed: 08/09/2007 1625 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		14	90
4-Chlorotoluene		ND		7.9	90
tert-Butylbenzene		ND		7.7	90
1,2,4-Trimethylbenzene		ND		16	90
sec-Butylbenzene		ND		3.6	90
1,3-Dichlorobenzene		ND		9.2	90
4-Isopropyltoluene		94		6.3	90
1,4-Dichlorobenzene		ND		4.5	90
n-Butylbenzene		ND		5.4	90
1,2-Dichlorobenzene		ND		7.7	90
1,2-Dibromo-3-Chloropropane		ND	*	20	90
1,2,4-Trichlorobenzene		ND		8.8	90
1,2,3-Trichlorobenzene		ND		11	90
Hexachlorobutadiene		ND		15	90
Naphthalene		85	J	5.9	90

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	95	75 - 125
Toluene-d8 (Surr)	99	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	95	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW13-080107-100**

Lab Sample ID: 580-6773-14 | Date Sampled: 08/01/2007 0915
Client Matrix: Solid | % Moisture: 29.6 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008223.D
Dilution: 1.0 | Initial Weight/Volume: 5.94 g
Date Analyzed: 08/09/2007 1648 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		13	96
Chloromethane		ND		17	96
Vinyl chloride		ND		12	38
Bromomethane		ND		67	480
Chloroethane		ND	*	69	480
Trichlorofluoromethane		ND		9.1	96
1,1-Dichloroethene		ND		13	38
Methylene Chloride		18	J B	15	96
trans-1,2-Dichloroethene		ND		10	96
1,1-Dichloroethane		ND		23	96
2,2-Dichloropropane		ND		11	96
cis-1,2-Dichloroethene		ND		14	96
Chlorobromomethane		ND		11	96
Chloroform		ND		9.1	96
1,1,1-Trichloroethane		ND		9.3	38
Carbon tetrachloride		ND	*	7.2	38
1,1-Dichloropropene		ND		7.4	96
Benzene		ND		6.7	19
1,2-Dichloroethane		ND		19	96
Trichloroethene		ND		7.2	38
1,2-Dichloropropane		ND		6.0	19
Dibromomethane		ND		17	96
Dichlorobromomethane		ND	*	6.7	96
cis-1,3-Dichloropropene		ND	*	6.7	96
Toluene		ND		18	96
trans-1,3-Dichloropropene		ND	*	6.7	96
1,1,2-Trichloroethane		ND		8.6	96
Tetrachloroethene		ND	*	17	60
1,3-Dichloropropane		ND		10	38
Chlorodibromomethane		ND	*	6.0	96
Ethylene Dibromide		ND	*	16	96
Chlorobenzene		ND		29	96
Ethylbenzene		ND		17	96
1,1,1,2-Tetrachloroethane		ND	*	9.1	96
1,1,2,2-Tetrachloroethane		ND		5.7	19
m-Xylene & p-Xylene		ND		36	96
o-Xylene		ND		17	96
Styrene		ND		7.7	96
Bromoform		ND	*	6.7	96
Isopropylbenzene		ND		15	96
Bromobenzene		ND		8.6	96
N-Propylbenzene		ND		17	96
1,2,3-Trichloropropane		ND		17	96
2-Chlorotoluene		ND		14	96

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW13-080107-100**

Lab Sample ID: 580-6773-14 | Date Sampled: 08/01/2007 0915
Client Matrix: Solid | % Moisture: 29.6 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008223.D
Dilution: 1.0 | Initial Weight/Volume: 5.94 g
Date Analyzed: 08/09/2007 1648 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		14	96
4-Chlorotoluene		ND		8.4	96
tert-Butylbenzene		ND		8.1	96
1,2,4-Trimethylbenzene		ND		17	96
sec-Butylbenzene		ND		3.8	96
1,3-Dichlorobenzene		ND		9.8	96
4-Isopropyltoluene		24	J	6.7	96
1,4-Dichlorobenzene		ND		4.8	96
n-Butylbenzene		ND		5.7	96
1,2-Dichlorobenzene		ND		8.1	96
1,2-Dibromo-3-Chloropropane		ND	*	21	96
1,2,4-Trichlorobenzene		ND		9.3	96
1,2,3-Trichlorobenzene		ND		11	96
Hexachlorobutadiene		ND		16	96
Naphthalene		360		6.2	96

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	87	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW12-080107-040**

Lab Sample ID: 580-6773-17 | Date Sampled: 08/01/2007 1050
Client Matrix: Solid | % Moisture: 3.8 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008224.D
Dilution: 1.0 | Initial Weight/Volume: 4.62 g
Date Analyzed: 08/09/2007 1710 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		13	90
Chloromethane		ND		16	90
Vinyl chloride		ND		12	36
Bromomethane		ND		63	450
Chloroethane		ND	*	65	450
Trichlorofluoromethane		ND		8.6	90
1,1-Dichloroethene		ND		12	36
Methylene Chloride		39	J B	14	90
trans-1,2-Dichloroethene		ND		9.7	90
1,1-Dichloroethane		ND		21	90
2,2-Dichloropropane		ND		11	90
cis-1,2-Dichloroethene		ND		14	90
Chlorobromomethane		ND		11	90
Chloroform		ND		8.6	90
1,1,1-Trichloroethane		ND		8.8	36
Carbon tetrachloride		ND	*	6.8	36
1,1-Dichloropropene		ND		7.0	90
Benzene		ND		6.3	18
1,2-Dichloroethane		ND		18	90
Trichloroethene		ND		6.8	36
1,2-Dichloropropane		ND		5.6	18
Dibromomethane		ND		16	90
Dichlorobromomethane		ND	*	6.3	90
cis-1,3-Dichloropropene		ND	*	6.3	90
Toluene		ND		17	90
trans-1,3-Dichloropropene		ND	*	6.3	90
1,1,2-Trichloroethane		ND		8.1	90
Tetrachloroethene		ND	*	16	56
1,3-Dichloropropane		ND		9.5	36
Chlorodibromomethane		ND	*	5.6	90
Ethylene Dibromide		ND	*	15	90
Chlorobenzene		ND		27	90
Ethylbenzene		ND		16	90
1,1,1,2-Tetrachloroethane		ND	*	8.6	90
1,1,2,2-Tetrachloroethane		ND		5.4	18
m-Xylene & p-Xylene		ND		34	90
o-Xylene		ND		16	90
Styrene		ND		7.2	90
Bromoform		ND	*	6.3	90
Isopropylbenzene		ND		14	90
Bromobenzene		ND		8.1	90
N-Propylbenzene		ND		16	90
1,2,3-Trichloropropane		ND		16	90
2-Chlorotoluene		ND		13	90

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW12-080107-040

Lab Sample ID: 580-6773-17 | Date Sampled: 08/01/2007 1050
Client Matrix: Solid | % Moisture: 3.8 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008224.D
Dilution: 1.0 | Initial Weight/Volume: 4.62 g
Date Analyzed: 08/09/2007 1710 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		14	90
4-Chlorotoluene		ND		7.9	90
tert-Butylbenzene		ND		7.7	90
1,2,4-Trimethylbenzene		ND		16	90
sec-Butylbenzene		ND		3.6	90
1,3-Dichlorobenzene		ND		9.2	90
4-Isopropyltoluene		ND		6.3	90
1,4-Dichlorobenzene		ND		4.5	90
n-Butylbenzene		ND		5.4	90
1,2-Dichlorobenzene		ND		7.7	90
1,2-Dibromo-3-Chloropropane		ND	*	20	90
1,2,4-Trichlorobenzene		ND		8.8	90
1,2,3-Trichlorobenzene		ND		11	90
Hexachlorobutadiene		ND		15	90
Naphthalene		6.9	J	5.9	90

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	82	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW12-080107-100**

Lab Sample ID: 580-6773-20 | Date Sampled: 08/01/2007 1105
Client Matrix: Solid | % Moisture: 13.4 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008225.D
Dilution: 1.0 | Initial Weight/Volume: 5.33 g
Date Analyzed: 08/09/2007 1732 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		12	87
Chloromethane		ND		16	87
Vinyl chloride		ND		11	35
Bromomethane		ND		61	430
Chloroethane		ND	*	63	430
Trichlorofluoromethane		ND		8.2	87
1,1-Dichloroethene		ND		11	35
Methylene Chloride		16	J B	13	87
trans-1,2-Dichloroethene		ND		9.3	87
1,1-Dichloroethane		ND		21	87
2,2-Dichloropropane		ND		10	87
cis-1,2-Dichloroethene		ND		13	87
Chlorobromomethane		ND		10	87
Chloroform		ND		8.2	87
1,1,1-Trichloroethane		ND		8.4	35
Carbon tetrachloride		ND	*	6.5	35
1,1-Dichloropropene		ND		6.7	87
Benzene		ND		6.1	17
1,2-Dichloroethane		ND		18	87
Trichloroethene		ND		6.5	35
1,2-Dichloropropane		ND		5.4	17
Dibromomethane		ND		16	87
Dichlorobromomethane		ND	*	6.1	87
cis-1,3-Dichloropropene		ND	*	6.1	87
Toluene		ND		16	87
trans-1,3-Dichloropropene		ND	*	6.1	87
1,1,2-Trichloroethane		ND		7.8	87
Tetrachloroethene		ND	*	16	54
1,3-Dichloropropane		ND		9.1	35
Chlorodibromomethane		ND	*	5.4	87
Ethylene Dibromide		ND	*	14	87
Chlorobenzene		ND		26	87
Ethylbenzene		ND		16	87
1,1,1,2-Tetrachloroethane		ND	*	8.2	87
1,1,2,2-Tetrachloroethane		ND		5.2	17
m-Xylene & p-Xylene		ND		32	87
o-Xylene		ND		16	87
Styrene		ND		6.9	87
Bromoform		ND	*	6.1	87
Isopropylbenzene		ND		13	87
Bromobenzene		ND		7.8	87
N-Propylbenzene		ND		15	87
1,2,3-Trichloropropane		ND		15	87
2-Chlorotoluene		ND		13	87

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW12-080107-100**

Lab Sample ID: 580-6773-20 | Date Sampled: 08/01/2007 1105
Client Matrix: Solid | % Moisture: 13.4 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008225.D
Dilution: 1.0 | Initial Weight/Volume: 5.33 g
Date Analyzed: 08/09/2007 1732 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		13	87
4-Chlorotoluene		ND		7.6	87
tert-Butylbenzene		ND		7.4	87
1,2,4-Trimethylbenzene		ND		15	87
sec-Butylbenzene		ND		3.5	87
1,3-Dichlorobenzene		ND		8.9	87
4-Isopropyltoluene		ND		6.1	87
1,4-Dichlorobenzene		ND		4.3	87
n-Butylbenzene		ND		5.2	87
1,2-Dichlorobenzene		ND		7.4	87
1,2-Dibromo-3-Chloropropane		ND	*	19	87
1,2,4-Trichlorobenzene		ND		8.4	87
1,2,3-Trichlorobenzene		ND		10	87
Hexachlorobutadiene		ND		14	87
Naphthalene		ND		5.6	87

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	96	75 - 125
Toluene-d8 (Surr)	96	85 - 115
Ethylbenzene-d10	89	75 - 125
4-Bromofluorobenzene (Surr)	90	85 - 120
Trifluorotoluene (Surr)	92	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW11-080107-020**

Lab Sample ID: 580-6773-22 | Date Sampled: 08/01/2007 1315
Client Matrix: Solid | % Moisture: 18.4 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008226.D
Dilution: 1.0 | Initial Weight/Volume: 4.83 g
Date Analyzed: 08/09/2007 1755 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		14	100
Chloromethane		ND		19	100
Vinyl chloride		ND		13	41
Bromomethane		ND		71	510
Chloroethane		ND	*	74	510
Trichlorofluoromethane		ND		9.6	100
1,1-Dichloroethene		ND		13	41
Methylene Chloride		30	J B	15	100
trans-1,2-Dichloroethene		ND		11	100
1,1-Dichloroethane		ND		24	100
2,2-Dichloropropane		ND		12	100
cis-1,2-Dichloroethene		ND		15	100
Chlorobromomethane		ND		12	100
Chloroform		ND		9.6	100
1,1,1-Trichloroethane		ND		9.9	41
Carbon tetrachloride		ND	*	7.6	41
1,1-Dichloropropene		ND		7.9	100
Benzene		ND		7.1	20
1,2-Dichloroethane		ND		21	100
Trichloroethene		ND		7.6	41
1,2-Dichloropropane		ND		6.3	20
Dibromomethane		ND		19	100
Dichlorobromomethane		ND	*	7.1	100
cis-1,3-Dichloropropene		ND	*	7.1	100
Toluene		ND		19	100
trans-1,3-Dichloropropene		ND	*	7.1	100
1,1,2-Trichloroethane		ND		9.1	100
Tetrachloroethene		ND	*	19	63
1,3-Dichloropropane		ND		11	41
Chlorodibromomethane		ND	*	6.3	100
Ethylene Dibromide		ND	*	17	100
Chlorobenzene		ND		30	100
Ethylbenzene		ND		18	100
1,1,1,2-Tetrachloroethane		ND	*	9.6	100
1,1,2,2-Tetrachloroethane		ND		6.1	20
m-Xylene & p-Xylene		ND		38	100
o-Xylene		ND		18	100
Styrene		ND		8.1	100
Bromoform		ND	*	7.1	100
Isopropylbenzene		ND		15	100
Bromobenzene		ND		9.1	100
N-Propylbenzene		ND		18	100
1,2,3-Trichloropropane		ND		18	100
2-Chlorotoluene		ND		15	100

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW11-080107-020**

Lab Sample ID: 580-6773-22 | Date Sampled: 08/01/2007 1315
Client Matrix: Solid | % Moisture: 18.4 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008226.D
Dilution: 1.0 | Initial Weight/Volume: 4.83 g
Date Analyzed: 08/09/2007 1755 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		15	100
4-Chlorotoluene		ND		8.9	100
tert-Butylbenzene		ND		8.6	100
1,2,4-Trimethylbenzene		ND		18	100
sec-Butylbenzene		ND		4.1	100
1,3-Dichlorobenzene		ND		10	100
4-Isopropyltoluene		ND		7.1	100
1,4-Dichlorobenzene		ND		5.1	100
n-Butylbenzene		ND		6.1	100
1,2-Dichlorobenzene		ND		8.6	100
1,2-Dibromo-3-Chloropropane		ND	*	22	100
1,2,4-Trichlorobenzene		ND		9.9	100
1,2,3-Trichlorobenzene		ND		12	100
Hexachlorobutadiene		ND		17	100
Naphthalene		ND		6.6	100

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	95	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	86	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW11-080107-100

Lab Sample ID: 580-6773-25 | Date Sampled: 08/01/2007 1330
Client Matrix: Solid | % Moisture: 29.7 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008227.D
Dilution: 1.0 | Initial Weight/Volume: 5.92 g
Date Analyzed: 08/09/2007 1817 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		13	96
Chloromethane		ND		18	96
Vinyl chloride		ND		12	38
Bromomethane		ND		67	480
Chloroethane		ND	*	70	480
Trichlorofluoromethane		ND		9.1	96
1,1-Dichloroethene		ND		13	38
Methylene Chloride		20	J B	15	96
trans-1,2-Dichloroethene		ND		10	96
1,1-Dichloroethane		ND		23	96
2,2-Dichloropropane		ND		11	96
cis-1,2-Dichloroethene		ND		14	96
Chlorobromomethane		ND		12	96
Chloroform		ND		9.1	96
1,1,1-Trichloroethane		ND		9.4	38
Carbon tetrachloride		ND	*	7.2	38
1,1-Dichloropropene		ND		7.4	96
Benzene		ND		6.7	19
1,2-Dichloroethane		ND		19	96
Trichloroethene		ND		7.2	38
1,2-Dichloropropane		ND		6.0	19
Dibromomethane		ND		18	96
Dichlorobromomethane		ND	*	6.7	96
cis-1,3-Dichloropropene		ND	*	6.7	96
Toluene		ND		18	96
trans-1,3-Dichloropropene		ND	*	6.7	96
1,1,2-Trichloroethane		ND		8.6	96
Tetrachloroethene		ND	*	18	60
1,3-Dichloropropane		ND		10	38
Chlorodibromomethane		ND	*	6.0	96
Ethylene Dibromide		ND	*	16	96
Chlorobenzene		ND		29	96
Ethylbenzene		ND		17	96
1,1,1,2-Tetrachloroethane		ND	*	9.1	96
1,1,2,2-Tetrachloroethane		ND		5.8	19
m-Xylene & p-Xylene		ND		36	96
o-Xylene		ND		17	96
Styrene		ND		7.7	96
Bromoform		ND	*	6.7	96
Isopropylbenzene		ND		15	96
Bromobenzene		ND		8.6	96
N-Propylbenzene		ND		17	96
1,2,3-Trichloropropane		ND		17	96
2-Chlorotoluene		ND		14	96

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW11-080107-100**

Lab Sample ID: 580-6773-25 | Date Sampled: 08/01/2007 1330
Client Matrix: Solid | % Moisture: 29.7 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008227.D
Dilution: 1.0 | Initial Weight/Volume: 5.92 g
Date Analyzed: 08/09/2007 1817 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		14	96
4-Chlorotoluene		ND		8.4	96
tert-Butylbenzene		ND		8.2	96
1,2,4-Trimethylbenzene		ND		17	96
sec-Butylbenzene		ND		3.8	96
1,3-Dichlorobenzene		ND		9.8	96
4-Isopropyltoluene		ND		6.7	96
1,4-Dichlorobenzene		ND		4.8	96
n-Butylbenzene		ND		5.8	96
1,2-Dichlorobenzene		ND		8.2	96
1,2-Dibromo-3-Chloropropane		ND	*	21	96
1,2,4-Trichlorobenzene		ND		9.4	96
1,2,3-Trichlorobenzene		ND		12	96
Hexachlorobutadiene		ND		16	96
Naphthalene		ND		6.2	96

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	99	85 - 115
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	88	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW19-080107-040**

Lab Sample ID: 580-6773-30 | Date Sampled: 08/01/2007 1605
Client Matrix: Solid | % Moisture: 37.6 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008228.D
Dilution: 1.0 | Initial Weight/Volume: 5.12 g
Date Analyzed: 08/09/2007 1839 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		18	130
Chloromethane		ND		23	130
Vinyl chloride		ND		16	50
Bromomethane		ND		88	630
Chloroethane		ND	*	91	630
Trichlorofluoromethane		ND		12	130
1,1-Dichloroethene		ND		17	50
Methylene Chloride		22	J B	19	130
trans-1,2-Dichloroethene		ND		13	130
1,1-Dichloroethane		ND		30	130
2,2-Dichloropropane		ND		15	130
cis-1,2-Dichloroethene		ND		19	130
Chlorobromomethane		ND		15	130
Chloroform		ND		12	130
1,1,1-Trichloroethane		ND		12	50
Carbon tetrachloride		ND	*	9.4	50
1,1-Dichloropropene		ND		9.7	130
Benzene		ND		8.8	25
1,2-Dichloroethane		ND		25	130
Trichloroethene		ND		9.4	50
1,2-Dichloropropane		ND		7.8	25
Dibromomethane		ND		23	130
Dichlorobromomethane		ND	*	8.8	130
cis-1,3-Dichloropropene		ND	*	8.8	130
Toluene		ND		23	130
trans-1,3-Dichloropropene		ND	*	8.8	130
1,1,2-Trichloroethane		ND		11	130
Tetrachloroethene		ND	*	23	78
1,3-Dichloropropane		ND		13	50
Chlorodibromomethane		ND	*	7.8	130
Ethylene Dibromide		ND	*	21	130
Chlorobenzene		ND		38	130
Ethylbenzene		ND		23	130
1,1,1,2-Tetrachloroethane		ND	*	12	130
1,1,2,2-Tetrachloroethane		ND		7.5	25
m-Xylene & p-Xylene		ND		47	130
o-Xylene		ND		23	130
Styrene		ND		10	130
Bromoform		ND	*	8.8	130
Isopropylbenzene		ND		19	130
Bromobenzene		ND		11	130
N-Propylbenzene		ND		22	130
1,2,3-Trichloropropane		ND		22	130
2-Chlorotoluene		ND		18	130

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW19-080107-040

Lab Sample ID: 580-6773-30 | Date Sampled: 08/01/2007 1605
Client Matrix: Solid | % Moisture: 37.6 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008228.D
Dilution: 1.0 | Initial Weight/Volume: 5.12 g
Date Analyzed: 08/09/2007 1839 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		27	J	19	130
4-Chlorotoluene		ND		11	130
tert-Butylbenzene		ND		11	130
1,2,4-Trimethylbenzene		87	J	22	130
sec-Butylbenzene		20	J	5.0	130
1,3-Dichlorobenzene		ND		13	130
4-Isopropyltoluene		ND		8.8	130
1,4-Dichlorobenzene		ND		6.3	130
n-Butylbenzene		ND		7.5	130
1,2-Dichlorobenzene		ND		11	130
1,2-Dibromo-3-Chloropropane		ND	*	28	130
1,2,4-Trichlorobenzene		ND		12	130
1,2,3-Trichlorobenzene		ND		15	130
Hexachlorobutadiene		ND		21	130
Naphthalene		210		8.1	130

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	95	75 - 125
Toluene-d8 (Surr)	96	85 - 115
Ethylbenzene-d10	88	75 - 125
4-Bromofluorobenzene (Surr)	90	85 - 120
Trifluorotoluene (Surr)	87	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW19-080107-080

Lab Sample ID: 580-6773-32 | Date Sampled: 08/01/2007 1615
Client Matrix: Solid | % Moisture: 40.4 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008229.D
Dilution: 1.0 | Initial Weight/Volume: 3.21 g
Date Analyzed: 08/09/2007 1902 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		29	210
Chloromethane		ND		38	210
Vinyl chloride		ND		27	84
Bromomethane		ND		150	1000
Chloroethane		ND	*	150	1000
Trichlorofluoromethane		ND		20	210
1,1-Dichloroethene		ND		28	84
Methylene Chloride		49	J B	32	210
trans-1,2-Dichloroethene		ND		22	210
1,1-Dichloroethane		ND		50	210
2,2-Dichloropropane		ND		25	210
cis-1,2-Dichloroethene		ND		31	210
Chlorobromomethane		ND		25	210
Chloroform		ND		20	210
1,1,1-Trichloroethane		ND		20	84
Carbon tetrachloride		ND	*	16	84
1,1-Dichloropropene		ND		16	210
Benzene		ND		15	42
1,2-Dichloroethane		ND		42	210
Trichloroethene		ND		16	84
1,2-Dichloropropane		ND		13	42
Dibromomethane		ND		38	210
Dichlorobromomethane		ND	*	15	210
cis-1,3-Dichloropropene		ND	*	15	210
Toluene		ND		39	210
trans-1,3-Dichloropropene		ND	*	15	210
1,1,2-Trichloroethane		ND		19	210
Tetrachloroethene		ND	*	38	130
1,3-Dichloropropane		ND		22	84
Chlorodibromomethane		ND	*	13	210
Ethylene Dibromide		ND	*	34	210
Chlorobenzene		ND		63	210
Ethylbenzene		ND		38	210
1,1,1,2-Tetrachloroethane		ND	*	20	210
1,1,2,2-Tetrachloroethane		ND		13	42
m-Xylene & p-Xylene		ND		78	210
o-Xylene		ND		38	210
Styrene		ND		17	210
Bromoform		ND	*	15	210
Isopropylbenzene		ND		32	210
Bromobenzene		ND		19	210
N-Propylbenzene		ND		36	210
1,2,3-Trichloropropane		ND		37	210
2-Chlorotoluene		ND		30	210

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW19-080107-080

Lab Sample ID: 580-6773-32 | Date Sampled: 08/01/2007 1615
Client Matrix: Solid | % Moisture: 40.4 | Date Received: 08/02/2007 1325

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008229.D
Dilution: 1.0 | Initial Weight/Volume: 3.21 g
Date Analyzed: 08/09/2007 1902 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		31	210
4-Chlorotoluene		ND		18	210
tert-Butylbenzene		ND		18	210
1,2,4-Trimethylbenzene		ND		36	210
sec-Butylbenzene		ND		8.4	210
1,3-Dichlorobenzene		ND		21	210
4-Isopropyltoluene		ND		15	210
1,4-Dichlorobenzene		ND		10	210
n-Butylbenzene		ND		13	210
1,2-Dichlorobenzene		ND		18	210
1,2-Dibromo-3-Chloropropane		ND	*	46	210
1,2,4-Trichlorobenzene		ND		20	210
1,2,3-Trichlorobenzene		ND		25	210
Hexachlorobutadiene		ND		34	210
Naphthalene		ND		14	210

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	93	75 - 125
Toluene-d8 (Surr)	98	85 - 115
Ethylbenzene-d10	93	75 - 125
4-Bromofluorobenzene (Surr)	91	85 - 120
Trifluorotoluene (Surr)	87	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-040**

Lab Sample ID: 580-6773-2 | Date Sampled: 07/31/2007 1255
Client Matrix: Solid | % Moisture: 10.6 | Date Received: 08/03/2007 1000

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21839 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21754 | Lab File ID: HP05423.D
Dilution: 1.0 | Initial Weight/Volume: 20.1979 g
Date Analyzed: 08/14/2007 2202 | Final Weight/Volume: 2 mL
Date Prepared: 08/14/2007 0726 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		11	11
Bis(2-chloroethyl)ether		ND		11	11
2-Chlorophenol		ND		11	11
1,3-Dichlorobenzene		ND		5.5	5.5
1,4-Dichlorobenzene		ND	*	5.5	5.5
Benzyl alcohol		ND		11	11
1,2-Dichlorobenzene		ND		5.5	5.5
2-Methylphenol		ND		11	11
Bis(2-chloroisopropyl) ether		ND		17	17
3 & 4 Methylphenol		ND		22	22
N-Nitrosodi-n-propylamine		ND		11	11
Hexachloroethane		ND		11	11
Nitrobenzene		ND		11	11
Isophorone		ND		11	11
2-Nitrophenol		ND		11	11
2,4-Dimethylphenol		ND		11	11
Benzoic acid		ND		280	280
Bis(2-chloroethoxy)methane		ND		11	11
2,4-Dichlorophenol		ND		11	11
1,2,4-Trichlorobenzene		ND		5.5	5.5
Naphthalene		ND		2.2	2.2
4-Chloroaniline		ND		11	11
Hexachlorobutadiene		ND		5.5	5.5
4-Chloro-3-methylphenol		ND		11	11
2-Methylnaphthalene		ND		2.2	2.2
Hexachlorocyclopentadiene		ND		11	11
2,4,6-Trichlorophenol		ND		17	17
2,4,5-Trichlorophenol		ND		11	11
2-Chloronaphthalene		ND		2.2	2.2
2-Nitroaniline		ND		11	11
Dimethyl phthalate		ND		11	11
Acenaphthylene		ND		2.2	2.2
2,6-Dinitrotoluene		ND		11	11
3-Nitroaniline		ND	*	11	11
Acenaphthene		ND		2.2	2.2
2,4-Dinitrophenol		ND	*	110	110
4-Nitrophenol		ND		110	110
Dibenzofuran		ND		11	11
2,4-Dinitrotoluene		ND		11	11
Diethyl phthalate		ND		11	11
4-Chlorophenyl phenyl ether		ND		11	11
Fluorene		ND		2.2	2.2
4-Nitroaniline		ND	*	11	11
4,6-Dinitro-2-methylphenol		ND		110	110

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-040**

Lab Sample ID: 580-6773-2 | Date Sampled: 07/31/2007 1255
Client Matrix: Solid | % Moisture: 10.6 | Date Received: 08/03/2007 1000

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21839	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21754	Lab File ID: HP05423.D
Dilution:	1.0		Initial Weight/Volume: 20.1979 g
Date Analyzed:	08/14/2007 2202		Final Weight/Volume: 2 mL
Date Prepared:	08/14/2007 0726		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		5.5	5.5
4-Bromophenyl phenyl ether		ND		11	11
Hexachlorobenzene		ND		5.5	5.5
Pentachlorophenol		ND		11	11
Phenanthrene		8.2		2.2	2.2
Anthracene		ND		2.2	2.2
Di-n-butyl phthalate		ND		22	22
Fluoranthene		9.8		2.2	2.2
Pyrene		9.9		2.2	2.2
Butyl benzyl phthalate		ND		11	11
3,3'-Dichlorobenzidine		ND		22	22
Benzo[a]anthracene		4.2		2.8	2.8
Chrysene		4.3		2.8	2.8
Bis(2-ethylhexyl) phthalate		ND		170	170
Di-n-octyl phthalate		ND		22	22
Benzo[a]pyrene		4.1		3.3	3.3
Indeno[1,2,3-cd]pyrene		ND		4.4	4.4
Dibenz(a,h)anthracene		ND		4.4	4.4
Benzo[g,h,i]perylene		2.9		2.8	2.8
Carbazole		ND		17	17
1-Methylnaphthalene		ND		3.3	3.3
Benzo[b]fluoranthene		4.6		2.2	2.2
Benzo[k]fluoranthene		ND		2.8	2.8

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	41	36 - 145
Phenol-d5	54	38 - 149
Nitrobenzene-d5	73	38 - 141
2-Fluorobiphenyl	69	42 - 140
2,4,6-Tribromophenol	66	28 - 143
Terphenyl-d14	95	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-160**

Lab Sample ID: 580-6773-7 | Date Sampled: 07/31/2007 1520
Client Matrix: Solid | % Moisture: 38.6 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21839 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21754 | Lab File ID: HP05424.D
Dilution: 1.0 | Initial Weight/Volume: 20.3514 g
Date Analyzed: 08/14/2007 2229 | Final Weight/Volume: 2 mL
Date Prepared: 08/14/2007 0726 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		16	16
Bis(2-chloroethyl)ether		ND		16	16
2-Chlorophenol		ND		16	16
1,3-Dichlorobenzene		ND		8.0	8.0
1,4-Dichlorobenzene		ND	*	8.0	8.0
Benzyl alcohol		ND		16	16
1,2-Dichlorobenzene		ND		8.0	8.0
2-Methylphenol		ND		16	16
Bis(2-chloroisopropyl) ether		ND		24	24
3 & 4 Methylphenol		ND		32	32
N-Nitrosodi-n-propylamine		ND		16	16
Hexachloroethane		ND		16	16
Nitrobenzene		ND		16	16
Isophorone		ND		16	16
2-Nitrophenol		ND		16	16
2,4-Dimethylphenol		ND		16	16
Benzoic acid		ND		400	400
Bis(2-chloroethoxy)methane		ND		16	16
2,4-Dichlorophenol		ND		16	16
1,2,4-Trichlorobenzene		ND		8.0	8.0
Naphthalene		ND		3.2	3.2
4-Chloroaniline		ND		16	16
Hexachlorobutadiene		ND		8.0	8.0
4-Chloro-3-methylphenol		ND		16	16
2-Methylnaphthalene		ND		3.2	3.2
Hexachlorocyclopentadiene		ND		16	16
2,4,6-Trichlorophenol		ND		24	24
2,4,5-Trichlorophenol		ND		16	16
2-Chloronaphthalene		ND		3.2	3.2
2-Nitroaniline		ND		16	16
Dimethyl phthalate		ND		16	16
Acenaphthylene		ND		3.2	3.2
2,6-Dinitrotoluene		ND		16	16
3-Nitroaniline		ND	*	16	16
Acenaphthene		ND		3.2	3.2
2,4-Dinitrophenol		ND	*	160	160
4-Nitrophenol		ND		160	160
Dibenzofuran		ND		16	16
2,4-Dinitrotoluene		ND		16	16
Diethyl phthalate		ND		16	16
4-Chlorophenyl phenyl ether		ND		16	16
Fluorene		ND		3.2	3.2
4-Nitroaniline		ND	*	16	16
4,6-Dinitro-2-methylphenol		ND		160	160

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-160**

Lab Sample ID: 580-6773-7 | Date Sampled: 07/31/2007 1520
Client Matrix: Solid | % Moisture: 38.6 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21839	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21754	Lab File ID: HP05424.D
Dilution:	1.0		Initial Weight/Volume: 20.3514 g
Date Analyzed:	08/14/2007 2229		Final Weight/Volume: 2 mL
Date Prepared:	08/14/2007 0726		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		8.0	8.0
4-Bromophenyl phenyl ether		ND		16	16
Hexachlorobenzene		ND		8.0	8.0
Pentachlorophenol		ND		16	16
Phenanthrene		ND		3.2	3.2
Anthracene		ND		3.2	3.2
Di-n-butyl phthalate		ND		32	32
Fluoranthene		ND		3.2	3.2
Pyrene		ND		3.2	3.2
Butyl benzyl phthalate		ND		16	16
3,3'-Dichlorobenzidine		ND		32	32
Benzo[a]anthracene		ND		4.0	4.0
Chrysene		ND		4.0	4.0
Bis(2-ethylhexyl) phthalate		ND		240	240
Di-n-octyl phthalate		ND		32	32
Benzo[a]pyrene		ND		4.8	4.8
Indeno[1,2,3-cd]pyrene		ND		6.4	6.4
Dibenz(a,h)anthracene		ND		6.4	6.4
Benzo[g,h,i]perylene		ND		4.0	4.0
Carbazole		ND		24	24
1-Methylnaphthalene		ND		4.8	4.8
Benzo[b]fluoranthene		ND		3.2	3.2
Benzo[k]fluoranthene		ND		4.0	4.0

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	48	36 - 145
Phenol-d5	64	38 - 149
Nitrobenzene-d5	89	38 - 141
2-Fluorobiphenyl	70	42 - 140
2,4,6-Tribromophenol	67	28 - 143
Terphenyl-d14	99	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW13-080107-060**

Lab Sample ID: 580-6773-12 | Date Sampled: 08/01/2007 0905
Client Matrix: Solid | % Moisture: 16.2 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05327.D
Dilution: 1.0 | Initial Weight/Volume: 10.2559 g
Date Analyzed: 08/09/2007 1811 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		120	120
Bis(2-chloroethyl)ether		ND		120	120
2-Chlorophenol		ND		120	120
1,3-Dichlorobenzene		ND		58	58
1,4-Dichlorobenzene		ND		58	58
Benzyl alcohol		ND		120	120
1,2-Dichlorobenzene		ND		58	58
2-Methylphenol		ND		120	120
Bis(2-chloroisopropyl) ether		ND		170	170
3 & 4 Methylphenol		ND		230	230
N-Nitrosodi-n-propylamine		ND		120	120
Hexachloroethane		ND		120	120
Nitrobenzene		ND		120	120
Isophorone		ND		120	120
2-Nitrophenol		ND		120	120
2,4-Dimethylphenol		ND		120	120
Benzoic acid		ND		2900	2900
Bis(2-chloroethoxy)methane		ND		120	120
2,4-Dichlorophenol		ND		120	120
1,2,4-Trichlorobenzene		ND		58	58
Naphthalene		49		23	23
4-Chloroaniline		ND		120	120
Hexachlorobutadiene		ND		58	58
4-Chloro-3-methylphenol		ND		120	120
2-Methylnaphthalene		29		23	23
Hexachlorocyclopentadiene		ND		120	120
2,4,6-Trichlorophenol		ND		170	170
2,4,5-Trichlorophenol		ND		120	120
2-Chloronaphthalene		ND		23	23
2-Nitroaniline		ND		120	120
Dimethyl phthalate		ND		120	120
Acenaphthylene		ND		23	23
2,6-Dinitrotoluene		ND		120	120
3-Nitroaniline		ND		120	120
Acenaphthene		100		23	23
2,4-Dinitrophenol		ND		1200	1200
4-Nitrophenol		ND		1200	1200
Dibenzofuran		ND		120	120
2,4-Dinitrotoluene		ND		120	120
Diethyl phthalate		ND		120	120
4-Chlorophenyl phenyl ether		ND		120	120
Fluorene		61		23	23
4-Nitroaniline		ND		120	120
4,6-Dinitro-2-methylphenol		ND		1200	1200

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW13-080107-060

Lab Sample ID: 580-6773-12 | Date Sampled: 08/01/2007 0905
Client Matrix: Solid | % Moisture: 16.2 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21765	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21475	Lab File ID: HP05327.D
Dilution:	1.0		Initial Weight/Volume: 10.2559 g
Date Analyzed:	08/09/2007 1811		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		58	58
4-Bromophenyl phenyl ether		ND		120	120
Hexachlorobenzene		ND		58	58
Pentachlorophenol		ND		120	120
Phenanthrene		280		23	23
Anthracene		40		23	23
Di-n-butyl phthalate		ND		230	230
Fluoranthene		110		23	23
Pyrene		95		23	23
Butyl benzyl phthalate		ND		120	120
3,3'-Dichlorobenzidine		ND		230	230
Benzo[a]anthracene		ND		29	29
Chrysene		ND		29	29
Bis(2-ethylhexyl) phthalate		ND		1700	1700
Di-n-octyl phthalate		ND		230	230
Benzo[a]pyrene		ND		35	35
Indeno[1,2,3-cd]pyrene		ND		47	47
Dibenz(a,h)anthracene		ND		47	47
Benzo[g,h,i]perylene		ND		29	29
Carbazole		ND		170	170
1-Methylnaphthalene		ND		35	35
Benzo[b]fluoranthene		ND		23	23
Benzo[k]fluoranthene		ND		29	29

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	81	36 - 145
Phenol-d5	83	38 - 149
Nitrobenzene-d5	134	38 - 141
2-Fluorobiphenyl	104	42 - 140
2,4,6-Tribromophenol	120	28 - 143
Terphenyl-d14	144	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW13-080107-100**

Lab Sample ID: 580-6773-14 | Date Sampled: 08/01/2007 0915
Client Matrix: Solid | % Moisture: 29.6 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05328.D
Dilution: 1.0 | Initial Weight/Volume: 10.6922 g
Date Analyzed: 08/09/2007 1838 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		130	130
Bis(2-chloroethyl)ether		ND		130	130
2-Chlorophenol		ND		130	130
1,3-Dichlorobenzene		ND		66	66
1,4-Dichlorobenzene		ND		66	66
Benzyl alcohol		ND		130	130
1,2-Dichlorobenzene		ND		66	66
2-Methylphenol		ND		130	130
Bis(2-chloroisopropyl) ether		ND		200	200
3 & 4 Methylphenol		ND		270	270
N-Nitrosodi-n-propylamine		ND		130	130
Hexachloroethane		ND		130	130
Nitrobenzene		ND		130	130
Isophorone		ND		130	130
2-Nitrophenol		ND		130	130
2,4-Dimethylphenol		ND		130	130
Benzoic acid		ND		3300	3300
Bis(2-chloroethoxy)methane		ND		130	130
2,4-Dichlorophenol		ND		130	130
1,2,4-Trichlorobenzene		ND		66	66
Naphthalene		350		27	27
4-Chloroaniline		ND		130	130
Hexachlorobutadiene		ND		66	66
4-Chloro-3-methylphenol		ND		130	130
2-Methylnaphthalene		29		27	27
Hexachlorocyclopentadiene		ND		130	130
2,4,6-Trichlorophenol		ND		200	200
2,4,5-Trichlorophenol		ND		130	130
2-Chloronaphthalene		ND		27	27
2-Nitroaniline		ND		130	130
Dimethyl phthalate		ND		130	130
Acenaphthylene		ND		27	27
2,6-Dinitrotoluene		ND		130	130
3-Nitroaniline		ND		130	130
Acenaphthene		47		27	27
2,4-Dinitrophenol		ND		1300	1300
4-Nitrophenol		ND		1300	1300
Dibenzofuran		ND		130	130
2,4-Dinitrotoluene		ND		130	130
Diethyl phthalate		ND		130	130
4-Chlorophenyl phenyl ether		ND		130	130
Fluorene		ND		27	27
4-Nitroaniline		ND		130	130
4,6-Dinitro-2-methylphenol		ND		1300	1300

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW13-080107-100

Lab Sample ID: 580-6773-14 | Date Sampled: 08/01/2007 0915
Client Matrix: Solid | % Moisture: 29.6 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21765	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21475	Lab File ID: HP05328.D
Dilution:	1.0		Initial Weight/Volume: 10.6922 g
Date Analyzed:	08/09/2007 1838		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		66	66
4-Bromophenyl phenyl ether		ND		130	130
Hexachlorobenzene		ND		66	66
Pentachlorophenol		ND		130	130
Phenanthrene		66		27	27
Anthracene		34		27	27
Di-n-butyl phthalate		ND		270	270
Fluoranthene		160		27	27
Pyrene		160		27	27
Butyl benzyl phthalate		ND		130	130
3,3'-Dichlorobenzidine		ND		270	270
Benzo[a]anthracene		88		33	33
Chrysene		100		33	33
Bis(2-ethylhexyl) phthalate		ND		2000	2000
Di-n-octyl phthalate		ND		270	270
Benzo[a]pyrene		60		40	40
Indeno[1,2,3-cd]pyrene		ND		53	53
Dibenz(a,h)anthracene		ND		53	53
Benzo[g,h,i]perylene		ND		33	33
Carbazole		ND		200	200
1-Methylnaphthalene		ND		40	40
Benzo[b]fluoranthene		82		27	27
Benzo[k]fluoranthene		ND		33	33

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	81	36 - 145
Phenol-d5	85	38 - 149
Nitrobenzene-d5	125	38 - 141
2-Fluorobiphenyl	95	42 - 140
2,4,6-Tribromophenol	106	28 - 143
Terphenyl-d14	143	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW12-080107-040**

Lab Sample ID: 580-6773-17 | Date Sampled: 08/01/2007 1050
Client Matrix: Solid | % Moisture: 3.8 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05329.D
Dilution: 1.0 | Initial Weight/Volume: 10.2614 g
Date Analyzed: 08/09/2007 1905 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		100	100
Bis(2-chloroethyl)ether		ND		100	100
2-Chlorophenol		ND		100	100
1,3-Dichlorobenzene		ND		51	51
1,4-Dichlorobenzene		ND		51	51
Benzyl alcohol		ND		100	100
1,2-Dichlorobenzene		ND		51	51
2-Methylphenol		ND		100	100
Bis(2-chloroisopropyl) ether		ND		150	150
3 & 4 Methylphenol		ND		200	200
N-Nitrosodi-n-propylamine		ND		100	100
Hexachloroethane		ND		100	100
Nitrobenzene		ND		100	100
Isophorone		ND		100	100
2-Nitrophenol		ND		100	100
2,4-Dimethylphenol		ND		100	100
Benzoic acid		ND		2500	2500
Bis(2-chloroethoxy)methane		ND		100	100
2,4-Dichlorophenol		ND		100	100
1,2,4-Trichlorobenzene		ND		51	51
Naphthalene		ND		20	20
4-Chloroaniline		ND		100	100
Hexachlorobutadiene		ND		51	51
4-Chloro-3-methylphenol		ND		100	100
2-Methylnaphthalene		ND		20	20
Hexachlorocyclopentadiene		ND		100	100
2,4,6-Trichlorophenol		ND		150	150
2,4,5-Trichlorophenol		ND		100	100
2-Chloronaphthalene		ND		20	20
2-Nitroaniline		ND		100	100
Dimethyl phthalate		ND		100	100
Acenaphthylene		ND		20	20
2,6-Dinitrotoluene		ND		100	100
3-Nitroaniline		ND		100	100
Acenaphthene		ND		20	20
2,4-Dinitrophenol		ND		1000	1000
4-Nitrophenol		ND		1000	1000
Dibenzofuran		ND		100	100
2,4-Dinitrotoluene		ND		100	100
Diethyl phthalate		ND		100	100
4-Chlorophenyl phenyl ether		ND		100	100
Fluorene		ND		20	20
4-Nitroaniline		ND		100	100
4,6-Dinitro-2-methylphenol		ND		1000	1000

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW12-080107-040

Lab Sample ID: 580-6773-17 | Date Sampled: 08/01/2007 1050
Client Matrix: Solid | % Moisture: 3.8 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21765	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21475	Lab File ID: HP05329.D
Dilution:	1.0		Initial Weight/Volume: 10.2614 g
Date Analyzed:	08/09/2007 1905		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		51	51
4-Bromophenyl phenyl ether		ND		100	100
Hexachlorobenzene		ND		51	51
Pentachlorophenol		ND		100	100
Phenanthrene		ND		20	20
Anthracene		ND		20	20
Di-n-butyl phthalate		ND		200	200
Fluoranthene		ND		20	20
Pyrene		ND		20	20
Butyl benzyl phthalate		ND		100	100
3,3'-Dichlorobenzidine		ND		200	200
Benzo[a]anthracene		ND		25	25
Chrysene		ND		25	25
Bis(2-ethylhexyl) phthalate		ND		1500	1500
Di-n-octyl phthalate		ND		200	200
Benzo[a]pyrene		ND		30	30
Indeno[1,2,3-cd]pyrene		ND		41	41
Dibenz(a,h)anthracene		ND		41	41
Benzo[g,h,i]perylene		ND		25	25
Carbazole		ND		150	150
1-Methylnaphthalene		ND		30	30
Benzo[b]fluoranthene		ND		20	20
Benzo[k]fluoranthene		ND		25	25

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	87	36 - 145
Phenol-d5	96	38 - 149
Nitrobenzene-d5	136	38 - 141
2-Fluorobiphenyl	93	42 - 140
2,4,6-Tribromophenol	120	28 - 143
Terphenyl-d14	144	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW12-080107-100**

Lab Sample ID: 580-6773-20 | Date Sampled: 08/01/2007 1105
Client Matrix: Solid | % Moisture: 13.4 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05330.D
Dilution: 1.0 | Initial Weight/Volume: 10.2164 g
Date Analyzed: 08/09/2007 1933 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		110	110
Bis(2-chloroethyl)ether		ND		110	110
2-Chlorophenol		ND		110	110
1,3-Dichlorobenzene		ND		56	56
1,4-Dichlorobenzene		ND		56	56
Benzyl alcohol		ND		110	110
1,2-Dichlorobenzene		ND		56	56
2-Methylphenol		ND		110	110
Bis(2-chloroisopropyl) ether		ND		170	170
3 & 4 Methylphenol		ND		230	230
N-Nitrosodi-n-propylamine		ND		110	110
Hexachloroethane		ND		110	110
Nitrobenzene		ND		110	110
Isophorone		ND		110	110
2-Nitrophenol		ND		110	110
2,4-Dimethylphenol		ND		110	110
Benzoic acid		ND		2800	2800
Bis(2-chloroethoxy)methane		ND		110	110
2,4-Dichlorophenol		ND		110	110
1,2,4-Trichlorobenzene		ND		56	56
Naphthalene		ND		23	23
4-Chloroaniline		ND		110	110
Hexachlorobutadiene		ND		56	56
4-Chloro-3-methylphenol		ND		110	110
2-Methylnaphthalene		ND		23	23
Hexachlorocyclopentadiene		ND		110	110
2,4,6-Trichlorophenol		ND		170	170
2,4,5-Trichlorophenol		ND		110	110
2-Chloronaphthalene		ND		23	23
2-Nitroaniline		ND		110	110
Dimethyl phthalate		ND		110	110
Acenaphthylene		ND		23	23
2,6-Dinitrotoluene		ND		110	110
3-Nitroaniline		ND		110	110
Acenaphthene		ND		23	23
2,4-Dinitrophenol		ND		1100	1100
4-Nitrophenol		ND		1100	1100
Dibenzofuran		ND		110	110
2,4-Dinitrotoluene		ND		110	110
Diethyl phthalate		ND		110	110
4-Chlorophenyl phenyl ether		ND		110	110
Fluorene		ND		23	23
4-Nitroaniline		ND		110	110
4,6-Dinitro-2-methylphenol		ND		1100	1100

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW12-080107-100

Lab Sample ID: 580-6773-20 | Date Sampled: 08/01/2007 1105
Client Matrix: Solid | % Moisture: 13.4 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05330.D
Dilution: 1.0 | Initial Weight/Volume: 10.2164 g
Date Analyzed: 08/09/2007 1933 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		56	56
4-Bromophenyl phenyl ether		ND		110	110
Hexachlorobenzene		ND		56	56
Pentachlorophenol		ND		110	110
Phenanthrene		ND		23	23
Anthracene		ND		23	23
Di-n-butyl phthalate		ND		230	230
Fluoranthene		ND		23	23
Pyrene		ND		23	23
Butyl benzyl phthalate		ND		110	110
3,3'-Dichlorobenzidine		ND		230	230
Benzo[a]anthracene		ND		28	28
Chrysene		ND		28	28
Bis(2-ethylhexyl) phthalate		ND		1700	1700
Di-n-octyl phthalate		ND		230	230
Benzo[a]pyrene		ND		34	34
Indeno[1,2,3-cd]pyrene		ND		45	45
Dibenz(a,h)anthracene		ND		45	45
Benzo[g,h,i]perylene		ND		28	28
Carbazole		ND		170	170
1-Methylnaphthalene		ND		34	34
Benzo[b]fluoranthene		ND		23	23
Benzo[k]fluoranthene		ND		28	28

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	69	36 - 145
Phenol-d5	38	38 - 149
Nitrobenzene-d5	121	38 - 141
2-Fluorobiphenyl	93	42 - 140
2,4,6-Tribromophenol	126	28 - 143
Terphenyl-d14	144	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW11-080107-020

Lab Sample ID: 580-6773-22 | Date Sampled: 08/01/2007 1315
Client Matrix: Solid | % Moisture: 18.4 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05331.D
Dilution: 1.0 | Initial Weight/Volume: 10.5276 g
Date Analyzed: 08/09/2007 2000 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		120	120
Bis(2-chloroethyl)ether		ND		120	120
2-Chlorophenol		ND		120	120
1,3-Dichlorobenzene		ND		58	58
1,4-Dichlorobenzene		ND		58	58
Benzyl alcohol		ND		120	120
1,2-Dichlorobenzene		ND		58	58
2-Methylphenol		ND		120	120
Bis(2-chloroisopropyl) ether		ND		170	170
3 & 4 Methylphenol		ND		230	230
N-Nitrosodi-n-propylamine		ND		120	120
Hexachloroethane		ND		120	120
Nitrobenzene		ND		120	120
Isophorone		ND		120	120
2-Nitrophenol		ND		120	120
2,4-Dimethylphenol		ND		120	120
Benzoic acid		ND		2900	2900
Bis(2-chloroethoxy)methane		ND		120	120
2,4-Dichlorophenol		ND		120	120
1,2,4-Trichlorobenzene		ND		58	58
Naphthalene		ND		23	23
4-Chloroaniline		ND		120	120
Hexachlorobutadiene		ND		58	58
4-Chloro-3-methylphenol		ND		120	120
2-Methylnaphthalene		ND		23	23
Hexachlorocyclopentadiene		ND		120	120
2,4,6-Trichlorophenol		ND		170	170
2,4,5-Trichlorophenol		ND		120	120
2-Chloronaphthalene		ND		23	23
2-Nitroaniline		ND		120	120
Dimethyl phthalate		ND		120	120
Acenaphthylene		ND		23	23
2,6-Dinitrotoluene		ND		120	120
3-Nitroaniline		ND		120	120
Acenaphthene		ND		23	23
2,4-Dinitrophenol		ND		1200	1200
4-Nitrophenol		ND		1200	1200
Dibenzofuran		ND		120	120
2,4-Dinitrotoluene		ND		120	120
Diethyl phthalate		ND		120	120
4-Chlorophenyl phenyl ether		ND		120	120
Fluorene		ND		23	23
4-Nitroaniline		ND		120	120
4,6-Dinitro-2-methylphenol		ND		1200	1200

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW11-080107-020

Lab Sample ID: 580-6773-22 | Date Sampled: 08/01/2007 1315
Client Matrix: Solid | % Moisture: 18.4 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21765	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21475	Lab File ID: HP05331.D
Dilution:	1.0		Initial Weight/Volume: 10.5276 g
Date Analyzed:	08/09/2007 2000		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		58	58
4-Bromophenyl phenyl ether		ND		120	120
Hexachlorobenzene		ND		58	58
Pentachlorophenol		ND		120	120
Phenanthrene		ND		23	23
Anthracene		ND		23	23
Di-n-butyl phthalate		ND		230	230
Fluoranthene		ND		23	23
Pyrene		ND		23	23
Butyl benzyl phthalate		ND		120	120
3,3'-Dichlorobenzidine		ND		230	230
Benzo[a]anthracene		ND		29	29
Chrysene		ND		29	29
Bis(2-ethylhexyl) phthalate		ND		1700	1700
Di-n-octyl phthalate		ND		230	230
Benzo[a]pyrene		ND		35	35
Indeno[1,2,3-cd]pyrene		ND		47	47
Dibenz(a,h)anthracene		ND		47	47
Benzo[g,h,i]perylene		ND		29	29
Carbazole		ND		170	170
1-Methylnaphthalene		ND		35	35
Benzo[b]fluoranthene		ND		23	23
Benzo[k]fluoranthene		ND		29	29

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	82	36 - 145
Phenol-d5	91	38 - 149
Nitrobenzene-d5	129	38 - 141
2-Fluorobiphenyl	95	42 - 140
2,4,6-Tribromophenol	119	28 - 143
Terphenyl-d14	131	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW11-080107-100**

Lab Sample ID: 580-6773-25 | Date Sampled: 08/01/2007 1330
Client Matrix: Solid | % Moisture: 29.7 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05332.D
Dilution: 1.0 | Initial Weight/Volume: 10.4481 g
Date Analyzed: 08/09/2007 2028 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		140	140
Bis(2-chloroethyl)ether		ND		140	140
2-Chlorophenol		ND		140	140
1,3-Dichlorobenzene		ND		68	68
1,4-Dichlorobenzene		ND		68	68
Benzyl alcohol		ND		140	140
1,2-Dichlorobenzene		ND		68	68
2-Methylphenol		ND		140	140
Bis(2-chloroisopropyl) ether		ND		200	200
3 & 4 Methylphenol		ND		270	270
N-Nitrosodi-n-propylamine		ND		140	140
Hexachloroethane		ND		140	140
Nitrobenzene		ND		140	140
Isophorone		ND		140	140
2-Nitrophenol		ND		140	140
2,4-Dimethylphenol		ND		140	140
Benzoic acid		ND		3400	3400
Bis(2-chloroethoxy)methane		ND		140	140
2,4-Dichlorophenol		ND		140	140
1,2,4-Trichlorobenzene		ND		68	68
Naphthalene		ND		27	27
4-Chloroaniline		ND		140	140
Hexachlorobutadiene		ND		68	68
4-Chloro-3-methylphenol		ND		140	140
2-Methylnaphthalene		ND		27	27
Hexachlorocyclopentadiene		ND		140	140
2,4,6-Trichlorophenol		ND		200	200
2,4,5-Trichlorophenol		ND		140	140
2-Chloronaphthalene		ND		27	27
2-Nitroaniline		ND		140	140
Dimethyl phthalate		ND		140	140
Acenaphthylene		ND		27	27
2,6-Dinitrotoluene		ND		140	140
3-Nitroaniline		ND		140	140
Acenaphthene		ND		27	27
2,4-Dinitrophenol		ND		1400	1400
4-Nitrophenol		ND		1400	1400
Dibenzofuran		ND		140	140
2,4-Dinitrotoluene		ND		140	140
Diethyl phthalate		ND		140	140
4-Chlorophenyl phenyl ether		ND		140	140
Fluorene		ND		27	27
4-Nitroaniline		ND		140	140
4,6-Dinitro-2-methylphenol		ND		1400	1400

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW11-080107-100**

Lab Sample ID: 580-6773-25 | Date Sampled: 08/01/2007 1330
Client Matrix: Solid | % Moisture: 29.7 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05332.D
Dilution: 1.0 | Initial Weight/Volume: 10.4481 g
Date Analyzed: 08/09/2007 2028 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		68	68
4-Bromophenyl phenyl ether		ND		140	140
Hexachlorobenzene		ND		68	68
Pentachlorophenol		ND		140	140
Phenanthrene		ND		27	27
Anthracene		ND		27	27
Di-n-butyl phthalate		ND		270	270
Fluoranthene		ND		27	27
Pyrene		ND		27	27
Butyl benzyl phthalate		ND		140	140
3,3'-Dichlorobenzidine		ND		270	270
Benzo[a]anthracene		ND		34	34
Chrysene		ND		34	34
Bis(2-ethylhexyl) phthalate		ND		2000	2000
Di-n-octyl phthalate		ND		270	270
Benzo[a]pyrene		ND		41	41
Indeno[1,2,3-cd]pyrene		ND		54	54
Dibenz(a,h)anthracene		ND		54	54
Benzo[g,h,i]perylene		ND		34	34
Carbazole		ND		200	200
1-Methylnaphthalene		ND		41	41
Benzo[b]fluoranthene		ND		27	27
Benzo[k]fluoranthene		ND		34	34

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	77	36 - 145
Phenol-d5	84	38 - 149
Nitrobenzene-d5	125	38 - 141
2-Fluorobiphenyl	99	42 - 140
2,4,6-Tribromophenol	106	28 - 143
Terphenyl-d14	136	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: DP23-080107-120

Lab Sample ID: 580-6773-26 | Date Sampled: 08/01/2007 1455
Client Matrix: Solid | % Moisture: 17.3 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05333.D
Dilution: 1.0 | Initial Weight/Volume: 10.1054 g
Date Analyzed: 08/09/2007 2055 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Benzo[a]anthracene		ND		30	30
Chrysene		ND		30	30
Benzo[a]pyrene		ND		36	36
Indeno[1,2,3-cd]pyrene		ND		48	48
Dibenz(a,h)anthracene		ND		48	48
Benzo[b]fluoranthene		ND		24	24
Benzo[k]fluoranthene		ND		30	30

Surrogate	%Rec		Acceptance Limits
Nitrobenzene-d5	135		38 - 141
2-Fluorobiphenyl	102		42 - 140
Terphenyl-d14	154	X	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW19-080107-040**

Lab Sample ID: 580-6773-30 | Date Sampled: 08/01/2007 1605
Client Matrix: Solid | % Moisture: 37.6 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05334.D
Dilution: 1.0 | Initial Weight/Volume: 10.7488 g
Date Analyzed: 08/09/2007 2123 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		150	150
Bis(2-chloroethyl)ether		ND		150	150
2-Chlorophenol		ND		150	150
1,3-Dichlorobenzene		ND		74	74
1,4-Dichlorobenzene		ND		74	74
Benzyl alcohol		ND		150	150
1,2-Dichlorobenzene		ND		74	74
2-Methylphenol		ND		150	150
Bis(2-chloroisopropyl) ether		ND		220	220
3 & 4 Methylphenol		ND		300	300
N-Nitrosodi-n-propylamine		ND		150	150
Hexachloroethane		ND		150	150
Nitrobenzene		ND		150	150
Isophorone		ND		150	150
2-Nitrophenol		ND		150	150
2,4-Dimethylphenol		ND		150	150
Benzoic acid		ND		3700	3700
Bis(2-chloroethoxy)methane		ND		150	150
2,4-Dichlorophenol		ND		150	150
1,2,4-Trichlorobenzene		ND		74	74
Naphthalene		ND		30	30
4-Chloroaniline		ND		150	150
Hexachlorobutadiene		ND		74	74
4-Chloro-3-methylphenol		ND		150	150
2-Methylnaphthalene		ND		30	30
Hexachlorocyclopentadiene		ND		150	150
2,4,6-Trichlorophenol		ND		220	220
2,4,5-Trichlorophenol		ND		150	150
2-Chloronaphthalene		ND		30	30
2-Nitroaniline		ND		150	150
Dimethyl phthalate		ND		150	150
Acenaphthylene		ND		30	30
2,6-Dinitrotoluene		ND		150	150
3-Nitroaniline		ND		150	150
Acenaphthene		ND		30	30
2,4-Dinitrophenol		ND		1500	1500
4-Nitrophenol		ND		1500	1500
Dibenzofuran		ND		150	150
2,4-Dinitrotoluene		ND		150	150
Diethyl phthalate		ND		150	150
4-Chlorophenyl phenyl ether		ND		150	150
Fluorene		ND		30	30
4-Nitroaniline		ND		150	150
4,6-Dinitro-2-methylphenol		ND		1500	1500

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW19-080107-040**

Lab Sample ID: 580-6773-30 | Date Sampled: 08/01/2007 1605
Client Matrix: Solid | % Moisture: 37.6 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05334.D
Dilution: 1.0 | Initial Weight/Volume: 10.7488 g
Date Analyzed: 08/09/2007 2123 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		74	74
4-Bromophenyl phenyl ether		ND		150	150
Hexachlorobenzene		ND		74	74
Pentachlorophenol		ND		150	150
Phenanthrene		ND		30	30
Anthracene		ND		30	30
Di-n-butyl phthalate		ND		300	300
Fluoranthene		ND		30	30
Pyrene		ND		30	30
Butyl benzyl phthalate		ND		150	150
3,3'-Dichlorobenzidine		ND		300	300
Benzo[a]anthracene		ND		37	37
Chrysene		ND		37	37
Bis(2-ethylhexyl) phthalate		ND		2200	2200
Di-n-octyl phthalate		ND		300	300
Benzo[a]pyrene		ND		45	45
Indeno[1,2,3-cd]pyrene		ND		60	60
Dibenz(a,h)anthracene		ND		60	60
Benzo[g,h,i]perylene		ND		37	37
Carbazole		ND		220	220
1-Methylnaphthalene		ND		45	45
Benzo[b]fluoranthene		ND		30	30
Benzo[k]fluoranthene		ND		37	37

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	74	36 - 145
Phenol-d5	68	38 - 149
Nitrobenzene-d5	133	38 - 141
2-Fluorobiphenyl	75	42 - 140
2,4,6-Tribromophenol	120	28 - 143
Terphenyl-d14	149	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW19-080107-080

Lab Sample ID: 580-6773-32 | Date Sampled: 08/01/2007 1615
Client Matrix: Solid | % Moisture: 40.4 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05335.D
Dilution: 1.0 | Initial Weight/Volume: 10.5209 g
Date Analyzed: 08/09/2007 2150 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		160	160
Bis(2-chloroethyl)ether		ND		160	160
2-Chlorophenol		ND		160	160
1,3-Dichlorobenzene		ND		80	80
1,4-Dichlorobenzene		ND		80	80
Benzyl alcohol		ND		160	160
1,2-Dichlorobenzene		ND		80	80
2-Methylphenol		ND		160	160
Bis(2-chloroisopropyl) ether		ND		240	240
3 & 4 Methylphenol		ND		320	320
N-Nitrosodi-n-propylamine		ND		160	160
Hexachloroethane		ND		160	160
Nitrobenzene		ND		160	160
Isophorone		ND		160	160
2-Nitrophenol		ND		160	160
2,4-Dimethylphenol		ND		160	160
Benzoic acid		ND		4000	4000
Bis(2-chloroethoxy)methane		ND		160	160
2,4-Dichlorophenol		ND		160	160
1,2,4-Trichlorobenzene		ND		80	80
Naphthalene		ND		32	32
4-Chloroaniline		ND		160	160
Hexachlorobutadiene		ND		80	80
4-Chloro-3-methylphenol		ND		160	160
2-Methylnaphthalene		ND		32	32
Hexachlorocyclopentadiene		ND		160	160
2,4,6-Trichlorophenol		ND		240	240
2,4,5-Trichlorophenol		ND		160	160
2-Chloronaphthalene		ND		32	32
2-Nitroaniline		ND		160	160
Dimethyl phthalate		ND		160	160
Acenaphthylene		ND		32	32
2,6-Dinitrotoluene		ND		160	160
3-Nitroaniline		ND		160	160
Acenaphthene		ND		32	32
2,4-Dinitrophenol		ND		1600	1600
4-Nitrophenol		ND		1600	1600
Dibenzofuran		ND		160	160
2,4-Dinitrotoluene		ND		160	160
Diethyl phthalate		ND		160	160
4-Chlorophenyl phenyl ether		ND		160	160
Fluorene		ND		32	32
4-Nitroaniline		ND		160	160
4,6-Dinitro-2-methylphenol		ND		1600	1600

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW19-080107-080

Lab Sample ID: 580-6773-32 | Date Sampled: 08/01/2007 1615
Client Matrix: Solid | % Moisture: 40.4 | Date Received: 08/02/2007 1325

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21765	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21475	Lab File ID: HP05335.D
Dilution:	1.0		Initial Weight/Volume: 10.5209 g
Date Analyzed:	08/09/2007 2150		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		80	80
4-Bromophenyl phenyl ether		ND		160	160
Hexachlorobenzene		ND		80	80
Pentachlorophenol		ND		160	160
Phenanthrene		ND		32	32
Anthracene		ND		32	32
Di-n-butyl phthalate		ND		320	320
Fluoranthene		ND		32	32
Pyrene		ND		32	32
Butyl benzyl phthalate		ND		160	160
3,3'-Dichlorobenzidine		ND		320	320
Benzo[a]anthracene		ND		40	40
Chrysene		ND		40	40
Bis(2-ethylhexyl) phthalate		ND		2400	2400
Di-n-octyl phthalate		ND		320	320
Benzo[a]pyrene		ND		48	48
Indeno[1,2,3-cd]pyrene		ND		64	64
Dibenz(a,h)anthracene		ND		64	64
Benzo[g,h,i]perylene		ND		40	40
Carbazole		ND		240	240
1-Methylnaphthalene		ND		48	48
Benzo[b]fluoranthene		ND		32	32
Benzo[k]fluoranthene		ND		40	40

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	71	36 - 145
Phenol-d5	72	38 - 149
Nitrobenzene-d5	130	38 - 141
2-Fluorobiphenyl	84	42 - 140
2,4,6-Tribromophenol	106	28 - 143
Terphenyl-d14	148	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: **MW16-073107-040**

Lab Sample ID: 580-6773-2 | Date Sampled: 07/31/2007 1255
Client Matrix: Solid | % Moisture: 10.6 | Date Received: 08/03/2007 1000

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171556.D
Dilution: 1.0 | Initial Weight/Volume: 5.74 g
Date Analyzed: 08/13/2007 0104 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		7.8	7.8

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	99	50 - 150
Ethylbenzene-d10	119	50 - 150
Fluorobenzene (Surr)	90	50 - 150
Toluene-d8 (Surr)	110	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW16-073107-160

Lab Sample ID: 580-6773-7 | Date Sampled: 07/31/2007 1520
Client Matrix: Solid | % Moisture: 38.6 | Date Received: 08/02/2007 1325

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171557.D
Dilution: 1.0 | Initial Weight/Volume: 6.25 g
Date Analyzed: 08/13/2007 0125 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		10	10

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	92	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW13-080107-060

Lab Sample ID: 580-6773-12 | Date Sampled: 08/01/2007 0905
Client Matrix: Solid | % Moisture: 16.2 | Date Received: 08/02/2007 1325

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171558.D
Dilution: 1.0 | Initial Weight/Volume: 5.29 g
Date Analyzed: 08/13/2007 0147 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		14		9.0	9.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	93	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	90	50 - 150
Toluene-d8 (Surr)	110	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW13-080107-100

Lab Sample ID: 580-6773-14 | Date Sampled: 08/01/2007 0915
Client Matrix: Solid | % Moisture: 29.6 | Date Received: 08/02/2007 1325

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171559.D
Dilution: 1.0 | Initial Weight/Volume: 5.94 g
Date Analyzed: 08/13/2007 0208 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		24		9.6	9.6

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	101	50 - 150
Trifluorotoluene (Surr)	93	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW12-080107-040

Lab Sample ID: 580-6773-17 | Date Sampled: 08/01/2007 1050
Client Matrix: Solid | % Moisture: 3.8 | Date Received: 08/02/2007 1325

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171560.D
Dilution: 1.0 | Initial Weight/Volume: 4.62 g
Date Analyzed: 08/13/2007 0230 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		9.0	9.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	95	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW12-080107-100

Lab Sample ID: 580-6773-20 | Date Sampled: 08/01/2007 1105
Client Matrix: Solid | % Moisture: 13.4 | Date Received: 08/02/2007 1325

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171561.D
Dilution: 1.0 | Initial Weight/Volume: 5.33 g
Date Analyzed: 08/13/2007 0251 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		8.7	8.7

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	95	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW11-080107-020

Lab Sample ID: 580-6773-22 | Date Sampled: 08/01/2007 1315
Client Matrix: Solid | % Moisture: 18.4 | Date Received: 08/02/2007 1325

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171562.D
Dilution: 1.0 | Initial Weight/Volume: 4.83 g
Date Analyzed: 08/13/2007 0312 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		10	10

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	98	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW11-080107-100

Lab Sample ID: 580-6773-25 | Date Sampled: 08/01/2007 1330
Client Matrix: Solid | % Moisture: 29.7 | Date Received: 08/02/2007 1325

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171563.D
Dilution: 1.0 | Initial Weight/Volume: 5.92 g
Date Analyzed: 08/13/2007 0827 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		9.6	9.6

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	100	50 - 150
Trifluorotoluene (Surr)	89	50 - 150
Ethylbenzene-d10	117	50 - 150
Fluorobenzene (Surr)	87	50 - 150
Toluene-d8 (Surr)	108	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW19-080107-040

Lab Sample ID: 580-6773-30 | Date Sampled: 08/01/2007 1605
Client Matrix: Solid | % Moisture: 37.6 | Date Received: 08/02/2007 1325

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171575.D
Dilution: 1.0 | Initial Weight/Volume: 5.12 g
Date Analyzed: 08/13/2007 1243 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		220		13	13

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	104	50 - 150
Trifluorotoluene (Surr)	91	50 - 150
Ethylbenzene-d10	119	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	110	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW19-080107-080

Lab Sample ID: 580-6773-32 | Date Sampled: 08/01/2007 1615
Client Matrix: Solid | % Moisture: 40.4 | Date Received: 08/02/2007 1325

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171564.D
Dilution: 1.0 | Initial Weight/Volume: 3.21 g
Date Analyzed: 08/13/2007 0849 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		21	21

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	101	50 - 150
Trifluorotoluene (Surr)	89	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	88	50 - 150
Toluene-d8 (Surr)	108	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW16-073107-040

Lab Sample ID: 580-6773-2
Client Matrix: Solid
% Moisture: 10.6
Date Sampled: 07/31/2007 1255
Date Received: 08/03/2007 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/09/2007 0201
Date Prepared: 08/08/2007 0956
Analysis Batch: 580-21776
Prep Batch: 580-21510
Instrument ID: SEA034
Lab File ID: PCB9915.D
Initial Weight/Volume: 10.4201 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.11	0.11
PCB-1221		ND		0.11	0.11
PCB-1232		ND		0.11	0.11
PCB-1242		ND		0.11	0.11
PCB-1248		ND		0.11	0.11
PCB-1254		ND		0.11	0.11
PCB-1260		ND	*	0.11	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	75	45 - 155
DCB Decachlorobiphenyl	77	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW16-073107-160

Lab Sample ID: 580-6773-7 | Date Sampled: 07/31/2007 1520
Client Matrix: Solid | % Moisture: 38.6 | Date Received: 08/02/2007 1325

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-21776 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-21510 | Lab File ID: PCB9916.D
Dilution: 5.0 | Initial Weight/Volume: 10.8006 g
Date Analyzed: 08/09/2007 0224 | Final Weight/Volume: 20 mL
Date Prepared: 08/08/2007 0956 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.15	0.15
PCB-1221		ND		0.15	0.15
PCB-1232		ND		0.15	0.15
PCB-1242		ND		0.15	0.15
PCB-1248		ND		0.15	0.15
PCB-1254		ND		0.15	0.15
PCB-1260		ND	*	0.15	0.15

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	89	45 - 155
DCB Decachlorobiphenyl	96	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW13-080107-060

Lab Sample ID: 580-6773-12
Client Matrix: Solid
% Moisture: 16.2
Date Sampled: 08/01/2007 0905
Date Received: 08/02/2007 1325

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/09/2007 0248
Date Prepared: 08/08/2007 0956
Analysis Batch: 580-21776
Prep Batch: 580-21510
Instrument ID: SEA034
Lab File ID: PCB9917.D
Initial Weight/Volume: 10.9784 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.11	0.11
PCB-1221		ND		0.11	0.11
PCB-1232		ND		0.11	0.11
PCB-1242		ND		0.11	0.11
PCB-1248		ND		0.11	0.11
PCB-1254		ND		0.11	0.11
PCB-1260		ND	*	0.11	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	83	45 - 155
DCB Decachlorobiphenyl	84	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW13-080107-100

Lab Sample ID: 580-6773-14 | Date Sampled: 08/01/2007 0915
Client Matrix: Solid | % Moisture: 29.6 | Date Received: 08/02/2007 1325

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-21776 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-21510 | Lab File ID: PCB9920.D
Dilution: 5.0 | Initial Weight/Volume: 10.1804 g
Date Analyzed: 08/09/2007 0359 | Final Weight/Volume: 20 mL
Date Prepared: 08/08/2007 0956 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.14	0.14
PCB-1221		ND		0.14	0.14
PCB-1232		ND		0.14	0.14
PCB-1242		ND		0.14	0.14
PCB-1248		ND		0.14	0.14
PCB-1254		ND		0.14	0.14
PCB-1260		ND	*	0.14	0.14

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	90	45 - 155
DCB Decachlorobiphenyl	88	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW12-080107-040

Lab Sample ID: 580-6773-17
Client Matrix: Solid
% Moisture: 3.8
Date Sampled: 08/01/2007 1050
Date Received: 08/02/2007 1325

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/09/2007 0423
Date Prepared: 08/08/2007 0956
Analysis Batch: 580-21776
Prep Batch: 580-21510
Instrument ID: SEA034
Lab File ID: PCB9921.D
Initial Weight/Volume: 10.4976 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.099	0.099
PCB-1221		ND		0.099	0.099
PCB-1232		ND		0.099	0.099
PCB-1242		ND		0.099	0.099
PCB-1248		ND		0.099	0.099
PCB-1254		ND		0.099	0.099
PCB-1260		ND	*	0.099	0.099

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	73	45 - 155
DCB Decachlorobiphenyl	76	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW12-080107-100

Lab Sample ID: 580-6773-20
Client Matrix: Solid
% Moisture: 13.4
Date Sampled: 08/01/2007 1105
Date Received: 08/02/2007 1325

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/09/2007 0447
Date Prepared: 08/08/2007 0956
Analysis Batch: 580-21776
Prep Batch: 580-21510
Instrument ID: SEA034
Lab File ID: PCB9922.D
Initial Weight/Volume: 10.4752 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.11	0.11
PCB-1221		ND		0.11	0.11
PCB-1232		ND		0.11	0.11
PCB-1242		ND		0.11	0.11
PCB-1248		ND		0.11	0.11
PCB-1254		ND		0.11	0.11
PCB-1260		ND	*	0.11	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	69	45 - 155
DCB Decachlorobiphenyl	89	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW11-080107-020

Lab Sample ID: 580-6773-22 | Date Sampled: 08/01/2007 1315
Client Matrix: Solid | % Moisture: 18.4 | Date Received: 08/02/2007 1325

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-21776 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-21510 | Lab File ID: PCB9923.D
Dilution: 5.0 | Initial Weight/Volume: 10.3739 g
Date Analyzed: 08/09/2007 0510 | Final Weight/Volume: 20 mL
Date Prepared: 08/08/2007 0956 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.12	0.12
PCB-1221		ND		0.12	0.12
PCB-1232		ND		0.12	0.12
PCB-1242		ND		0.12	0.12
PCB-1248		ND		0.12	0.12
PCB-1254		ND		0.12	0.12
PCB-1260		ND	*	0.12	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	82	45 - 155
DCB Decachlorobiphenyl	87	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW11-080107-100

Lab Sample ID: 580-6773-25
Client Matrix: Solid
% Moisture: 29.7
Date Sampled: 08/01/2007 1330
Date Received: 08/02/2007 1325

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/09/2007 0621
Date Prepared: 08/08/2007 0956
Analysis Batch: 580-21776
Prep Batch: 580-21510
Instrument ID: SEA034
Lab File ID: PCB9926.D
Initial Weight/Volume: 10.3598 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.14	0.14
PCB-1221		ND		0.14	0.14
PCB-1232		ND		0.14	0.14
PCB-1242		ND		0.14	0.14
PCB-1248		ND		0.14	0.14
PCB-1254		ND		0.14	0.14
PCB-1260		ND	*	0.14	0.14

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	91	45 - 155
DCB Decachlorobiphenyl	94	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW19-080107-040

Lab Sample ID: 580-6773-30
Client Matrix: Solid
% Moisture: 37.6
Date Sampled: 08/01/2007 1605
Date Received: 08/02/2007 1325

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/09/2007 0645
Date Prepared: 08/08/2007 0956
Analysis Batch: 580-21776
Prep Batch: 580-21510
Instrument ID: SEA034
Lab File ID: PCB9927.D
Initial Weight/Volume: 10.6197 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.15	0.15
PCB-1221		ND		0.15	0.15
PCB-1232		ND		0.15	0.15
PCB-1242		ND		0.15	0.15
PCB-1248		ND		0.15	0.15
PCB-1254		ND		0.15	0.15
PCB-1260		ND	*	0.15	0.15

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	95	45 - 155
DCB Decachlorobiphenyl	99	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW19-080107-080

Lab Sample ID: 580-6773-32
Client Matrix: Solid
% Moisture: 40.4
Date Sampled: 08/01/2007 1615
Date Received: 08/02/2007 1325

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/09/2007 0709
Date Prepared: 08/08/2007 0956
Analysis Batch: 580-21776
Prep Batch: 580-21510
Instrument ID: SEA034
Lab File ID: PCB9928.D
Initial Weight/Volume: 10.7333 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.16	0.16
PCB-1221		ND		0.16	0.16
PCB-1232		ND		0.16	0.16
PCB-1242		ND		0.16	0.16
PCB-1248		ND		0.16	0.16
PCB-1254		ND		0.16	0.16
PCB-1260		ND	*	0.16	0.16

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	102	45 - 155
DCB Decachlorobiphenyl	112	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: **MW16-073107-040**

Lab Sample ID: 580-6773-2
Client Matrix: Solid
% Moisture: 10.6
Date Sampled: 07/31/2007 1255
Date Received: 08/03/2007 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1426
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30484.D
Initial Weight/Volume: 10.6407 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	53	53
#2 Diesel (C10-C24)		28	*	26	26

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	92	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW16-073107-160

Lab Sample ID: 580-6773-7
Client Matrix: Solid
% Moisture: 38.6
Date Sampled: 07/31/2007 1520
Date Received: 08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1452
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30486.D
Initial Weight/Volume: 10.9533 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		91	*	74	74
#2 Diesel (C10-C24)		48	*	37	37

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	68	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW13-080107-060

Lab Sample ID: 580-6773-12 | Date Sampled: 08/01/2007 0905
Client Matrix: Solid | % Moisture: 16.2 | Date Received: 08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-21970 | Instrument ID: SEA013
Preparation: 3550B | Prep Batch: 580-21439 | Lab File ID: FA30488.D
Dilution: 1.0 | Initial Weight/Volume: 10.7600 g
Date Analyzed: 08/10/2007 1513 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1023 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		580	*	55	55
#2 Diesel (C10-C24)		170	*	28	28

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	87	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW13-080107-100

Lab Sample ID: 580-6773-14
Client Matrix: Solid
% Moisture: 29.6
Date Sampled: 08/01/2007 0915
Date Received: 08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1533
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30490.D
Initial Weight/Volume: 10.9594 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		180	*	65	65
#2 Diesel (C10-C24)		95	*	32	32

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	90	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: **MW12-080107-040**

Lab Sample ID: 580-6773-17
Client Matrix: Solid
% Moisture: 3.8
Date Sampled: 08/01/2007 1050
Date Received: 08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1554
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30492.D
Initial Weight/Volume: 10.8067 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	48	48
#2 Diesel (C10-C24)		ND	*	24	24

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	93	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: **MW12-080107-100**

Lab Sample ID: 580-6773-20
Client Matrix: Solid
% Moisture: 13.4
Date Sampled: 08/01/2007 1105
Date Received: 08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1614
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30494.D
Initial Weight/Volume: 10.7044 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	54	54
#2 Diesel (C10-C24)		ND	*	27	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	81	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW11-080107-020

Lab Sample ID: 580-6773-22
Client Matrix: Solid
% Moisture: 18.4
Date Sampled: 08/01/2007 1315
Date Received: 08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1635
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30496.D
Initial Weight/Volume: 11.5202 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	53	53
#2 Diesel (C10-C24)		30	*	27	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	89	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW11-080107-100

Lab Sample ID:	580-6773-25			Date Sampled:	08/01/2007 1330
Client Matrix:	Solid	% Moisture:	29.7	Date Received:	08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method:	NWTPH-Dx	Analysis Batch: 580-21970		Instrument ID:	SEA013
Preparation:	3550B	Prep Batch: 580-21439		Lab File ID:	FA30498.D
Dilution:	1.0			Initial Weight/Volume:	10.6092 g
Date Analyzed:	08/10/2007 1655			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1023			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	67	67
#2 Diesel (C10-C24)		ND	*	33	33

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	88	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: DP23-080107-120

Lab Sample ID: 580-6773-26
Client Matrix: Solid
% Moisture: 17.3
Date Sampled: 08/01/2007 1455
Date Received: 08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1716
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30500.D
Initial Weight/Volume: 10.9069 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	55	55
#2 Diesel (C10-C24)		29	*	28	28

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	83	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW19-080107-040

Lab Sample ID: 580-6773-30
Client Matrix: Solid
% Moisture: 37.6
Date Sampled: 08/01/2007 1605
Date Received: 08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1741
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30502.D
Initial Weight/Volume: 10.7933 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	74	74
#2 Diesel (C10-C24)		ND	*	37	37

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	52	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW19-080107-080

Lab Sample ID: 580-6773-32
Client Matrix: Solid
% Moisture: 40.4
Date Sampled: 08/01/2007 1615
Date Received: 08/02/2007 1325

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1802
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30503.D
Initial Weight/Volume: 10.9644 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		80	*	76	76
#2 Diesel (C10-C24)		78	*	38	38

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	51	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW16-073107-040

Lab Sample ID:	580-6773-2		Date Sampled: 07/31/2007 1255
Client Matrix:	Solid	% Moisture: 10.6	Date Received: 08/03/2007 1000

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0180 g
Date Analyzed:	08/09/2007 1829		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.3	3.3
Barium		23		0.55	0.55
Cadmium		ND		0.55	0.55
Chromium		13		1.4	1.4
Lead		ND		1.6	1.6
Selenium		ND		5.5	5.5
Silver		ND		1.1	1.1

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21591	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21537	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5099 g
Date Analyzed:	08/08/2007 1607		Final Weight/Volume: 50 mL
Date Prepared:	08/08/2007 1414		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.022	0.022

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW16-073107-160

Lab Sample ID:	580-6773-7	Date Sampled:	07/31/2007 1520
Client Matrix:	Solid % Moisture: 38.6	Date Received:	08/02/2007 1325

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0178 g
Date Analyzed:	08/09/2007 1900		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		6.4		4.8	4.8
Barium		11		0.80	0.80
Cadmium		ND		0.80	0.80
Chromium		18		2.1	2.1
Lead		ND		2.4	2.4
Selenium		ND		8.0	8.0
Silver		ND		1.6	1.6

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21591	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21537	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5091 g
Date Analyzed:	08/08/2007 1632		Final Weight/Volume: 50 mL
Date Prepared:	08/08/2007 1414		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.032	0.032

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW13-080107-060

Lab Sample ID:	580-6773-12	Date Sampled:	08/01/2007 0905
Client Matrix:	Solid % Moisture: 16.2	Date Received:	08/02/2007 1325

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0843 g
Date Analyzed:	08/09/2007 1904		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.3	3.3
Barium		33		0.55	0.55
Cadmium		ND		0.55	0.55
Chromium		15		1.4	1.4
Lead		21		1.7	1.7
Selenium		ND		5.5	5.5
Silver		ND		1.1	1.1

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21591	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21537	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5084 g
Date Analyzed:	08/08/2007 1637		Final Weight/Volume: 50 mL
Date Prepared:	08/08/2007 1414		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.033		0.023	0.023

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW13-080107-100

Lab Sample ID: 580-6773-14
Client Matrix: Solid
% Moisture: 29.6
Date Sampled: 08/01/2007 0915
Date Received: 08/02/2007 1325

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/09/2007 1908
Date Prepared: 08/09/2007 1429
Analysis Batch: 580-21671
Prep Batch: 580-21623
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.1185 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		4.4		3.8	3.8
Barium		42		0.64	0.64
Cadmium		0.67		0.64	0.64
Chromium		28		1.7	1.7
Lead		52		1.9	1.9
Selenium		7.3		6.4	6.4
Silver		ND		1.3	1.3

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/08/2007 1651
Date Prepared: 08/08/2007 1414
Analysis Batch: 580-21591
Prep Batch: 580-21537
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5079 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.18		0.028	0.028

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW12-080107-040

Lab Sample ID:	580-6773-17	Date Sampled:	08/01/2007 1050
Client Matrix:	Solid % Moisture: 3.8	Date Received:	08/02/2007 1325

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0228 g
Date Analyzed:	08/09/2007 1910		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.0	3.0
Barium		39		0.51	0.51
Cadmium		ND		0.51	0.51
Chromium		12		1.3	1.3
Lead		ND		1.5	1.5
Selenium		ND		5.1	5.1
Silver		ND		1.0	1.0

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21591	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21537	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5043 g
Date Analyzed:	08/08/2007 1656		Final Weight/Volume: 50 mL
Date Prepared:	08/08/2007 1414		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.021	0.021

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW12-080107-100

Lab Sample ID: 580-6773-20
Client Matrix: Solid
% Moisture: 13.4
Date Sampled: 08/01/2007 1105
Date Received: 08/02/2007 1325

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/09/2007 1914
Date Prepared: 08/09/2007 1429
Analysis Batch: 580-21671
Prep Batch: 580-21623
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0406 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.3	3.3
Barium		28		0.55	0.55
Cadmium		ND		0.55	0.55
Chromium		11		1.4	1.4
Lead		ND		1.7	1.7
Selenium		ND		5.5	5.5
Silver		ND		1.1	1.1

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/08/2007 1701
Date Prepared: 08/08/2007 1414
Analysis Batch: 580-21591
Prep Batch: 580-21537
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5001 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.023	0.023

Client: GeoEngineers Inc | Job Number: 580-6773-1

Client Sample ID: MW11-080107-020

Lab Sample ID:	580-6773-22	Date Sampled:	08/01/2007 1315
Client Matrix:	Solid % Moisture: 18.4	Date Received:	08/02/2007 1325

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-21623		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0363 g
Date Analyzed:	08/09/2007 1918			Final Weight/Volume:	50 mL
Date Prepared:	08/09/2007 1429				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.5	3.5
Barium		22		0.59	0.59
Cadmium		ND		0.59	0.59
Chromium		6.5		1.5	1.5
Lead		ND		1.8	1.8
Selenium		ND		5.9	5.9
Silver		ND		1.2	1.2

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21591		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-21537		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5004 g
Date Analyzed:	08/08/2007 1706			Final Weight/Volume:	50 mL
Date Prepared:	08/08/2007 1414				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.024	0.024

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW11-080107-100

Lab Sample ID: 580-6773-25
Client Matrix: Solid
% Moisture: 29.7
Date Sampled: 08/01/2007 1330
Date Received: 08/02/2007 1325

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/09/2007 1922
Date Prepared: 08/09/2007 1429
Analysis Batch: 580-21671
Prep Batch: 580-21623
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0960 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.9	3.9
Barium		81		0.65	0.65
Cadmium		ND		0.65	0.65
Chromium		35		1.7	1.7
Lead		2.0		1.9	1.9
Selenium		ND		6.5	6.5
Silver		ND		1.3	1.3

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/08/2007 1710
Date Prepared: 08/08/2007 1414
Analysis Batch: 580-21591
Prep Batch: 580-21537
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5037 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.028	0.028

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW19-080107-040

Lab Sample ID: 580-6773-30
Client Matrix: Solid
% Moisture: 37.6
Date Sampled: 08/01/2007 1605
Date Received: 08/02/2007 1325

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/09/2007 1926
Date Prepared: 08/09/2007 1429
Analysis Batch: 580-21671
Prep Batch: 580-21623
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0643 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		4.5	4.5
Barium		45		0.75	0.75
Cadmium		ND		0.75	0.75
Chromium		24		2.0	2.0
Lead		2.3		2.3	2.3
Selenium		ND		7.5	7.5
Silver		ND		1.5	1.5

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/08/2007 1715
Date Prepared: 08/08/2007 1414
Analysis Batch: 580-21591
Prep Batch: 580-21537
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5082 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.032	0.032

Client: GeoEngineers Inc

Job Number: 580-6773-1

Client Sample ID: MW19-080107-080

Lab Sample ID: 580-6773-32
Client Matrix: Solid
% Moisture: 40.4
Date Sampled: 08/01/2007 1615
Date Received: 08/02/2007 1325

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/09/2007 1930
Date Prepared: 08/09/2007 1429
Analysis Batch: 580-21671
Prep Batch: 580-21623
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0271 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		4.9	4.9
Barium		6.3		0.82	0.82
Cadmium		ND		0.82	0.82
Chromium		2.3		2.1	2.1
Lead		ND		2.4	2.4
Selenium		ND		8.2	8.2
Silver		ND		1.6	1.6

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/08/2007 1720
Date Prepared: 08/08/2007 1414
Analysis Batch: 580-21591
Prep Batch: 580-21537
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5003 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.034	0.034

General Chemistry

Client Sample ID: MW16-073107-040

Lab Sample ID: 580-6773-2 Date Sampled: 07/31/2007 1255
Client Matrix: Solid Date Received: 08/03/2007 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	89		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	11		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

Client Sample ID: MW16-073107-160

Lab Sample ID: 580-6773-7 Date Sampled: 07/31/2007 1520
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	61		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	39		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

Client Sample ID: MW13-080107-060

Lab Sample ID: 580-6773-12 Date Sampled: 08/01/2007 0905
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	84		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	16		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

Client Sample ID: MW13-080107-100

Lab Sample ID: 580-6773-14 Date Sampled: 08/01/2007 0915
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	70		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	30		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

General Chemistry

Client Sample ID: MW12-080107-040

Lab Sample ID: 580-6773-17 Date Sampled: 08/01/2007 1050
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	96		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	3.8		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

Client Sample ID: MW12-080107-100

Lab Sample ID: 580-6773-20 Date Sampled: 08/01/2007 1105
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	87		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	13		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

Client Sample ID: MW11-080107-020

Lab Sample ID: 580-6773-22 Date Sampled: 08/01/2007 1315
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	82		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	18		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

Client Sample ID: MW11-080107-100

Lab Sample ID: 580-6773-25 Date Sampled: 08/01/2007 1330
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	70		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	30		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

General Chemistry

Client Sample ID: DP23-080107-120

Lab Sample ID: 580-6773-26 Date Sampled: 08/01/2007 1455
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	83		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	17		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

Client Sample ID: MW19-080107-040

Lab Sample ID: 580-6773-30 Date Sampled: 08/01/2007 1605
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	62		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	38		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

Client Sample ID: MW19-080107-080

Lab Sample ID: 580-6773-32 Date Sampled: 08/01/2007 1615
Client Matrix: Solid Date Received: 08/02/2007 1325

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	60		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				
Percent Moisture	40		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-21431	Date Analyzed	08/07/2007 0835				

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21539

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-21539/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1349
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008215.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		5.6	40
Chloromethane	ND		7.3	40
Vinyl chloride	ND		5.2	16
Bromomethane	ND		28	200
Chloroethane	ND		29	200
Trichlorofluoromethane	ND		3.8	40
1,1-Dichloroethene	ND		5.3	16
Methylene Chloride	7.7	J	6.1	40
trans-1,2-Dichloroethene	ND		4.3	40
1,1-Dichloroethane	ND		9.5	40
2,2-Dichloropropane	ND		4.7	40
cis-1,2-Dichloroethene	ND		6.0	40
Chlorobromomethane	ND		4.8	40
Chloroform	ND		3.8	40
1,1,1-Trichloroethane	ND		3.9	16
Carbon tetrachloride	ND		3.0	16
1,1-Dichloropropene	ND		3.1	40
Benzene	ND		2.8	8.0
1,2-Dichloroethane	ND		8.1	40
Trichloroethene	ND		3.0	16
1,2-Dichloropropane	ND		2.5	8.0
Dibromomethane	ND		7.3	40
Dichlorobromomethane	ND		2.8	40
cis-1,3-Dichloropropene	ND		2.8	40
Toluene	ND		7.4	40
trans-1,3-Dichloropropene	ND		2.8	40
1,1,2-Trichloroethane	ND		3.6	40
Tetrachloroethene	ND		7.3	25
1,3-Dichloropropane	ND		4.2	16
Chlorodibromomethane	ND		2.5	40
Ethylene Dibromide	ND		6.6	40
Chlorobenzene	ND		12	40
Ethylbenzene	ND		7.2	40
1,1,1,2-Tetrachloroethane	ND		3.8	40
1,1,2,2-Tetrachloroethane	ND		2.4	8.0
m-Xylene & p-Xylene	ND		15	40
o-Xylene	ND		7.2	40
Styrene	ND		3.2	40
Bromoform	ND		2.8	40
Isopropylbenzene	ND		6.1	40
Bromobenzene	ND		3.6	40

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21539

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-21539/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1349
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008215.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
N-Propylbenzene	ND		6.9	40
1,2,3-Trichloropropane	ND		7.1	40
2-Chlorotoluene	ND		5.8	40
1,3,5-Trimethylbenzene	ND		6.0	40
4-Chlorotoluene	ND		3.5	40
tert-Butylbenzene	ND		3.4	40
1,2,4-Trimethylbenzene	ND		6.9	40
sec-Butylbenzene	ND		1.6	40
1,3-Dichlorobenzene	ND		4.1	40
4-Isopropyltoluene	ND		2.8	40
1,4-Dichlorobenzene	ND		2.0	40
n-Butylbenzene	ND		2.4	40
1,2-Dichlorobenzene	ND		3.4	40
1,2-Dibromo-3-Chloropropane	ND		8.8	40
1,2,4-Trichlorobenzene	ND		3.9	40
1,2,3-Trichlorobenzene	ND		4.8	40
Hexachlorobutadiene	ND		6.6	40
Naphthalene	ND		2.6	40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	93	85 - 120
Trifluorotoluene (Surr)	103	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21539

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-21539/4-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1412
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008216.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-21539/5-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1434
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008217.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dichlorodifluoromethane	85	80	35 - 135	6	20		
Chloromethane	83	77	50 - 130	8	20		
Vinyl chloride	87	81	60 - 125	7	20		
Bromomethane	74	70	30 - 160	6	20	J	J
Chloroethane	26	29	40 - 155	11	20	J *	J *
Trichlorofluoromethane	124	111	25 - 185	10	20		
1,1-Dichloroethene	97	75	65 - 135	25	26		
Methylene Chloride	86	79	55 - 140	8	20		
trans-1,2-Dichloroethene	101	84	65 - 135	18	20		
1,1-Dichloroethane	103	90	75 - 125	13	20		
2,2-Dichloropropane	107	93	65 - 135	14	20		
cis-1,2-Dichloroethene	89	78	65 - 125	13	20		
Chlorobromomethane	124	110	70 - 125	12	20		
Chloroform	86	77	70 - 125	11	20		
1,1,1-Trichloroethane	90	77	70 - 135	16	20		
Carbon tetrachloride	73	62	65 - 135	18	20		*
1,1-Dichloropropene	95	85	70 - 135	10	20		
Benzene	102	87	75 - 125	16	22		
1,2-Dichloroethane	89	80	70 - 135	10	20		
Trichloroethene	102	89	75 - 125	13	28		
1,2-Dichloropropane	96	92	70 - 120	4	20		
Dibromomethane	84	75	75 - 130	12	20		
Dichlorobromomethane	54	49	70 - 130	9	20	*	*
cis-1,3-Dichloropropene	60	56	70 - 125	6	20	*	*
Toluene	99	88	70 - 125	11	21		
trans-1,3-Dichloropropene	55	50	65 - 125	8	20	*	*
1,1,2-Trichloroethane	79	74	60 - 125	7	20		
Tetrachloroethene	109	88	65 - 140	22	20		*
1,3-Dichloropropane	86	78	75 - 125	10	20		
Chlorodibromomethane	44	45	65 - 130	1	20	*	*
Ethylene Dibromide	72	67	70 - 125	7	20		*
Chlorobenzene	90	81	75 - 125	11	24		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21539

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-21539/4-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1412
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008216.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-21539/5-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1434
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008217.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethylbenzene	96	85	75 - 125	12	20		
1,1,1,2-Tetrachloroethane	59	48	75 - 125	21	20	*	*
1,1,2,2-Tetrachloroethane	77	68	55 - 130	13	20		
m-Xylene & p-Xylene	98	86	80 - 125	14	20		
o-Xylene	95	87	75 - 125	9	20		
Styrene	93	81	75 - 125	14	20		
Bromoform	52	44	55 - 135	16	20	*	*
Isopropylbenzene	94	83	75 - 130	12	20		
Bromobenzene	90	80	65 - 120	12	20		
N-Propylbenzene	99	87	65 - 135	13	20		
1,2,3-Trichloropropane	80	70	65 - 130	13	20		
2-Chlorotoluene	99	87	70 - 130	13	20		
1,3,5-Trimethylbenzene	102	88	65 - 135	15	20		
4-Chlorotoluene	95	85	75 - 125	11	20		
tert-Butylbenzene	94	83	65 - 130	13	20		
1,2,4-Trimethylbenzene	96	85	65 - 135	12	20		
sec-Butylbenzene	93	86	65 - 130	8	20		
1,3-Dichlorobenzene	92	85	70 - 125	8	20		
4-Isopropyltoluene	97	87	75 - 135	11	20		
1,4-Dichlorobenzene	98	90	70 - 125	9	20		
n-Butylbenzene	95	82	65 - 140	15	20		
1,2-Dichlorobenzene	99	86	75 - 120	14	20		
1,2-Dibromo-3-Chloropropane	48	37	40 - 135	27	20		*
1,2,4-Trichlorobenzene	93	82	65 - 130	13	20		
1,2,3-Trichlorobenzene	93	81	60 - 135	13	20		
Hexachlorobutadiene	93	86	55 - 140	8	20		
Naphthalene	91	82	40 - 125	11	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	95	95	75 - 125
Toluene-d8 (Surr)	99	100	85 - 115
Ethylbenzene-d10	94	96	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	95	99	85 - 120
Trifluorotoluene (Surr)	105	95	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Method Blank - Batch: 580-21475

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-21475/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1649
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05324.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Phenol	ND		100	100
Bis(2-chloroethyl)ether	ND		100	100
2-Chlorophenol	ND		100	100
1,3-Dichlorobenzene	ND		50	50
1,4-Dichlorobenzene	ND		50	50
Benzyl alcohol	ND		100	100
1,2-Dichlorobenzene	ND		50	50
2-Methylphenol	ND		100	100
Bis(2-chloroisopropyl) ether	ND		150	150
3 & 4 Methylphenol	ND		200	200
N-Nitrosodi-n-propylamine	ND		100	100
Hexachloroethane	ND		100	100
Nitrobenzene	ND		100	100
Isophorone	ND		100	100
2-Nitrophenol	ND		100	100
2,4-Dimethylphenol	ND		100	100
Benzoic acid	ND		2500	2500
Bis(2-chloroethoxy)methane	ND		100	100
2,4-Dichlorophenol	ND		100	100
1,2,4-Trichlorobenzene	ND		50	50
Naphthalene	ND		20	20
4-Chloroaniline	ND		100	100
Hexachlorobutadiene	ND		50	50
4-Chloro-3-methylphenol	ND		100	100
2-Methylnaphthalene	ND		20	20
Hexachlorocyclopentadiene	ND		100	100
2,4,6-Trichlorophenol	ND		150	150
2,4,5-Trichlorophenol	ND		100	100
2-Chloronaphthalene	ND		20	20
2-Nitroaniline	ND		100	100
Dimethyl phthalate	ND		100	100
Acenaphthylene	ND		20	20
2,6-Dinitrotoluene	ND		100	100
3-Nitroaniline	ND		100	100
Acenaphthene	ND		20	20
2,4-Dinitrophenol	ND		1000	1000
4-Nitrophenol	ND		1000	1000
Dibenzofuran	ND		100	100
2,4-Dinitrotoluene	ND		100	100
Diethyl phthalate	ND		100	100
4-Chlorophenyl phenyl ether	ND		100	100

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21475

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-21475/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1649
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05324.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Fluorene	ND		20	20
4-Nitroaniline	ND		100	100
4,6-Dinitro-2-methylphenol	ND		1000	1000
N-Nitrosodiphenylamine	ND		50	50
4-Bromophenyl phenyl ether	ND		100	100
Hexachlorobenzene	ND		50	50
Pentachlorophenol	ND		100	100
Phenanthrene	ND		20	20
Anthracene	ND		20	20
Di-n-butyl phthalate	ND		200	200
Fluoranthene	ND		20	20
Pyrene	ND		20	20
Butyl benzyl phthalate	ND		100	100
3,3'-Dichlorobenzidine	ND		200	200
Benzo[a]anthracene	ND		25	25
Chrysene	ND		25	25
Bis(2-ethylhexyl) phthalate	ND		1500	1500
Di-n-octyl phthalate	ND		200	200
Benzo[a]pyrene	ND		30	30
Indeno[1,2,3-cd]pyrene	ND		40	40
Dibenz(a,h)anthracene	ND		40	40
Benzo[g,h,i]perylene	ND		25	25
Carbazole	ND		150	150
1-Methylnaphthalene	ND		30	30
Benzo[b]fluoranthene	ND		20	20
Benzo[k]fluoranthene	ND		25	25

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	80	36 - 145
Phenol-d5	85	38 - 149
Nitrobenzene-d5	136	38 - 141
2-Fluorobiphenyl	106	42 - 140
2,4,6-Tribromophenol	87	28 - 143
Terphenyl-d14	105	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21475

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21475/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1716
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05325.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-21475/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1743
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05326.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	92	93	66 - 126	1	26		
Bis(2-chloroethyl)ether	78	82	57 - 122	5	60		
2-Chlorophenol	103	102	65 - 125	1	27		
1,3-Dichlorobenzene	85	90	64 - 124	6	60		
1,4-Dichlorobenzene	94	90	62 - 132	4	32		
Benzyl alcohol	100	95	42 - 147	5	60		
1,2-Dichlorobenzene	101	102	68 - 118	2	60		
2-Methylphenol	87	82	56 - 121	5	25		
Bis(2-chloroisopropyl) ether	103	104	44 - 140	1	60		
3 & 4 Methylphenol	90	91	61 - 126	1	27		
N-Nitrosodi-n-propylamine	101	101	52 - 127	0	28		
Hexachloroethane	111	113	56 - 131	1	60		
Nitrobenzene	105	105	59 - 134	0	60		
Isophorone	107	108	53 - 118	1	60		
2-Nitrophenol	89	94	58 - 128	5	60		
2,4-Dimethylphenol	99	99	58 - 133	0	60		
Benzoic acid	37	34	10 - 130	7	60		
Bis(2-chloroethoxy)methane	93	94	63 - 128	1	60		
2,4-Dichlorophenol	87	89	59 - 124	2	60		
1,2,4-Trichlorobenzene	96	100	63 - 128	3	28		
Naphthalene	98	102	64 - 129	4	26		
4-Chloroaniline	79	80	20 - 181	1	60		
Hexachlorobutadiene	115	111	59 - 134	3	60		
4-Chloro-3-methylphenol	88	91	58 - 128	3	27		
2-Methylnaphthalene	105	107	65 - 125	2	27		
Hexachlorocyclopentadiene	89	95	30 - 132	7	60		
2,4,6-Trichlorophenol	88	90	66 - 131	2	60		
2,4,5-Trichlorophenol	95	96	64 - 124	1	60		
2-Chloronaphthalene	100	100	69 - 129	1	25		
2-Nitroaniline	94	92	58 - 133	2	60		
Dimethyl phthalate	102	102	65 - 125	0	60		
Acenaphthylene	98	102	69 - 129	4	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21475

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21475/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1716
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05325.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-21475/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1743
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05326.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	105	109	65 - 125	3	60		
3-Nitroaniline	86	88	80 - 165	3	60		
Acenaphthene	100	103	65 - 130	4	27		
2,4-Dinitrophenol	64	66	53 - 168	4	60		
4-Nitrophenol	85	87	47 - 172	2	33		
Dibenzofuran	96	99	70 - 125	4	60		
2,4-Dinitrotoluene	93	104	57 - 122	11	31		
Diethyl phthalate	103	104	64 - 129	1	26		
4-Chlorophenyl phenyl ether	96	101	65 - 130	5	60		
Fluorene	99	101	68 - 128	2	31		
4-Nitroaniline	73	80	70 - 150	9	60		
4,6-Dinitro-2-methylphenol	81	81	38 - 143	0	60		
N-Nitrosodiphenylamine	104	100	88 - 153	4	60		
4-Bromophenyl phenyl ether	108	103	64 - 134	5	60		
Hexachlorobenzene	104	102	61 - 136	2	60		
Pentachlorophenol	68	70	29 - 124	2	68		
Phenanthrene	102	100	65 - 125	1	28		
Anthracene	101	100	73 - 123	1	27		
Di-n-butyl phthalate	110	108	69 - 124	2	60		
Fluoranthene	96	96	61 - 121	0	36		
Pyrene	94	93	54 - 134	2	31		
Butyl benzyl phthalate	113	119	65 - 140	5	60		
3,3'-Dichlorobenzidine	108	105	73 - 163	3	60		
Benzo[a]anthracene	99	101	64 - 124	1	27		
Chrysene	106	108	71 - 126	2	26		
Bis(2-ethylhexyl) phthalate	122	126	64 - 144	3	60		
Di-n-octyl phthalate	113	122	58 - 148	8	31		
Benzo[a]pyrene	107	113	68 - 128	5	30		
Indeno[1,2,3-cd]pyrene	115	118	59 - 139	2	29		
Dibenz(a,h)anthracene	119	120	57 - 142	1	30		
Benzo[g,h,i]perylene	110	116	57 - 142	5	28		
Carbazole	96	96	88 - 158	0	60		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21475

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21475/2-A	Analysis Batch:	580-21765	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21475	Lab File ID:	HP05325.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	08/09/2007 1716			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1517			Injection Volume:	

LCSD Lab Sample ID:	LCSD 580-21475/3-A	Analysis Batch:	580-21765	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21475	Lab File ID:	HP05326.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	08/09/2007 1743			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1517			Injection Volume:	

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1-Methylnaphthalene	100	102	48 - 148	2	30		
Benzo[b]fluoranthene	100	106	66 - 136	6	31		
Benzo[k]fluoranthene	109	112	63 - 143	3	31		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	82	79	36 - 145
Phenol-d5	95	93	38 - 149
Nitrobenzene-d5	107	107	38 - 141
2-Fluorobiphenyl	106	104	42 - 140
2,4,6-Tribromophenol	112	107	28 - 143
Terphenyl-d14	110	109	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21754

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-21754/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 2039
Date Prepared: 08/14/2007 0726

Analysis Batch: 580-21839
Prep Batch: 580-21754
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05420.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Phenol	ND		10	10
Bis(2-chloroethyl)ether	ND		10	10
2-Chlorophenol	ND		10	10
1,3-Dichlorobenzene	ND		5.0	5.0
1,4-Dichlorobenzene	ND		5.0	5.0
Benzyl alcohol	ND		10	10
1,2-Dichlorobenzene	ND		5.0	5.0
2-Methylphenol	ND		10	10
Bis(2-chloroisopropyl) ether	ND		15	15
3 & 4 Methylphenol	ND		20	20
N-Nitrosodi-n-propylamine	ND		10	10
Hexachloroethane	ND		10	10
Nitrobenzene	ND		10	10
Isophorone	ND		10	10
2-Nitrophenol	ND		10	10
2,4-Dimethylphenol	ND		10	10
Benzoic acid	ND		250	250
Bis(2-chloroethoxy)methane	ND		10	10
2,4-Dichlorophenol	ND		10	10
1,2,4-Trichlorobenzene	ND		5.0	5.0
Naphthalene	ND		2.0	2.0
4-Chloroaniline	ND		10	10
Hexachlorobutadiene	ND		5.0	5.0
4-Chloro-3-methylphenol	ND		10	10
2-Methylnaphthalene	ND		2.0	2.0
Hexachlorocyclopentadiene	ND		10	10
2,4,6-Trichlorophenol	ND		15	15
2,4,5-Trichlorophenol	ND		10	10
2-Chloronaphthalene	ND		2.0	2.0
2-Nitroaniline	ND		10	10
Dimethyl phthalate	ND		10	10
Acenaphthylene	ND		2.0	2.0
2,6-Dinitrotoluene	ND		10	10
3-Nitroaniline	ND		10	10
Acenaphthene	ND		2.0	2.0
2,4-Dinitrophenol	ND		100	100
4-Nitrophenol	ND		100	100
Dibenzofuran	ND		10	10
2,4-Dinitrotoluene	ND		10	10
Diethyl phthalate	ND		10	10
4-Chlorophenyl phenyl ether	ND		10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21754

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-21754/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 2039
Date Prepared: 08/14/2007 0726

Analysis Batch: 580-21839
Prep Batch: 580-21754
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05420.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Fluorene	ND		2.0	2.0
4-Nitroaniline	ND		10	10
4,6-Dinitro-2-methylphenol	ND		100	100
N-Nitrosodiphenylamine	ND		5.0	5.0
4-Bromophenyl phenyl ether	ND		10	10
Hexachlorobenzene	ND		5.0	5.0
Pentachlorophenol	ND		10	10
Phenanthrene	ND		2.0	2.0
Anthracene	ND		2.0	2.0
Di-n-butyl phthalate	ND		20	20
Fluoranthene	ND		2.0	2.0
Pyrene	ND		2.0	2.0
Butyl benzyl phthalate	ND		10	10
3,3'-Dichlorobenzidine	ND		20	20
Benzo[a]anthracene	ND		2.5	2.5
Chrysene	ND		2.5	2.5
Bis(2-ethylhexyl) phthalate	ND		150	150
Di-n-octyl phthalate	ND		20	20
Benzo[a]pyrene	ND		3.0	3.0
Indeno[1,2,3-cd]pyrene	ND		4.0	4.0
Dibenz(a,h)anthracene	ND		4.0	4.0
Benzo[g,h,i]perylene	ND		2.5	2.5
Carbazole	ND		15	15
1-Methylnaphthalene	ND		3.0	3.0
Benzo[b]fluoranthene	ND		2.0	2.0
Benzo[k]fluoranthene	ND		2.5	2.5

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	50	36 - 145
Phenol-d5	69	38 - 149
Nitrobenzene-d5	97	38 - 141
2-Fluorobiphenyl	86	42 - 140
2,4,6-Tribromophenol	61	28 - 143
Terphenyl-d14	116	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21754

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21754/2-A	Analysis Batch: 580-21839	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21754	Lab File ID: HP05421.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 20 g
Date Analyzed:	08/14/2007 2107		Final Weight/Volume: 2 mL
Date Prepared:	08/14/2007 0726		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-21754/3-A	Analysis Batch: 580-21839	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21754	Lab File ID: HP05422.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 20 g
Date Analyzed:	08/14/2007 2134		Final Weight/Volume: 2 mL
Date Prepared:	08/14/2007 0726		Injection Volume:

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	87	92	66 - 126	5	26		
Bis(2-chloroethyl)ether	98	81	57 - 122	19	60		
2-Chlorophenol	98	107	65 - 125	9	27		
1,3-Dichlorobenzene	104	72	64 - 124	36	60		
1,4-Dichlorobenzene	102	70	62 - 132	37	32		*
Benzyl alcohol	94	101	42 - 147	7	60		
1,2-Dichlorobenzene	102	108	68 - 118	6	60		
2-Methylphenol	97	104	56 - 121	6	25		
Bis(2-chloroisopropyl) ether	97	104	44 - 140	7	60		
3 & 4 Methylphenol	90	98	61 - 126	9	27		
N-Nitrosodi-n-propylamine	89	103	52 - 127	15	28		
Hexachloroethane	116	114	56 - 131	2	60		
Nitrobenzene	92	99	59 - 134	7	60		
Isophorone	100	110	53 - 118	9	60		
2-Nitrophenol	84	87	58 - 128	4	60		
2,4-Dimethylphenol	93	99	58 - 133	6	60		
Benzoic acid	30	29	10 - 130	3	60		
Bis(2-chloroethoxy)methane	85	88	63 - 128	4	60		
2,4-Dichlorophenol	85	95	59 - 124	11	60		
1,2,4-Trichlorobenzene	91	94	63 - 128	4	28		
Naphthalene	91	97	64 - 129	7	26		
4-Chloroaniline	71	72	20 - 181	2	60		
Hexachlorobutadiene	102	103	59 - 134	2	60		
4-Chloro-3-methylphenol	81	88	58 - 128	8	27		
2-Methylnaphthalene	96	100	65 - 125	3	27		
Hexachlorocyclopentadiene	97	92	30 - 132	5	60		
2,4,6-Trichlorophenol	100	100	66 - 131	0	60		
2,4,5-Trichlorophenol	112	108	64 - 124	3	60		
2-Chloronaphthalene	111	107	69 - 129	4	25		
2-Nitroaniline	103	95	58 - 133	8	60		
Dimethyl phthalate	121	120	65 - 125	1	60		
Acenaphthylene	116	114	69 - 129	2	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21754

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21754/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 2107
Date Prepared: 08/14/2007 0726

Analysis Batch: 580-21839
Prep Batch: 580-21754
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05421.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-21754/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 2134
Date Prepared: 08/14/2007 0726

Analysis Batch: 580-21839
Prep Batch: 580-21754
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05422.D
Initial Weight/Volume: 20 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	107	123	65 - 125	15	60		
3-Nitroaniline	75	76	80 - 165	2	60	*	*
Acenaphthene	125	114	65 - 130	9	27		
2,4-Dinitrophenol	20	18	53 - 168	8	60	*	*
4-Nitrophenol	87	87	47 - 172	1	33		
Dibenzofuran	112	112	70 - 125	0	60		
2,4-Dinitrotoluene	114	110	57 - 122	4	31		
Diethyl phthalate	111	122	64 - 129	9	26		
4-Chlorophenyl phenyl ether	115	111	65 - 130	3	60		
Fluorene	123	112	68 - 128	9	31		
4-Nitroaniline	58	57	70 - 150	3	60	*	*
4,6-Dinitro-2-methylphenol	44	41	38 - 143	6	60		
N-Nitrosodiphenylamine	112	115	88 - 153	2	60		
4-Bromophenyl phenyl ether	112	126	64 - 134	12	60		
Hexachlorobenzene	117	125	61 - 136	6	60		
Pentachlorophenol	59	62	29 - 124	5	68		
Phenanthrene	111	120	65 - 125	8	28		
Anthracene	109	122	73 - 123	11	27		
Di-n-butyl phthalate	88	108	69 - 124	20	60		
Fluoranthene	107	115	61 - 121	7	36		
Pyrene	105	116	54 - 134	10	31		
Butyl benzyl phthalate	98	112	65 - 140	14	60		
3,3'-Dichlorobenzidine	98	95	73 - 163	3	60		
Benzo[a]anthracene	103	108	64 - 124	5	27		
Chrysene	121	121	71 - 126	0	26		
Bis(2-ethylhexyl) phthalate	109	104	64 - 144	5	60		
Di-n-octyl phthalate	109	142	58 - 148	26	31		
Benzo[a]pyrene	116	117	68 - 128	1	30		
Indeno[1,2,3-cd]pyrene	109	108	59 - 139	1	29		
Dibenz(a,h)anthracene	110	108	57 - 142	1	30		
Benzo[g,h,i]perylene	111	110	57 - 142	1	28		
Carbazole	96	103	88 - 158	7	60		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21754

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21754/2-A	Analysis Batch: 580-21839	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21754	Lab File ID: HP05421.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 20 g
Date Analyzed:	08/14/2007 2107		Final Weight/Volume: 2 mL
Date Prepared:	08/14/2007 0726		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-21754/3-A	Analysis Batch: 580-21839	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21754	Lab File ID: HP05422.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 20 g
Date Analyzed:	08/14/2007 2134		Final Weight/Volume: 2 mL
Date Prepared:	08/14/2007 0726		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1-Methylnaphthalene	103	104	48 - 148	1	30		
Benzo[b]fluoranthene	112	127	66 - 136	12	31		
Benzo[k]fluoranthene	127	125	63 - 143	2	31		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	65	39	36 - 145
Phenol-d5	73	75	38 - 149
Nitrobenzene-d5	83	78	38 - 141
2-Fluorobiphenyl	92	85	42 - 140
2,4,6-Tribromophenol	81	89	28 - 143
Terphenyl-d14	87	90	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21754

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-6773-7	Analysis Batch:	580-21839	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21754	Lab File ID:	HP05425.D
Dilution:	1.0			Initial Weight/Volume:	20.5898 g
Date Analyzed:	08/14/2007 2257			Final Weight/Volume:	2 mL
Date Prepared:	08/14/2007 0726			Injection Volume:	

MSD Lab Sample ID:	580-6773-7	Analysis Batch:	580-21839	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21754	Lab File ID:	HP05426.D
Dilution:	1.0			Initial Weight/Volume:	20.3270 g
Date Analyzed:	08/14/2007 2324			Final Weight/Volume:	2 mL
Date Prepared:	08/14/2007 0726			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Phenol	71	64	66 - 126	8	26		F
Bis(2-chloroethyl)ether	63	57	57 - 122	9	60		
2-Chlorophenol	83	70	65 - 125	16	27		
1,3-Dichlorobenzene	30	19	64 - 124	44	60	F	F
1,4-Dichlorobenzene	37	25	62 - 132	39	32	F	F
Benzyl alcohol	72	68	42 - 147	5	60		
1,2-Dichlorobenzene	39	22	68 - 118	56	60	F	F
2-Methylphenol	71	64	56 - 121	10	25		
Bis(2-chloroisopropyl) ether	67	49	44 - 140	29	60		
3 & 4 Methylphenol	4	67	61 - 126	NC	27	F	
N-Nitrosodi-n-propylamine	78	69	52 - 127	10	28		
Hexachloroethane	29	12	56 - 131	NC	60	F	F
Nitrobenzene	89	69	59 - 134	23	60		
Isophorone	77	71	53 - 118	8	60		
2-Nitrophenol	62	63	58 - 128	2	60		
2,4-Dimethylphenol	71	66	58 - 133	7	60		
Benzoic acid	0	22	10 - 130	NC	60	F	
Bis(2-chloroethoxy)methane	66	62	63 - 128	4	60		F
2,4-Dichlorophenol	56	52	59 - 124	5	60	F	F
1,2,4-Trichlorobenzene	57	35	63 - 128	47	28	F	F
Naphthalene	61	45	64 - 129	29	26	F	F
4-Chloroaniline	41	30	20 - 181	30	60		
Hexachlorobutadiene	62	38	59 - 134	47	60		F
4-Chloro-3-methylphenol	45	42	58 - 128	5	27	F	F
2-Methylnaphthalene	73	60	65 - 125	18	27		F
Hexachlorocyclopentadiene	26	12	30 - 132	NC	60	F	F
2,4,6-Trichlorophenol	66	60	66 - 131	8	60		F
2,4,5-Trichlorophenol	108	87	64 - 124	20	60		
2-Chloronaphthalene	76	67	69 - 129	12	25		F

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21754

Method: 8270C
Preparation: 3550B

MS Lab Sample ID: 580-6773-7
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 2257
Date Prepared: 08/14/2007 0726

Analysis Batch: 580-21839
Prep Batch: 580-21754

Instrument ID: SEA023
Lab File ID: HP05425.D
Initial Weight/Volume: 20.5898 g
Final Weight/Volume: 2 mL
Injection Volume:

MSD Lab Sample ID: 580-6773-7
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 2324
Date Prepared: 08/14/2007 0726

Analysis Batch: 580-21839
Prep Batch: 580-21754

Instrument ID: SEA023
Lab File ID: HP05426.D
Initial Weight/Volume: 20.3270 g
Final Weight/Volume: 2 mL
Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2-Nitroaniline	95	84	58 - 133	11	60		
Dimethyl phthalate	84	80	65 - 125	4	60		
Acenaphthylene	81	73	69 - 129	9	28		
2,6-Dinitrotoluene	89	82	65 - 125	7	60		
3-Nitroaniline	82	71	80 - 165	13	60		F
Acenaphthene	84	74	65 - 130	11	27		
2,4-Dinitrophenol	0	0	53 - 168	NC	60	F	F
4-Nitrophenol	74	80	47 - 172	9	33		
Dibenzofuran	79	75	70 - 125	5	60		
2,4-Dinitrotoluene	85	82	57 - 122	2	31		
Diethyl phthalate	89	82	64 - 129	6	26		
4-Chlorophenyl phenyl ether	91	75	65 - 130	18	60		
Fluorene	90	79	68 - 128	11	31		
4-Nitroaniline	112	91	70 - 150	20	60		
4,6-Dinitro-2-methylphenol	22	21	38 - 143	NC	60	F	F
N-Nitrosodiphenylamine	84	73	88 - 153	13	60	F	F
4-Bromophenyl phenyl ether	87	75	64 - 134	13	60		
Hexachlorobenzene	86	78	61 - 136	9	60		
Pentachlorophenol	57	60	29 - 124	6	68		
Phenanthrene	94	79	65 - 125	17	28		
Anthracene	99	83	73 - 123	15	27		
Di-n-butyl phthalate	141	118	69 - 124	16	60	F	
Fluoranthene	109	90	61 - 121	17	36		
Pyrene	107	88	54 - 134	18	31		
Butyl benzyl phthalate	120	101	65 - 140	16	60		
3,3'-Dichlorobenzidine	79	65	73 - 163	18	60		F
Benzo[a]anthracene	103	88	64 - 124	14	27		
Chrysene	104	91	71 - 126	12	26		
Bis(2-ethylhexyl) phthalate	73300	55600	64 - 144	26	60	F	F

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21754

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-6773-7	Analysis Batch:	580-21839	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21754	Lab File ID:	HP05425.D
Dilution:	1.0			Initial Weight/Volume:	20.5898 g
Date Analyzed:	08/14/2007 2257			Final Weight/Volume:	2 mL
Date Prepared:	08/14/2007 0726			Injection Volume:	

MSD Lab Sample ID:	580-6773-7	Analysis Batch:	580-21839	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21754	Lab File ID:	HP05426.D
Dilution:	1.0			Initial Weight/Volume:	20.3270 g
Date Analyzed:	08/14/2007 2324			Final Weight/Volume:	2 mL
Date Prepared:	08/14/2007 0726			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Di-n-octyl phthalate	124	109	58 - 148	11	31		
Benzo[a]pyrene	110	93	68 - 128	15	30		
Indeno[1,2,3-cd]pyrene	110	89	59 - 139	20	29		
Dibenz(a,h)anthracene	104	87	57 - 142	17	30		
Benzo[g,h,i]perylene	95	79	57 - 142	18	28		
Carbazole	96	84	88 - 158	12	60		F
1-Methylnaphthalene	69	60	48 - 148	13	30		
Benzo[b]fluoranthene	103	85	66 - 136	17	31		
Benzo[k]fluoranthene	99	89	63 - 143	9	31		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	52	58	36 - 145
Phenol-d5	64	69	38 - 149
Nitrobenzene-d5	96	96	38 - 141
2-Fluorobiphenyl	74	70	42 - 140
2,4,6-Tribromophenol	88	73	28 - 143
Terphenyl-d14	112	99	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21539

Method: NWTPH-Gx
Preparation: 5035

Lab Sample ID: MB 580-21539/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/12/2007 1818
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21755
Prep Batch: 580-21539
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS171537.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
Gasoline	ND		4.0	4.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	101	50 - 150
Ethylbenzene-d10	117	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21539

Method: NWTPH-Gx
Preparation: 5035

LCS Lab Sample ID: LCS 580-21539/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/12/2007 1901
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21755
Prep Batch: 580-21539
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS171539.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-21539/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/12/2007 1922
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21755
Prep Batch: 580-21539
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS171540.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	93	94	68 - 120	0	10		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	103	104	50 - 150
Trifluorotoluene (Surr)	105	104	50 - 150
Ethylbenzene-d10	117	117	50 - 150
Fluorobenzene (Surr)	94	94	50 - 150
Toluene-d8 (Surr)	105	104	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21510

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-21510/1-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/09/2007 0049
Date Prepared: 08/08/2007 0956

Analysis Batch: 580-21776
Prep Batch: 580-21510
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB9912.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
PCB-1016	ND		0.10	0.10
PCB-1221	ND		0.10	0.10
PCB-1232	ND		0.10	0.10
PCB-1242	ND		0.10	0.10
PCB-1248	ND		0.10	0.10
PCB-1254	ND		0.10	0.10
PCB-1260	ND		0.10	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	64	45 - 155
DCB Decachlorobiphenyl	71	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21510

Method: 8082
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21510/2-A	Analysis Batch: 580-21776	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21510	Lab File ID: PCB9913.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/09/2007 0113		Final Weight/Volume: 20 mL
Date Prepared:	08/08/2007 0956		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-21510/3-A	Analysis Batch: 580-21776	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21510	Lab File ID: PCB9914.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/09/2007 0137		Final Weight/Volume: 20 mL
Date Prepared:	08/08/2007 0956		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	67	68	57 - 128	6	8		
PCB-1260	73	70	65 - 132	10	8		*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	73	69	45 - 155
DCB Decachlorobiphenyl	73	73	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21510

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	580-6773-12	Analysis Batch: 580-21776	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21510	Lab File ID: PCB9918.D
Dilution:	5.0		Initial Weight/Volume: 10.3576 g
Date Analyzed:	08/09/2007 0312		Final Weight/Volume: 20 mL
Date Prepared:	08/08/2007 0956		Injection Volume:
			Column ID: PRIMARY
MSD Lab Sample ID:	580-6773-12	Analysis Batch: 580-21776	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21510	Lab File ID: PCB9919.D
Dilution:	5.0		Initial Weight/Volume: 11.1388 g
Date Analyzed:	08/09/2007 0335		Final Weight/Volume: 20 mL
Date Prepared:	08/08/2007 0956		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	84	86	57 - 128	3	8		
PCB-1260	90	82	65 - 132	17	8		F

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	89	85	45 - 155
DCB Decachlorobiphenyl	89	84	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21439

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-21439/1-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/10/2007 1314
Date Prepared: 08/07/2007 1023

Analysis Batch: 580-21970
Prep Batch: 580-21439
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA30478.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Motor Oil (>C24-C36)	ND		50	50
#2 Diesel (C10-C24)	ND		25	25

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	98	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21439

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21439/2-B	Analysis Batch: 580-21970	Instrument ID: SEA013
Client Matrix:	Solid	Prep Batch: 580-21439	Lab File ID: FA30480.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/10/2007 1335		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1023		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-21439/3-B	Analysis Batch: 580-21970	Instrument ID: SEA013
Client Matrix:	Solid	Prep Batch: 580-21439	Lab File ID: FA30482.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/10/2007 1401		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1023		Injection Volume:

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
#2 Diesel (C10-C24)	125	122	64 - 127	69	16		*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	113	103	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21439

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21439/2-B	Analysis Batch: 580-21970	Instrument ID: SEA013
Client Matrix:	Solid	Prep Batch: 580-21439	Lab File ID: FA30519.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/13/2007 0840		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1023		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-21439/3-B	Analysis Batch: 580-21970	Instrument ID: SEA013
Client Matrix:	Solid	Prep Batch: 580-21439	Lab File ID: FA30520.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/13/2007 0906		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1023		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Motor Oil (>C24-C36)	71	95	70 - 125	40	17		*
#2 Diesel (C10-C24)	73	93	64 - 127	44	16		*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	61	83	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21623

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-21623/21-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1823
Date Prepared: 08/09/2007 1429

Analysis Batch: 580-21671
Prep Batch: 580-21623
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Arsenic	ND		3.0	3.0
Barium	ND		0.50	0.50
Cadmium	ND		0.50	0.50
Chromium	ND		1.3	1.3
Lead	ND		1.5	1.5
Selenium	ND		5.0	5.0
Silver	ND		1.0	1.0

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21623

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-21623/22-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1849
Date Prepared: 08/09/2007 1429

Analysis Batch: 580-21671
Prep Batch: 580-21623
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-21623/23-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1852
Date Prepared: 08/09/2007 1429

Analysis Batch: 580-21671
Prep Batch: 580-21623
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	89	95	80 - 120	6	35		
Barium	93	97	80 - 120	4	35		
Cadmium	89	95	80 - 120	6	35		
Chromium	93	97	80 - 120	4	35		
Lead	88	94	80 - 120	6	35		
Selenium	84	89	80 - 120	6	35		
Silver	89	93	80 - 120	4	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21623

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	580-6773-2	Analysis Batch: 580-21671	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0987 g
Date Analyzed:	08/09/2007 1840		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

MSD Lab Sample ID:	580-6773-2	Analysis Batch: 580-21671	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0220 g
Date Analyzed:	08/09/2007 1843		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	71	69	75 - 125	5	35	F	F
Barium	67	63	75 - 125	1	35	F	F
Cadmium	69	68	75 - 125	5	35	F	F
Chromium	64	55	75 - 125	3	35	F	F
Lead	71	70	75 - 125	6	35	F	F
Selenium	67	66	75 - 125	6	35	F	F
Silver	70	66	75 - 125	2	35	F	F

Duplicate - Batch: 580-21623

Method: 6010B
Preparation: 3050B

Lab Sample ID:	580-6773-2	Analysis Batch: 580-21671	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 1.0514 g
Date Analyzed:	08/09/2007 1837		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	ND	2.06	NC	35	
Barium	23	21.8	5	35	
Cadmium	ND	0.0559	NC	35	
Chromium	13	13.3	5	35	
Lead	ND	1.42	NC	35	
Selenium	ND	1.98	NC	35	
Silver	ND	0.0186	NC	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6773-1

Method Blank - Batch: 580-21537

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 580-21537/15-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/08/2007 1553
Date Prepared: 08/08/2007 1414

Analysis Batch: 580-21591
Prep Batch: 580-21537
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Mercury	ND		0.020	0.020

Duplicate - Batch: 580-21537

Method: 7471A
Preparation: 7471A

Lab Sample ID: 580-6773-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/08/2007 1612
Date Prepared: 08/08/2007 1414

Analysis Batch: 580-21591
Prep Batch: 580-21537
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5069 g
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	ND	0.0138	NC	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-6773-1

Lab Section	Qualifier	Description
GC/MS VOA		
	B	Compound was found in the blank and sample.
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	*	RPD of the LCS and LCSD exceeds the control limits
GC/MS Semi VOA		
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	*	RPD of the LCS and LCSD exceeds the control limits
	F	RPD of the MS and MSD exceeds the control limits
	X	Surrogate exceeds the control limits
GC Semi VOA		
	*	LCS or LCSD exceeds the control limits
	*	RPD of the LCS and LCSD exceeds the control limits
	F	RPD of the MS and MSD exceeds the control limits
Metals		
	F	MS or MSD exceeds the control limits

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GeoEngineers	Kevin Broom	8/07	28696
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 3**
1101 S. Fawcett	253-383-4940	6773	
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Tacoma / WA / 98409			
Project Name and Location (State)	**Carrier/Waybill Number**		
Port of Olympia - Phase II			
Contract/Purchase Order/Quote No.			
065-034-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Other	Analysis (Attach list if more space is needed): NW HCs EPA 8100	NW TPH-Dx	NWTPH-Gx	BTEX 8260	PCB's 8082	cPAHs 8270	Hold archive			HAP Hold 8oz jar	Special Instructions/ Conditions of Receipt
1 MW16-053107-000	7/31	1245				X	2						1							X			X	
2 " 049040		1255				X	1						1	X	X	X	X	X	X	X				
3 " 0630		1315				X	2						1							X			X	
4 " 080		1325				X	2						1							X			X	
5 " 100		1335				X	1						1							X				
6 MW16-053107-140		1505				X							1	X	X									only enough sample for VOA
7 " -160	8/01	1520				X	1						1	X	X	X	X	X	X	X	X			
8 -120		1630				X	1						4							X			X	Sample collected from auger
9 MW13-080107-000		0850				X	1						1							X				
10 " -020		0855				X	2						1							X			X	
11 " 640		0900				X	1						1							X				
12 060		0905				X	2						1	X	X	X	X	X	X	X			X	

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Cooler	Possible Hazard Identification	Sample Disposal	(A fee may be assessed if samples are retained longer than 1 month)
☒ Yes ☐ No Cooler Temp:_____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months	

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Kevin Broom	8/2/07	8:00 AM	1. Received By:	8-2-07	1:25
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

GeoEngineers

Client	Project Manager	Date	Chain of Custody Number
1101. South Fawcett	Kevin Broom	8/01	28692
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 3**
Tacoma WA 98402	253-383-4940	6773	
City / State / Zip Code	**Site Contact / Lab Contact**		
Project Name and Location (State)	**Carrier/Waybill Number**		
Port of Olympia - Phase II			
Contract/Purchase Order/Quote No.			
06150-034-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Meth	Analysis (Attach list if more space is needed): VOCs 8260B	NWTPH GX	NWTPH-Dx	RCRA Metals (6010)	Silica 8270C	cPAHs 8270C	PCBs 8082	Hold	Hold	Special Instructions/ Conditions of Receipt
13 MW13-080107-080	8/01	0910				X	2						X								X	X	
14 " -100		0915				X	1						1	X	X	X	X	X	X	X			
15 MW12-080107-000		0940				X	1						1								X		
16 " 020		1045				X	2						1								X	X	
17 " 040		1050				X	2						1	X	X	X	X	X	X	X		X	
18 " 060		1055				X	1						1								X		
19 " 080		1100				X	2						1								X	X	
20 " 100		1105				X	1						1	X	X	X	X	X	X	X			
21 MW11-080107-000		1310				X	1						1								X		
22 MW11-080107-020		1315				X	1						1	X	X	X	X	X	X	X			
23 " 040		1320				X	1						1								X		
24 " 080		1325				X	2						1								X	X	

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Cooler	Possible Hazard Identification	Sample Disposal	
☒ Yes ☐ No Cooler Temp:_____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Kevin Broom	8/2/07			8-2-07	1:25
2.						
3.						

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GeoEngineers	Kevin Broom	8/01	28693
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page**
1101 S. Fawcett	253-383-4940	6773	3 of 3
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Tacoma / WA / 98402			
Project Name and Location (State)	**Carrier/Waybill Number**		
Port of Olympia - Phase II			
Contract/Purchase Order/Quote No.			
06015-033-02			

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

	Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Meth.	VOCs 8260B	NWTPH-Gx	NWTPH-Dx	Reclaimed Gasoline 7hr	Specific Gravity	PCBs 8082	cPAHs 8270C	Hold for Archive	Hold for Rev			
25	MW11-080107-100	8/01	1330				X	1						1	X	X	X	X	X	X	X					
26	DP22-080107-120		1455				X	1						1			X				X					
27	DP23-080107-190		1450				X	1						1								X				
28	MW19-080109-000		1555				X	1						1								X				
29	" 020		1600				X	1						1								X				
30	" 040		1605				X	2						1	X	X	X	X	X	X	X		X			
31	" 060		1610				X	1						1								X				
32	" 080		1615				X	1						1	X	X	X	X	X	X	X					

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Cooler	Possible Hazard Identification	Sample Disposal	
☐ Yes ☐ No Cooler Temp:_____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Kevin Broom	8/2/07			8-2-07	1:25
2.						
3.						

Comments

LOGIN SAMPLE RECEIPT CHECK LIST

Client: GeoEngineers Inc

Job Number: 580-6773-1

Login Number: 6773

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 580-6774-1

Job Description: 0615-034-02

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
08/21/2007

cc: Tonya Kauhi

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ACCREDITED IN ACCORDANCE WITH nelac

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method 8260B: 5035/8260B

The target compound Methylene Chloride was detected in the method blank at a concentration above the MDL but less than one half the reporting limit. The anomaly was flagged on the appropriate forms and all associated detections of Methylene Chloride in the samples were B flagged. No further corrective action was performed.

The 22% RPD for the compound Tetrachlorethene exceeded the QC limit of 20% between the LCS and LCSD analyses. Since both of the individual recoveries were within QC control limits, the anomaly was flagged on the appropriate form, and no further corrective action was performed.

The recoveries of the spiking compounds Chloroethane; Dichlorobromomethane; cis-1,3-Dichloropropene; trans-1,3-Dichloropropene; Chlorodibromomethane; 1,1,1,2-Tetrachloroethane; and Bromoform fell below the QC recovery ranges in the LCS and LCSD. In addition, the recovery of Carbon Tetrachloride; Ethylene Dibromide; and 1,2-Dibromo-3-Chloropropane fell below QC limits in the LCSD. Since a water LCS (data file: VB 0008213), which was prepared using the same spiking solutions, was in control for all listed compounds, the anomalies were attributed to the increased amount of methanol in the sparged volume of methanolic extracts. The anomalies were flagged on the appropriate forms, and no further corrective action was performed.

No other analytical or quality issues were noted.

GC/MS Semi VOA
Method 8270C: The laboratory control standard (LCS) for preparation batch 21475 exceeded control limits for the following analytesDi-n-butylphthalate. Total does not exceed max. allowable(3).

The recovery of the surrogate Terphenyl-d14 exceeded quality control limits in samples 580-6774-8 and 18. The recovery of the surrogate Phenol-d5 exceeded quality control limits in sample 580-6774-10. All other surrogates were within control limits. No further action was taken on this outlier.

No other analytical or quality issues were noted.

GC Semi VOA
Method NWTPH-Dx: NWDX
The %R failed high for the LCS and LCSD in the motor oil range. It appears the LCS and LCSD concentrated during the silica gel clean up. The LCS and LCSD were re-silica gel'ed with acceptable results for the motor oil range. The samples were examined for similar concentration but non of the samples had failing high surrogetes. The re-run results for the motor oil range were marked as primary.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6774-5	**MW18-080207-080**					
Methylene Chloride		46	J B	100	ug/Kg	8260B
Barium		73		0.61	mg/Kg	6010B
Chromium		17		1.6	mg/Kg	6010B
580-6774-6	**MW18-080207-100**					
Methylene Chloride		26	J B	75	ug/Kg	8260B
Barium		36		0.60	mg/Kg	6010B
Chromium		13		1.6	mg/Kg	6010B
580-6774-8	**MW20-080207-020**					
Methylene Chloride		43	J B	110	ug/Kg	8260B
Barium		51		0.56	mg/Kg	6010B
Chromium		25		1.5	mg/Kg	6010B
Lead		1.8		1.7	mg/Kg	6010B
580-6774-10	**MW20-080207-060**					
4-Isopropyltoluene		150	J	300	ug/Kg	8260B
Naphthalene		44	J	300	ug/Kg	8260B
Acenaphthylene		130		66	ug/Kg	8270C
Acenaphthene		68		66	ug/Kg	8270C
Fluorene		150		66	ug/Kg	8270C
Phenanthrene		2100		66	ug/Kg	8270C
Anthracene		570		66	ug/Kg	8270C
Fluoranthene		1800		66	ug/Kg	8270C
Pyrene		2100		66	ug/Kg	8270C
Benzo[a]anthracene		570		82	ug/Kg	8270C
Chrysene		640		82	ug/Kg	8270C
Bis(2-ethylhexyl) phthalate		5400		4900	ug/Kg	8270C
Benzo[a]pyrene		590		98	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		340		130	ug/Kg	8270C
Benzo[g,h,i]perylene		320		82	ug/Kg	8270C
Benzo[b]fluoranthene		540		66	ug/Kg	8270C
Benzo[k]fluoranthene		90		82	ug/Kg	8270C
Barium		160		1.6	mg/Kg	6010B
Chromium		19		4.2	mg/Kg	6010B
Lead		25		4.9	mg/Kg	6010B

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6774-15	**MW17-080207-040**					
Methylene Chloride		28	J B	84	ug/Kg	8260B
Motor Oil (>C24-C36)		230	*	58	mg/Kg	NWTPH-Dx
Arsenic		4.7		3.6	mg/Kg	6010B
Barium		52		0.60	mg/Kg	6010B
Chromium		24		1.6	mg/Kg	6010B
580-6774-18	**MW17-080207-100**					
Phenanthrene		88		69	ug/Kg	8270C
Fluoranthene		130		69	ug/Kg	8270C
Pyrene		160		69	ug/Kg	8270C
Benzo[a]anthracene		87		86	ug/Kg	8270C
Motor Oil (>C24-C36)		3800	*	170	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		1400	*	86	mg/Kg	NWTPH-Dx
Arsenic		12		10	mg/Kg	6010B
Barium		4.4		1.7	mg/Kg	6010B
Lead		67		5.0	mg/Kg	6010B
Mercury		0.077		0.058	mg/Kg	7471A

METHOD SUMMARY

Client: GeoEngineers Inc Job Number: 580-6774-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds by GC/MS	TAL TAC	SW846 8260B	
Closed System Purge & Trap/Field Methanol	TAL TAC		SW846 5035
Volatile Petroleum Products	TAL TAC	NWTPH NWTPH-Gx	
Closed System Purge & Trap/Field Methanol	TAL TAC		SW846 5035
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL TAC	SW846 8270C	
Ultrasonic Extraction (Low Level)	TAL TAC		SW846 3550B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL TAC	SW846 8082	
Ultrasonic Extraction (Low Level)	TAL TAC		SW846 3550B
Semi-Volatile Petroleum Products by NWTPH-Dx	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Silica Gel Cleanup	TAL TAC		SW846 3630C
Inductively Coupled Plasma - Atomic Emission Spectrometry	TAL TAC	SW846 6010B	
Acid Digestion of Sediments, Sludges, and Soils	TAL TAC		SW846 3050B
Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)	TAL TAC	SW846 7471A	
Mercury in Solid or Semi-Solid Waste (Manual Cold	TAL TAC		SW846 7471A

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

NWTPH =

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-6774-5	MW18-080207-080	Solid	08/02/2007 0935	08/03/2007 0950
580-6774-6	MW18-080207-100	Solid	08/02/2007 0950	08/03/2007 0950
580-6774-8	MW20-080207-020	Solid	08/02/2007 1245	08/03/2007 0950
580-6774-10	MW20-080207-060	Solid	08/02/2007 1310	08/03/2007 0950
580-6774-15	MW17-080207-040	Solid	08/02/2007 1550	08/03/2007 0950
580-6774-18	MW17-080207-100	Solid	08/02/2007 1605	08/03/2007 0950

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: **MW18-080207-080**

Lab Sample ID: 580-6774-5 | Date Sampled: 08/02/2007 0935
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008230.D
Dilution: 1.0 | Initial Weight/Volume: 4.89 g
Date Analyzed: 08/09/2007 1924 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		15	100
Chloromethane		ND		19	100
Vinyl chloride		ND		13	41
Bromomethane		ND		73	520
Chloroethane		ND	*	75	520
Trichlorofluoromethane		ND		9.8	100
1,1-Dichloroethene		ND		14	41
Methylene Chloride		46	J B	16	100
trans-1,2-Dichloroethene		ND		11	100
1,1-Dichloroethane		ND		25	100
2,2-Dichloropropane		ND		12	100
cis-1,2-Dichloroethene		ND		16	100
Chlorobromomethane		ND		12	100
Chloroform		ND		9.8	100
1,1,1-Trichloroethane		ND		10	41
Carbon tetrachloride		ND	*	7.8	41
1,1-Dichloropropene		ND		8.0	100
Benzene		ND		7.3	21
1,2-Dichloroethane		ND		21	100
Trichloroethene		ND		7.8	41
1,2-Dichloropropane		ND		6.5	21
Dibromomethane		ND		19	100
Dichlorobromomethane		ND	*	7.3	100
cis-1,3-Dichloropropene		ND	*	7.3	100
Toluene		ND		19	100
trans-1,3-Dichloropropene		ND	*	7.3	100
1,1,2-Trichloroethane		ND		9.3	100
Tetrachloroethene		ND	*	19	65
1,3-Dichloropropane		ND		11	41
Chlorodibromomethane		ND	*	6.5	100
Ethylene Dibromide		ND	*	17	100
Chlorobenzene		ND		31	100
Ethylbenzene		ND		19	100
1,1,1,2-Tetrachloroethane		ND	*	9.8	100
1,1,2,2-Tetrachloroethane		ND		6.2	21
m-Xylene & p-Xylene		ND		39	100
o-Xylene		ND		19	100
Styrene		ND		8.3	100
Bromoform		ND	*	7.3	100
Isopropylbenzene		ND		16	100
Bromobenzene		ND		9.3	100
N-Propylbenzene		ND		18	100
1,2,3-Trichloropropane		ND		18	100
2-Chlorotoluene		ND		15	100

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: **MW18-080207-080**

Lab Sample ID: 580-6774-5 | Date Sampled: 08/02/2007 0935
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008230.D
Dilution: 1.0 | Initial Weight/Volume: 4.89 g
Date Analyzed: 08/09/2007 1924 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		16	100
4-Chlorotoluene		ND		9.1	100
tert-Butylbenzene		ND		8.8	100
1,2,4-Trimethylbenzene		ND		18	100
sec-Butylbenzene		ND		4.1	100
1,3-Dichlorobenzene		ND		11	100
4-Isopropyltoluene		ND		7.3	100
1,4-Dichlorobenzene		ND		5.2	100
n-Butylbenzene		ND		6.2	100
1,2-Dichlorobenzene		ND		8.8	100
1,2-Dibromo-3-Chloropropane		ND	*	23	100
1,2,4-Trichlorobenzene		ND		10	100
1,2,3-Trichlorobenzene		ND		12	100
Hexachlorobutadiene		ND		17	100
Naphthalene		ND		6.7	100

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	98	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	89	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: **MW18-080207-100**

Lab Sample ID: 580-6774-6 | Date Sampled: 08/02/2007 0950
Client Matrix: Solid | % Moisture: 18.6 | Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008231.D
Dilution: 1.0 | Initial Weight/Volume: 6.51 g
Date Analyzed: 08/09/2007 1946 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		11	75
Chloromethane		ND		14	75
Vinyl chloride		ND		9.8	30
Bromomethane		ND		53	380
Chloroethane		ND	*	55	380
Trichlorofluoromethane		ND		7.2	75
1,1-Dichloroethene		ND		10	30
Methylene Chloride		26	J B	12	75
trans-1,2-Dichloroethene		ND		8.1	75
1,1-Dichloroethane		ND		18	75
2,2-Dichloropropane		ND		8.9	75
cis-1,2-Dichloroethene		ND		11	75
Chlorobromomethane		ND		9.1	75
Chloroform		ND		7.2	75
1,1,1-Trichloroethane		ND		7.4	30
Carbon tetrachloride		ND	*	5.7	30
1,1-Dichloropropene		ND		5.8	75
Benzene		ND		5.3	15
1,2-Dichloroethane		ND		15	75
Trichloroethene		ND		5.7	30
1,2-Dichloropropane		ND		4.7	15
Dibromomethane		ND		14	75
Dichlorobromomethane		ND	*	5.3	75
cis-1,3-Dichloropropene		ND	*	5.3	75
Toluene		ND		14	75
trans-1,3-Dichloropropene		ND	*	5.3	75
1,1,2-Trichloroethane		ND		6.8	75
Tetrachloroethene		ND	*	14	47
1,3-Dichloropropane		ND		7.9	30
Chlorodibromomethane		ND	*	4.7	75
Ethylene Dibromide		ND	*	12	75
Chlorobenzene		ND		23	75
Ethylbenzene		ND		14	75
1,1,1,2-Tetrachloroethane		ND	*	7.2	75
1,1,2,2-Tetrachloroethane		ND		4.5	15
m-Xylene & p-Xylene		ND		28	75
o-Xylene		ND		14	75
Styrene		ND		6.0	75
Bromoform		ND	*	5.3	75
Isopropylbenzene		ND		12	75
Bromobenzene		ND		6.8	75
N-Propylbenzene		ND		13	75
1,2,3-Trichloropropane		ND		13	75
2-Chlorotoluene		ND		11	75

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW18-080207-100

Lab Sample ID: 580-6774-6
Client Matrix: Solid
% Moisture: 18.6
Date Sampled: 08/02/2007 0950
Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/09/2007 1946
Date Prepared: 08/08/2007 1428
Analysis Batch: 580-21685
Prep Batch: 580-21539
Instrument ID: SEA043
Lab File ID: VB0008231.D
Initial Weight/Volume: 6.51 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		11	75
4-Chlorotoluene		ND		6.6	75
tert-Butylbenzene		ND		6.4	75
1,2,4-Trimethylbenzene		ND		13	75
sec-Butylbenzene		ND		3.0	75
1,3-Dichlorobenzene		ND		7.7	75
4-Isopropyltoluene		ND		5.3	75
1,4-Dichlorobenzene		ND		3.8	75
n-Butylbenzene		ND		4.5	75
1,2-Dichlorobenzene		ND		6.4	75
1,2-Dibromo-3-Chloropropane		ND	*	17	75
1,2,4-Trichlorobenzene		ND		7.4	75
1,2,3-Trichlorobenzene		ND		9.1	75
Hexachlorobutadiene		ND		12	75
Naphthalene		ND		4.9	75

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	96	75 - 125
Toluene-d8 (Surr)	99	85 - 115
Ethylbenzene-d10	92	75 - 125
4-Bromofluorobenzene (Surr)	91	85 - 120
Trifluorotoluene (Surr)	92	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW20-080207-020

Lab Sample ID: 580-6774-8 | Date Sampled: 08/02/2007 1245
Client Matrix: Solid | % Moisture: 17.1 | Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008232.D
Dilution: 1.0 | Initial Weight/Volume: 4.59 g
Date Analyzed: 08/09/2007 2008 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		15	110
Chloromethane		ND		19	110
Vinyl chloride		ND		14	42
Bromomethane		ND		74	530
Chloroethane		ND	*	76	530
Trichlorofluoromethane		ND		10	110
1,1-Dichloroethene		ND		14	42
Methylene Chloride		43	J B	16	110
trans-1,2-Dichloroethene		ND		11	110
1,1-Dichloroethane		ND		25	110
2,2-Dichloropropane		ND		12	110
cis-1,2-Dichloroethene		ND		16	110
Chlorobromomethane		ND		13	110
Chloroform		ND		10	110
1,1,1-Trichloroethane		ND		10	42
Carbon tetrachloride		ND	*	7.9	42
1,1-Dichloropropene		ND		8.1	110
Benzene		ND		7.4	21
1,2-Dichloroethane		ND		21	110
Trichloroethene		ND		7.9	42
1,2-Dichloropropane		ND		6.6	21
Dibromomethane		ND		19	110
Dichlorobromomethane		ND	*	7.4	110
cis-1,3-Dichloropropene		ND	*	7.4	110
Toluene		ND		19	110
trans-1,3-Dichloropropene		ND	*	7.4	110
1,1,2-Trichloroethane		ND		9.5	110
Tetrachloroethene		ND	*	19	66
1,3-Dichloropropane		ND		11	42
Chlorodibromomethane		ND	*	6.6	110
Ethylene Dibromide		ND	*	17	110
Chlorobenzene		ND		32	110
Ethylbenzene		ND		19	110
1,1,1,2-Tetrachloroethane		ND	*	10	110
1,1,2,2-Tetrachloroethane		ND		6.3	21
m-Xylene & p-Xylene		ND		39	110
o-Xylene		ND		19	110
Styrene		ND		8.4	110
Bromoform		ND	*	7.4	110
Isopropylbenzene		ND		16	110
Bromobenzene		ND		9.5	110
N-Propylbenzene		ND		18	110
1,2,3-Trichloropropane		ND		19	110
2-Chlorotoluene		ND		15	110

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW20-080207-020

Lab Sample ID: 580-6774-8
Client Matrix: Solid
% Moisture: 17.1
Date Sampled: 08/02/2007 1245
Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/09/2007 2008
Date Prepared: 08/08/2007 1428
Analysis Batch: 580-21685
Prep Batch: 580-21539
Instrument ID: SEA043
Lab File ID: VB0008232.D
Initial Weight/Volume: 4.59 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		16	110
4-Chlorotoluene		ND		9.2	110
tert-Butylbenzene		ND		8.9	110
1,2,4-Trimethylbenzene		ND		18	110
sec-Butylbenzene		ND		4.2	110
1,3-Dichlorobenzene		ND		11	110
4-Isopropyltoluene		ND		7.4	110
1,4-Dichlorobenzene		ND		5.3	110
n-Butylbenzene		ND		6.3	110
1,2-Dichlorobenzene		ND		8.9	110
1,2-Dibromo-3-Chloropropane		ND	*	23	110
1,2,4-Trichlorobenzene		ND		10	110
1,2,3-Trichlorobenzene		ND		13	110
Hexachlorobutadiene		ND		17	110
Naphthalene		ND		6.8	110

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	100	85 - 115
Ethylbenzene-d10	92	75 - 125
4-Bromofluorobenzene (Surr)	90	85 - 120
Trifluorotoluene (Surr)	93	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW20-080207-060

Lab Sample ID: 580-6774-10 | Date Sampled: 08/02/2007 1310
Client Matrix: Solid | % Moisture: 70.1 | Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008233.D
Dilution: 1.0 | Initial Weight/Volume: 4.43 g
Date Analyzed: 08/09/2007 2031 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		42	300
Chloromethane		ND		55	300
Vinyl chloride		ND		39	120
Bromomethane		ND		210	1500
Chloroethane		ND	*	220	1500
Trichlorofluoromethane		ND		29	300
1,1-Dichloroethene		ND		40	120
Methylene Chloride		ND		46	300
trans-1,2-Dichloroethene		ND		32	300
1,1-Dichloroethane		ND		72	300
2,2-Dichloropropane		ND		36	300
cis-1,2-Dichloroethene		ND		45	300
Chlorobromomethane		ND		36	300
Chloroform		ND		29	300
1,1,1-Trichloroethane		ND		29	120
Carbon tetrachloride		ND	*	23	120
1,1-Dichloropropene		ND		23	300
Benzene		ND		21	60
1,2-Dichloroethane		ND		61	300
Trichloroethene		ND		23	120
1,2-Dichloropropane		ND		19	60
Dibromomethane		ND		55	300
Dichlorobromomethane		ND	*	21	300
cis-1,3-Dichloropropene		ND	*	21	300
Toluene		ND		56	300
trans-1,3-Dichloropropene		ND	*	21	300
1,1,2-Trichloroethane		ND		27	300
Tetrachloroethene		ND	*	55	190
1,3-Dichloropropane		ND		32	120
Chlorodibromomethane		ND	*	19	300
Ethylene Dibromide		ND	*	50	300
Chlorobenzene		ND		91	300
Ethylbenzene		ND		54	300
1,1,1,2-Tetrachloroethane		ND	*	29	300
1,1,2,2-Tetrachloroethane		ND		18	60
m-Xylene & p-Xylene		ND		110	300
o-Xylene		ND		54	300
Styrene		ND		24	300
Bromoform		ND	*	21	300
Isopropylbenzene		ND		46	300
Bromobenzene		ND		27	300
N-Propylbenzene		ND		52	300
1,2,3-Trichloropropane		ND		54	300
2-Chlorotoluene		ND		44	300

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW20-080207-060

Lab Sample ID: 580-6774-10 | Date Sampled: 08/02/2007 1310
Client Matrix: Solid | % Moisture: 70.1 | Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008233.D
Dilution: 1.0 | Initial Weight/Volume: 4.43 g
Date Analyzed: 08/09/2007 2031 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		45	300
4-Chlorotoluene		ND		26	300
tert-Butylbenzene		ND		26	300
1,2,4-Trimethylbenzene		ND		52	300
sec-Butylbenzene		ND		12	300
1,3-Dichlorobenzene		ND		31	300
4-Isopropyltoluene		150	J	21	300
1,4-Dichlorobenzene		ND		15	300
n-Butylbenzene		ND		18	300
1,2-Dichlorobenzene		ND		26	300
1,2-Dibromo-3-Chloropropane		ND	*	66	300
1,2,4-Trichlorobenzene		ND		29	300
1,2,3-Trichlorobenzene		ND		36	300
Hexachlorobutadiene		ND		50	300
Naphthalene		44	J	20	300

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	99	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	80	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW17-080207-040

Lab Sample ID: 580-6774-15 | Date Sampled: 08/02/2007 1550
Client Matrix: Solid | % Moisture: 20.8 | Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008234.D
Dilution: 1.0 | Initial Weight/Volume: 6.04 g
Date Analyzed: 08/09/2007 2053 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		12	84
Chloromethane		ND		15	84
Vinyl chloride		ND		11	33
Bromomethane		ND		59	420
Chloroethane		ND	*	61	420
Trichlorofluoromethane		ND		7.9	84
1,1-Dichloroethene		ND		11	33
Methylene Chloride		28	J B	13	84
trans-1,2-Dichloroethene		ND		9.0	84
1,1-Dichloroethane		ND		20	84
2,2-Dichloropropane		ND		9.8	84
cis-1,2-Dichloroethene		ND		13	84
Chlorobromomethane		ND		10	84
Chloroform		ND		7.9	84
1,1,1-Trichloroethane		ND		8.2	33
Carbon tetrachloride		ND	*	6.3	33
1,1-Dichloropropene		ND		6.5	84
Benzene		ND		5.9	17
1,2-Dichloroethane		ND		17	84
Trichloroethene		ND		6.3	33
1,2-Dichloropropane		ND		5.2	17
Dibromomethane		ND		15	84
Dichlorobromomethane		ND	*	5.9	84
cis-1,3-Dichloropropene		ND	*	5.9	84
Toluene		ND		15	84
trans-1,3-Dichloropropene		ND	*	5.9	84
1,1,2-Trichloroethane		ND		7.5	84
Tetrachloroethene		ND	*	15	52
1,3-Dichloropropane		ND		8.8	33
Chlorodibromomethane		ND	*	5.2	84
Ethylene Dibromide		ND	*	14	84
Chlorobenzene		ND		25	84
Ethylbenzene		ND		15	84
1,1,1,2-Tetrachloroethane		ND	*	7.9	84
1,1,2,2-Tetrachloroethane		ND		5.0	17
m-Xylene & p-Xylene		ND		31	84
o-Xylene		ND		15	84
Styrene		ND		6.7	84
Bromoform		ND	*	5.9	84
Isopropylbenzene		ND		13	84
Bromobenzene		ND		7.5	84
N-Propylbenzene		ND		14	84
1,2,3-Trichloropropane		ND		15	84
2-Chlorotoluene		ND		12	84

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW17-080207-040

Lab Sample ID: 580-6774-15
Client Matrix: Solid
% Moisture: 20.8
Date Sampled: 08/02/2007 1550
Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/09/2007 2053
Date Prepared: 08/08/2007 1428
Analysis Batch: 580-21685
Prep Batch: 580-21539
Instrument ID: SEA043
Lab File ID: VB0008234.D
Initial Weight/Volume: 6.04 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		13	84
4-Chlorotoluene		ND		7.3	84
tert-Butylbenzene		ND		7.1	84
1,2,4-Trimethylbenzene		ND		14	84
sec-Butylbenzene		ND		3.3	84
1,3-Dichlorobenzene		ND		8.6	84
4-Isopropyltoluene		ND		5.9	84
1,4-Dichlorobenzene		ND		4.2	84
n-Butylbenzene		ND		5.0	84
1,2-Dichlorobenzene		ND		7.1	84
1,2-Dibromo-3-Chloropropane		ND	*	18	84
1,2,4-Trichlorobenzene		ND		8.2	84
1,2,3-Trichlorobenzene		ND		10	84
Hexachlorobutadiene		ND		14	84
Naphthalene		ND		5.4	84

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	95	75 - 125
Toluene-d8 (Surr)	101	85 - 115
Ethylbenzene-d10	94	75 - 125
4-Bromofluorobenzene (Surr)	92	85 - 120
Trifluorotoluene (Surr)	86	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW17-080207-100

Lab Sample ID: 580-6774-18 | Date Sampled: 08/02/2007 1605
Client Matrix: Solid | % Moisture: 72.5 | Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21685 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: VB0008235.D
Dilution: 1.0 | Initial Weight/Volume: 2.90 g
Date Analyzed: 08/09/2007 2115 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		70	500
Chloromethane		ND		92	500
Vinyl chloride		ND		65	200
Bromomethane		ND		350	2500
Chloroethane		ND	*	360	2500
Trichlorofluoromethane		ND		48	500
1,1-Dichloroethene		ND		67	200
Methylene Chloride		ND		77	500
trans-1,2-Dichloroethene		ND		54	500
1,1-Dichloroethane		ND		120	500
2,2-Dichloropropane		ND		59	500
cis-1,2-Dichloroethene		ND		75	500
Chlorobromomethane		ND		60	500
Chloroform		ND		48	500
1,1,1-Trichloroethane		ND		49	200
Carbon tetrachloride		ND	*	38	200
1,1-Dichloropropene		ND		39	500
Benzene		ND		35	100
1,2-Dichloroethane		ND		100	500
Trichloroethene		ND		38	200
1,2-Dichloropropane		ND		31	100
Dibromomethane		ND		92	500
Dichlorobromomethane		ND	*	35	500
cis-1,3-Dichloropropene		ND	*	35	500
Toluene		ND		93	500
trans-1,3-Dichloropropene		ND	*	35	500
1,1,2-Trichloroethane		ND		45	500
Tetrachloroethene		ND	*	92	310
1,3-Dichloropropane		ND		53	200
Chlorodibromomethane		ND	*	31	500
Ethylene Dibromide		ND	*	83	500
Chlorobenzene		ND		150	500
Ethylbenzene		ND		90	500
1,1,1,2-Tetrachloroethane		ND	*	48	500
1,1,2,2-Tetrachloroethane		ND		30	100
m-Xylene & p-Xylene		ND		190	500
o-Xylene		ND		90	500
Styrene		ND		40	500
Bromoform		ND	*	35	500
Isopropylbenzene		ND		77	500
Bromobenzene		ND		45	500
N-Propylbenzene		ND		87	500
1,2,3-Trichloropropane		ND		89	500
2-Chlorotoluene		ND		73	500

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW17-080207-100

Lab Sample ID: 580-6774-18
Client Matrix: Solid
% Moisture: 72.5
Date Sampled: 08/02/2007 1605
Date Received: 08/03/2007 0950

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/09/2007 2115
Date Prepared: 08/08/2007 1428
Analysis Batch: 580-21685
Prep Batch: 580-21539
Instrument ID: SEA043
Lab File ID: VB0008235.D
Initial Weight/Volume: 2.90 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		75	500
4-Chlorotoluene		ND		44	500
tert-Butylbenzene		ND		43	500
1,2,4-Trimethylbenzene		ND		87	500
sec-Butylbenzene		ND		20	500
1,3-Dichlorobenzene		ND		51	500
4-Isopropyltoluene		ND		35	500
1,4-Dichlorobenzene		ND		25	500
n-Butylbenzene		ND		30	500
1,2-Dichlorobenzene		ND		43	500
1,2-Dibromo-3-Chloropropane		ND	*	110	500
1,2,4-Trichlorobenzene		ND		49	500
1,2,3-Trichlorobenzene		ND		60	500
Hexachlorobutadiene		ND		83	500
Naphthalene		ND		33	500

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	96	75 - 125
Toluene-d8 (Surr)	98	85 - 115
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	87	85 - 120
Trifluorotoluene (Surr)	78	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW18-080207-080

Lab Sample ID: 580-6774-5 | Date Sampled: 08/02/2007 0935
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05336.D
Dilution: 1.0 | Initial Weight/Volume: 10.5229 g
Date Analyzed: 08/09/2007 2218 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		120	120
Bis(2-chloroethyl)ether		ND		120	120
2-Chlorophenol		ND		120	120
1,3-Dichlorobenzene		ND		60	60
1,4-Dichlorobenzene		ND		60	60
Benzyl alcohol		ND		120	120
1,2-Dichlorobenzene		ND		60	60
2-Methylphenol		ND		120	120
Bis(2-chloroisopropyl) ether		ND		180	180
3 & 4 Methylphenol		ND		240	240
N-Nitrosodi-n-propylamine		ND		120	120
Hexachloroethane		ND		120	120
Nitrobenzene		ND		120	120
Isophorone		ND		120	120
2-Nitrophenol		ND		120	120
2,4-Dimethylphenol		ND		120	120
Benzoic acid		ND		3000	3000
Bis(2-chloroethoxy)methane		ND		120	120
2,4-Dichlorophenol		ND		120	120
1,2,4-Trichlorobenzene		ND		60	60
Naphthalene		ND		24	24
4-Chloroaniline		ND		120	120
Hexachlorobutadiene		ND		60	60
4-Chloro-3-methylphenol		ND		120	120
2-Methylnaphthalene		ND		24	24
Hexachlorocyclopentadiene		ND		120	120
2,4,6-Trichlorophenol		ND		180	180
2,4,5-Trichlorophenol		ND		120	120
2-Chloronaphthalene		ND		24	24
2-Nitroaniline		ND		120	120
Dimethyl phthalate		ND		120	120
Acenaphthylene		ND		24	24
2,6-Dinitrotoluene		ND		120	120
3-Nitroaniline		ND		120	120
Acenaphthene		ND		24	24
2,4-Dinitrophenol		ND		1200	1200
4-Nitrophenol		ND		1200	1200
Dibenzofuran		ND		120	120
2,4-Dinitrotoluene		ND		120	120
Diethyl phthalate		ND		120	120
4-Chlorophenyl phenyl ether		ND		120	120
Fluorene		ND		24	24
4-Nitroaniline		ND		120	120
4,6-Dinitro-2-methylphenol		ND		1200	1200

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: **MW18-080207-080**

Lab Sample ID: 580-6774-5 | Date Sampled: 08/02/2007 0935
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05336.D
Dilution: 1.0 | Initial Weight/Volume: 10.5229 g
Date Analyzed: 08/09/2007 2218 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		60	60
4-Bromophenyl phenyl ether		ND		120	120
Hexachlorobenzene		ND		60	60
Pentachlorophenol		ND		120	120
Phenanthrene		ND		24	24
Anthracene		ND		24	24
Di-n-butyl phthalate		ND		240	240
Fluoranthene		ND		24	24
Pyrene		ND		24	24
Butyl benzyl phthalate		ND		120	120
3,3'-Dichlorobenzidine		ND		240	240
Benzo[a]anthracene		ND		30	30
Chrysene		ND		30	30
Di-n-octyl phthalate		ND		240	240
Benzo[a]pyrene		ND		36	36
Indeno[1,2,3-cd]pyrene		ND		48	48
Dibenz(a,h)anthracene		ND		48	48
Benzo[g,h,i]perylene		ND		30	30
Carbazole		ND		180	180
1-Methylnaphthalene		ND		36	36
Benzo[b]fluoranthene		ND		24	24
Benzo[k]fluoranthene		ND		30	30

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	85	36 - 145
Phenol-d5	93	38 - 149
Nitrobenzene-d5	132	38 - 141
2-Fluorobiphenyl	92	42 - 140
2,4,6-Tribromophenol	122	28 - 143
Terphenyl-d14	143	42 - 151

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: **MW18-080207-080**

Lab Sample ID: 580-6774-5
Client Matrix: Solid
% Moisture: 21.0
Date Sampled: 08/02/2007 0935
Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3550B
Dilution: 10
Date Analyzed: 08/13/2007 1212
Date Prepared: 08/07/2007 1517
Analysis Batch: 580-21765
Prep Batch: 580-21475
Instrument ID: SEA023
Lab File ID: HP05375.D
Initial Weight/Volume: 10.5229 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Bis(2-ethylhexyl) phthalate		ND		18000	18000

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: **MW18-080207-100**

Lab Sample ID: 580-6774-6 | Date Sampled: 08/02/2007 0950
Client Matrix: Solid | % Moisture: 18.6 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05337.D
Dilution: 1.0 | Initial Weight/Volume: 10.8485 g
Date Analyzed: 08/09/2007 2245 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		110	110
Bis(2-chloroethyl)ether		ND		110	110
2-Chlorophenol		ND		110	110
1,3-Dichlorobenzene		ND		57	57
1,4-Dichlorobenzene		ND		57	57
Benzyl alcohol		ND		110	110
1,2-Dichlorobenzene		ND		57	57
2-Methylphenol		ND		110	110
Bis(2-chloroisopropyl) ether		ND		170	170
3 & 4 Methylphenol		ND		230	230
N-Nitrosodi-n-propylamine		ND		110	110
Hexachloroethane		ND		110	110
Nitrobenzene		ND		110	110
Isophorone		ND		110	110
2-Nitrophenol		ND		110	110
2,4-Dimethylphenol		ND		110	110
Benzoic acid		ND		2800	2800
Bis(2-chloroethoxy)methane		ND		110	110
2,4-Dichlorophenol		ND		110	110
1,2,4-Trichlorobenzene		ND		57	57
Naphthalene		ND		23	23
4-Chloroaniline		ND		110	110
Hexachlorobutadiene		ND		57	57
4-Chloro-3-methylphenol		ND		110	110
2-Methylnaphthalene		ND		23	23
Hexachlorocyclopentadiene		ND		110	110
2,4,6-Trichlorophenol		ND		170	170
2,4,5-Trichlorophenol		ND		110	110
2-Chloronaphthalene		ND		23	23
2-Nitroaniline		ND		110	110
Dimethyl phthalate		ND		110	110
Acenaphthylene		ND		23	23
2,6-Dinitrotoluene		ND		110	110
3-Nitroaniline		ND		110	110
Acenaphthene		ND		23	23
2,4-Dinitrophenol		ND		1100	1100
4-Nitrophenol		ND		1100	1100
Dibenzofuran		ND		110	110
2,4-Dinitrotoluene		ND		110	110
Diethyl phthalate		ND		110	110
4-Chlorophenyl phenyl ether		ND		110	110
Fluorene		ND		23	23
4-Nitroaniline		ND		110	110
4,6-Dinitro-2-methylphenol		ND		1100	1100

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW18-080207-100

Lab Sample ID: 580-6774-6 | Date Sampled: 08/02/2007 0950
Client Matrix: Solid | % Moisture: 18.6 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05337.D
Dilution: 1.0 | Initial Weight/Volume: 10.8485 g
Date Analyzed: 08/09/2007 2245 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		57	57
4-Bromophenyl phenyl ether		ND		110	110
Hexachlorobenzene		ND		57	57
Pentachlorophenol		ND		110	110
Phenanthrene		ND		23	23
Anthracene		ND		23	23
Di-n-butyl phthalate		ND		230	230
Fluoranthene		ND		23	23
Pyrene		ND		23	23
Butyl benzyl phthalate		ND		110	110
3,3'-Dichlorobenzidine		ND		230	230
Benzo[a]anthracene		ND		28	28
Chrysene		ND		28	28
Di-n-octyl phthalate		ND		230	230
Benzo[a]pyrene		ND		34	34
Indeno[1,2,3-cd]pyrene		ND		45	45
Dibenz(a,h)anthracene		ND		45	45
Benzo[g,h,i]perylene		ND		28	28
Carbazole		ND		170	170
1-Methylnaphthalene		ND		34	34
Benzo[b]fluoranthene		ND		23	23
Benzo[k]fluoranthene		ND		28	28

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	83	36 - 145
Phenol-d5	88	38 - 149
Nitrobenzene-d5	130	38 - 141
2-Fluorobiphenyl	94	42 - 140
2,4,6-Tribromophenol	121	28 - 143
Terphenyl-d14	143	42 - 151

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: **MW18-080207-100**

Lab Sample ID: 580-6774-6
Client Matrix: Solid
% Moisture: 18.6
Date Sampled: 08/02/2007 0950
Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3550B
Dilution: 100
Date Analyzed: 08/10/2007 1613
Date Prepared: 08/07/2007 1517
Analysis Batch: 580-21765
Prep Batch: 580-21475
Instrument ID: SEA023
Lab File ID: HP05357.D
Initial Weight/Volume: 10.8485 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Bis(2-ethylhexyl) phthalate		ND		170000	170000

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW20-080207-020

Lab Sample ID: 580-6774-8 | Date Sampled: 08/02/2007 1245
Client Matrix: Solid | % Moisture: 17.1 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05338.D
Dilution: 1.0 | Initial Weight/Volume: 10.4799 g
Date Analyzed: 08/09/2007 2313 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		120	120
Bis(2-chloroethyl)ether		ND		120	120
2-Chlorophenol		ND		120	120
1,3-Dichlorobenzene		ND		58	58
1,4-Dichlorobenzene		ND		58	58
Benzyl alcohol		ND		120	120
1,2-Dichlorobenzene		ND		58	58
2-Methylphenol		ND		120	120
Bis(2-chloroisopropyl) ether		ND		170	170
3 & 4 Methylphenol		ND		230	230
N-Nitrosodi-n-propylamine		ND		120	120
Hexachloroethane		ND		120	120
Nitrobenzene		ND		120	120
Isophorone		ND		120	120
2-Nitrophenol		ND		120	120
2,4-Dimethylphenol		ND		120	120
Benzoic acid		ND		2900	2900
Bis(2-chloroethoxy)methane		ND		120	120
2,4-Dichlorophenol		ND		120	120
1,2,4-Trichlorobenzene		ND		58	58
Naphthalene		ND		23	23
4-Chloroaniline		ND		120	120
Hexachlorobutadiene		ND		58	58
4-Chloro-3-methylphenol		ND		120	120
2-Methylnaphthalene		ND		23	23
Hexachlorocyclopentadiene		ND		120	120
2,4,6-Trichlorophenol		ND		170	170
2,4,5-Trichlorophenol		ND		120	120
2-Chloronaphthalene		ND		23	23
2-Nitroaniline		ND		120	120
Dimethyl phthalate		ND		120	120
Acenaphthylene		ND		23	23
2,6-Dinitrotoluene		ND		120	120
3-Nitroaniline		ND		120	120
Acenaphthene		ND		23	23
2,4-Dinitrophenol		ND		1200	1200
4-Nitrophenol		ND		1200	1200
Dibenzofuran		ND		120	120
2,4-Dinitrotoluene		ND		120	120
Diethyl phthalate		ND		120	120
4-Chlorophenyl phenyl ether		ND		120	120
Fluorene		ND		23	23
4-Nitroaniline		ND		120	120
4,6-Dinitro-2-methylphenol		ND		1200	1200

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: **MW20-080207-020**

Lab Sample ID: 580-6774-8 | Date Sampled: 08/02/2007 1245
Client Matrix: Solid | % Moisture: 17.1 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21765	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21475	Lab File ID: HP05338.D
Dilution:	1.0		Initial Weight/Volume: 10.4799 g
Date Analyzed:	08/09/2007 2313		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		58	58
4-Bromophenyl phenyl ether		ND		120	120
Hexachlorobenzene		ND		58	58
Pentachlorophenol		ND		120	120
Phenanthrene		ND		23	23
Anthracene		ND		23	23
Di-n-butyl phthalate		ND		230	230
Fluoranthene		ND		23	23
Pyrene		ND		23	23
Butyl benzyl phthalate		ND		120	120
3,3'-Dichlorobenzidine		ND		230	230
Benzo[a]anthracene		ND		29	29
Chrysene		ND		29	29
Bis(2-ethylhexyl) phthalate		ND		1700	1700
Di-n-octyl phthalate		ND		230	230
Benzo[a]pyrene		ND		35	35
Indeno[1,2,3-cd]pyrene		ND		46	46
Dibenz(a,h)anthracene		ND		46	46
Benzo[g,h,i]perylene		ND		29	29
Carbazole		ND		170	170
1-Methylnaphthalene		ND		35	35
Benzo[b]fluoranthene		ND		23	23
Benzo[k]fluoranthene		ND		29	29

Surrogate	%Rec		Acceptance Limits
2-Fluorophenol	76		36 - 145
Phenol-d5	84		38 - 149
Nitrobenzene-d5	116		38 - 141
2-Fluorobiphenyl	97		42 - 140
2,4,6-Tribromophenol	112		28 - 143
Terphenyl-d14	160	X	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW20-080207-060

Lab Sample ID: 580-6774-10 | Date Sampled: 08/02/2007 1310
Client Matrix: Solid | % Moisture: 70.1 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05341.D
Dilution: 1.0 | Initial Weight/Volume: 10.2093 g
Date Analyzed: 08/10/2007 0035 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		330	330
Bis(2-chloroethyl)ether		ND		330	330
2-Chlorophenol		ND		330	330
1,3-Dichlorobenzene		ND		160	160
1,4-Dichlorobenzene		ND		160	160
Benzyl alcohol		ND		330	330
1,2-Dichlorobenzene		ND		160	160
2-Methylphenol		ND		330	330
Bis(2-chloroisopropyl) ether		ND		490	490
3 & 4 Methylphenol		ND		660	660
N-Nitrosodi-n-propylamine		ND		330	330
Hexachloroethane		ND		330	330
Nitrobenzene		ND		330	330
Isophorone		ND		330	330
2-Nitrophenol		ND		330	330
2,4-Dimethylphenol		ND		330	330
Benzoic acid		ND		8200	8200
Bis(2-chloroethoxy)methane		ND		330	330
2,4-Dichlorophenol		ND		330	330
1,2,4-Trichlorobenzene		ND		160	160
Naphthalene		ND		66	66
4-Chloroaniline		ND		330	330
Hexachlorobutadiene		ND		160	160
4-Chloro-3-methylphenol		ND		330	330
2-Methylnaphthalene		ND		66	66
Hexachlorocyclopentadiene		ND		330	330
2,4,6-Trichlorophenol		ND		490	490
2,4,5-Trichlorophenol		ND		330	330
2-Chloronaphthalene		ND		66	66
2-Nitroaniline		ND		330	330
Dimethyl phthalate		ND		330	330
Acenaphthylene		130		66	66
2,6-Dinitrotoluene		ND		330	330
3-Nitroaniline		ND		330	330
Acenaphthene		68		66	66
2,4-Dinitrophenol		ND		3300	3300
4-Nitrophenol		ND		3300	3300
Dibenzofuran		ND		330	330
2,4-Dinitrotoluene		ND		330	330
Diethyl phthalate		ND		330	330
4-Chlorophenyl phenyl ether		ND		330	330
Fluorene		150		66	66
4-Nitroaniline		ND		330	330
4,6-Dinitro-2-methylphenol		ND		3300	3300

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW20-080207-060

Lab Sample ID: 580-6774-10 | Date Sampled: 08/02/2007 1310
Client Matrix: Solid | % Moisture: 70.1 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21765	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21475	Lab File ID: HP05341.D
Dilution:	1.0		Initial Weight/Volume: 10.2093 g
Date Analyzed:	08/10/2007 0035		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		160	160
4-Bromophenyl phenyl ether		ND		330	330
Hexachlorobenzene		ND		160	160
Pentachlorophenol		ND		330	330
Phenanthrene		2100		66	66
Anthracene		570		66	66
Di-n-butyl phthalate		ND		660	660
Fluoranthene		1800		66	66
Pyrene		2100		66	66
Butyl benzyl phthalate		ND		330	330
3,3'-Dichlorobenzidine		ND		660	660
Benzo[a]anthracene		570		82	82
Chrysene		640		82	82
Bis(2-ethylhexyl) phthalate		5400		4900	4900
Di-n-octyl phthalate		ND		660	660
Benzo[a]pyrene		590		98	98
Indeno[1,2,3-cd]pyrene		340		130	130
Dibenz(a,h)anthracene		ND		130	130
Benzo[g,h,i]perylene		320		82	82
Carbazole		ND		490	490
1-Methylnaphthalene		ND		98	98
Benzo[b]fluoranthene		540		66	66
Benzo[k]fluoranthene		90		82	82

Surrogate	%Rec		Acceptance Limits
2-Fluorophenol	40		36 - 145
Phenol-d5	35	X	38 - 149
Nitrobenzene-d5	104		38 - 141
2-Fluorobiphenyl	77		42 - 140
2,4,6-Tribromophenol	83		28 - 143
Terphenyl-d14	143		42 - 151

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: **MW17-080207-040**

Lab Sample ID: 580-6774-15 | Date Sampled: 08/02/2007 1550
Client Matrix: Solid | % Moisture: 20.8 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05342.D
Dilution: 1.0 | Initial Weight/Volume: 10.8094 g
Date Analyzed: 08/10/2007 0103 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		120	120
Bis(2-chloroethyl)ether		ND		120	120
2-Chlorophenol		ND		120	120
1,3-Dichlorobenzene		ND		58	58
1,4-Dichlorobenzene		ND		58	58
Benzyl alcohol		ND		120	120
1,2-Dichlorobenzene		ND		58	58
2-Methylphenol		ND		120	120
Bis(2-chloroisopropyl) ether		ND		180	180
3 & 4 Methylphenol		ND		230	230
N-Nitrosodi-n-propylamine		ND		120	120
Hexachloroethane		ND		120	120
Nitrobenzene		ND		120	120
Isophorone		ND		120	120
2-Nitrophenol		ND		120	120
2,4-Dimethylphenol		ND		120	120
Benzoic acid		ND		2900	2900
Bis(2-chloroethoxy)methane		ND		120	120
2,4-Dichlorophenol		ND		120	120
1,2,4-Trichlorobenzene		ND		58	58
Naphthalene		ND		23	23
4-Chloroaniline		ND		120	120
Hexachlorobutadiene		ND		58	58
4-Chloro-3-methylphenol		ND		120	120
2-Methylnaphthalene		ND		23	23
Hexachlorocyclopentadiene		ND		120	120
2,4,6-Trichlorophenol		ND		180	180
2,4,5-Trichlorophenol		ND		120	120
2-Chloronaphthalene		ND		23	23
2-Nitroaniline		ND		120	120
Dimethyl phthalate		ND		120	120
Acenaphthylene		ND		23	23
2,6-Dinitrotoluene		ND		120	120
3-Nitroaniline		ND		120	120
Acenaphthene		ND		23	23
2,4-Dinitrophenol		ND		1200	1200
4-Nitrophenol		ND		1200	1200
Dibenzofuran		ND		120	120
2,4-Dinitrotoluene		ND		120	120
Diethyl phthalate		ND		120	120
4-Chlorophenyl phenyl ether		ND		120	120
Fluorene		ND		23	23
4-Nitroaniline		ND		120	120
4,6-Dinitro-2-methylphenol		ND		1200	1200

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW17-080207-040

Lab Sample ID: 580-6774-15 | Date Sampled: 08/02/2007 1550
Client Matrix: Solid | % Moisture: 20.8 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21765	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21475	Lab File ID: HP05342.D
Dilution:	1.0		Initial Weight/Volume: 10.8094 g
Date Analyzed:	08/10/2007 0103		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		58	58
4-Bromophenyl phenyl ether		ND		120	120
Hexachlorobenzene		ND		58	58
Pentachlorophenol		ND		120	120
Phenanthrene		ND		23	23
Anthracene		ND		23	23
Di-n-butyl phthalate		ND		230	230
Fluoranthene		ND		23	23
Pyrene		ND		23	23
Butyl benzyl phthalate		ND		120	120
3,3'-Dichlorobenzidine		ND		230	230
Benzo[a]anthracene		ND		29	29
Chrysene		ND		29	29
Bis(2-ethylhexyl) phthalate		ND		1800	1800
Di-n-octyl phthalate		ND		230	230
Benzo[a]pyrene		ND		35	35
Indeno[1,2,3-cd]pyrene		ND		47	47
Dibenz(a,h)anthracene		ND		47	47
Benzo[g,h,i]perylene		ND		29	29
Carbazole		ND		180	180
1-Methylnaphthalene		ND		35	35
Benzo[b]fluoranthene		ND		23	23
Benzo[k]fluoranthene		ND		29	29

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	85	36 - 145
Phenol-d5	86	38 - 149
Nitrobenzene-d5	133	38 - 141
2-Fluorobiphenyl	94	42 - 140
2,4,6-Tribromophenol	131	28 - 143
Terphenyl-d14	151	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW17-080207-100

Lab Sample ID: 580-6774-18 | Date Sampled: 08/02/2007 1605
Client Matrix: Solid | % Moisture: 72.5 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21765 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21475 | Lab File ID: HP05343.D
Dilution: 1.0 | Initial Weight/Volume: 10.6070 g
Date Analyzed: 08/10/2007 0130 | Final Weight/Volume: 10 mL
Date Prepared: 08/07/2007 1517 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		340	340
Bis(2-chloroethyl)ether		ND		340	340
2-Chlorophenol		ND		340	340
1,3-Dichlorobenzene		ND		170	170
1,4-Dichlorobenzene		ND		170	170
Benzyl alcohol		ND		340	340
1,2-Dichlorobenzene		ND		170	170
2-Methylphenol		ND		340	340
Bis(2-chloroisopropyl) ether		ND		510	510
3 & 4 Methylphenol		ND		690	690
N-Nitrosodi-n-propylamine		ND		340	340
Hexachloroethane		ND		340	340
Nitrobenzene		ND		340	340
Isophorone		ND		340	340
2-Nitrophenol		ND		340	340
2,4-Dimethylphenol		ND		340	340
Benzoic acid		ND		8600	8600
Bis(2-chloroethoxy)methane		ND		340	340
2,4-Dichlorophenol		ND		340	340
1,2,4-Trichlorobenzene		ND		170	170
Naphthalene		ND		69	69
4-Chloroaniline		ND		340	340
Hexachlorobutadiene		ND		170	170
4-Chloro-3-methylphenol		ND		340	340
2-Methylnaphthalene		ND		69	69
Hexachlorocyclopentadiene		ND		340	340
2,4,6-Trichlorophenol		ND		510	510
2,4,5-Trichlorophenol		ND		340	340
2-Chloronaphthalene		ND		69	69
2-Nitroaniline		ND		340	340
Dimethyl phthalate		ND		340	340
Acenaphthylene		ND		69	69
2,6-Dinitrotoluene		ND		340	340
3-Nitroaniline		ND		340	340
Acenaphthene		ND		69	69
2,4-Dinitrophenol		ND		3400	3400
4-Nitrophenol		ND		3400	3400
Dibenzofuran		ND		340	340
2,4-Dinitrotoluene		ND		340	340
Diethyl phthalate		ND		340	340
4-Chlorophenyl phenyl ether		ND		340	340
Fluorene		ND		69	69
4-Nitroaniline		ND		340	340
4,6-Dinitro-2-methylphenol		ND		3400	3400

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW17-080207-100

Lab Sample ID: 580-6774-18 | Date Sampled: 08/02/2007 1605
Client Matrix: Solid | % Moisture: 72.5 | Date Received: 08/03/2007 0950

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21765	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21475	Lab File ID: HP05343.D
Dilution:	1.0		Initial Weight/Volume: 10.6070 g
Date Analyzed:	08/10/2007 0130		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		170	170
4-Bromophenyl phenyl ether		ND		340	340
Hexachlorobenzene		ND		170	170
Pentachlorophenol		ND		340	340
Phenanthrene		88		69	69
Anthracene		ND		69	69
Di-n-butyl phthalate		ND		690	690
Fluoranthene		130		69	69
Pyrene		160		69	69
Butyl benzyl phthalate		ND		340	340
3,3'-Dichlorobenzidine		ND		690	690
Benzo[a]anthracene		87		86	86
Chrysene		ND		86	86
Bis(2-ethylhexyl) phthalate		ND		5100	5100
Di-n-octyl phthalate		ND		690	690
Benzo[a]pyrene		ND		100	100
Indeno[1,2,3-cd]pyrene		ND		140	140
Dibenz(a,h)anthracene		ND		140	140
Benzo[g,h,i]perylene		ND		86	86
Carbazole		ND		510	510
1-Methylnaphthalene		ND		100	100
Benzo[b]fluoranthene		ND		69	69
Benzo[k]fluoranthene		ND		86	86

Surrogate	%Rec		Acceptance Limits
2-Fluorophenol	70		36 - 145
Phenol-d5	57		38 - 149
Nitrobenzene-d5	141		38 - 141
2-Fluorobiphenyl	87		42 - 140
2,4,6-Tribromophenol	114		28 - 143
Terphenyl-d14	155	X	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW18-080207-080

Lab Sample ID: 580-6774-5 | Date Sampled: 08/02/2007 0935
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/03/2007 0950

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171565.D
Dilution: 1.0 | Initial Weight/Volume: 4.89 g
Date Analyzed: 08/13/2007 0910 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		10	10

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	94	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	88	50 - 150
Toluene-d8 (Surr)	108	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: **MW18-080207-100**

Lab Sample ID: 580-6774-6
Client Matrix: Solid
% Moisture: 18.6
Date Sampled: 08/02/2007 0950
Date Received: 08/03/2007 0950

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/13/2007 1014
Date Prepared: 08/08/2007 1428
Analysis Batch: 580-21755
Prep Batch: 580-21539
Instrument ID: SEA003
Lab File ID: CS171568.D
Initial Weight/Volume: 6.51 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		7.5	7.5

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	94	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	88	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW20-080207-020

Lab Sample ID: 580-6774-8 | Date Sampled: 08/02/2007 1245
Client Matrix: Solid | % Moisture: 17.1 | Date Received: 08/03/2007 0950

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171569.D
Dilution: 1.0 | Initial Weight/Volume: 4.59 g
Date Analyzed: 08/13/2007 1035 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		11	11

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	101	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW20-080207-060

Lab Sample ID: 580-6774-10
Client Matrix: Solid
% Moisture: 70.1
Date Sampled: 08/02/2007 1310
Date Received: 08/03/2007 0950

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/13/2007 1057
Date Prepared: 08/08/2007 1428
Analysis Batch: 580-21755
Prep Batch: 580-21539
Instrument ID: SEA003
Lab File ID: CS171570.D
Initial Weight/Volume: 4.43 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		30	30

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	86	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	88	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW17-080207-040

Lab Sample ID: 580-6774-15 | Date Sampled: 08/02/2007 1550
Client Matrix: Solid | % Moisture: 20.8 | Date Received: 08/03/2007 0950

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171571.D
Dilution: 1.0 | Initial Weight/Volume: 6.04 g
Date Analyzed: 08/13/2007 1118 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		8.4	8.4

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	92	50 - 150
Ethylbenzene-d10	118	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW17-080207-100

Lab Sample ID: 580-6774-18 | Date Sampled: 08/02/2007 1605
Client Matrix: Solid | % Moisture: 72.5 | Date Received: 08/03/2007 0950

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21755 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21539 | Lab File ID: CS171572.D
Dilution: 1.0 | Initial Weight/Volume: 2.90 g
Date Analyzed: 08/13/2007 1139 | Final Weight/Volume: 400 mL
Date Prepared: 08/08/2007 1428 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		50	50

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	103	50 - 150
Trifluorotoluene (Surr)	84	50 - 150
Ethylbenzene-d10	119	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW18-080207-080

Lab Sample ID: 580-6774-5 | Date Sampled: 08/02/2007 0935
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/03/2007 0950

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-21776 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-21510 | Lab File ID: PCB9929.D
Dilution: 5.0 | Initial Weight/Volume: 10.6627 g
Date Analyzed: 08/09/2007 0732 | Final Weight/Volume: 20 mL
Date Prepared: 08/08/2007 0956 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.12	0.12
PCB-1221		ND		0.12	0.12
PCB-1232		ND		0.12	0.12
PCB-1242		ND		0.12	0.12
PCB-1248		ND		0.12	0.12
PCB-1254		ND		0.12	0.12
PCB-1260		ND	*	0.12	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	75	45 - 155
DCB Decachlorobiphenyl	80	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW18-080207-100

Lab Sample ID: 580-6774-6 | Date Sampled: 08/02/2007 0950
Client Matrix: Solid | % Moisture: 18.6 | Date Received: 08/03/2007 0950

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-21776 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-21510 | Lab File ID: PCB9930.D
Dilution: 5.0 | Initial Weight/Volume: 10.4833 g
Date Analyzed: 08/09/2007 0756 | Final Weight/Volume: 20 mL
Date Prepared: 08/08/2007 0956 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.12	0.12
PCB-1221		ND		0.12	0.12
PCB-1232		ND		0.12	0.12
PCB-1242		ND		0.12	0.12
PCB-1248		ND		0.12	0.12
PCB-1254		ND		0.12	0.12
PCB-1260		ND	*	0.12	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	79	45 - 155
DCB Decachlorobiphenyl	73	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW20-080207-020

Lab Sample ID: 580-6774-8 | Date Sampled: 08/02/2007 1245
Client Matrix: Solid | % Moisture: 17.1 | Date Received: 08/03/2007 0950

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-21776 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-21510 | Lab File ID: PCB9931.D
Dilution: 5.0 | Initial Weight/Volume: 10.2849 g
Date Analyzed: 08/09/2007 0820 | Final Weight/Volume: 20 mL
Date Prepared: 08/08/2007 0956 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.12	0.12
PCB-1221		ND		0.12	0.12
PCB-1232		ND		0.12	0.12
PCB-1242		ND		0.12	0.12
PCB-1248		ND		0.12	0.12
PCB-1254		ND		0.12	0.12
PCB-1260		ND	*	0.12	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	75	45 - 155
DCB Decachlorobiphenyl	83	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW20-080207-060

Lab Sample ID: 580-6774-10
Client Matrix: Solid
% Moisture: 70.1
Date Sampled: 08/02/2007 1310
Date Received: 08/03/2007 0950

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/09/2007 0844
Date Prepared: 08/08/2007 0956
Analysis Batch: 580-21776
Prep Batch: 580-21510
Instrument ID: SEA034
Lab File ID: PCB9932.D
Initial Weight/Volume: 10.2353 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.33	0.33
PCB-1221		ND		0.33	0.33
PCB-1232		ND		0.33	0.33
PCB-1242		ND		0.33	0.33
PCB-1248		ND		0.33	0.33
PCB-1254		ND		0.33	0.33
PCB-1260		ND	*	0.33	0.33

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	93	45 - 155
DCB Decachlorobiphenyl	93	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW17-080207-040

Lab Sample ID: 580-6774-15
Client Matrix: Solid
% Moisture: 20.8
Date Sampled: 08/02/2007 1550
Date Received: 08/03/2007 0950

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/09/2007 0907
Date Prepared: 08/08/2007 0956
Analysis Batch: 580-21776
Prep Batch: 580-21510
Instrument ID: SEA034
Lab File ID: PCB9933.D
Initial Weight/Volume: 10.7131 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.12	0.12
PCB-1221		ND		0.12	0.12
PCB-1232		ND		0.12	0.12
PCB-1242		ND		0.12	0.12
PCB-1248		ND		0.12	0.12
PCB-1254		ND		0.12	0.12
PCB-1260		ND	*	0.12	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	81	45 - 155
DCB Decachlorobiphenyl	85	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW17-080207-100

Lab Sample ID: 580-6774-18 | Date Sampled: 08/02/2007 1605
Client Matrix: Solid | % Moisture: 72.5 | Date Received: 08/03/2007 0950

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-21776 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-21510 | Lab File ID: PCB9934.D
Dilution: 5.0 | Initial Weight/Volume: 10.8249 g
Date Analyzed: 08/09/2007 0931 | Final Weight/Volume: 20 mL
Date Prepared: 08/08/2007 0956 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.34	0.34
PCB-1221		ND		0.34	0.34
PCB-1232		ND		0.34	0.34
PCB-1242		ND		0.34	0.34
PCB-1248		ND		0.34	0.34
PCB-1254		ND		0.34	0.34
PCB-1260		ND	*	0.34	0.34

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	99	45 - 155
DCB Decachlorobiphenyl	107	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW18-080207-080

Lab Sample ID: 580-6774-5
Client Matrix: Solid
% Moisture: 21.0
Date Sampled: 08/02/2007 0935
Date Received: 08/03/2007 0950

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1822
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30504.D
Initial Weight/Volume: 10.6815 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	59	59
#2 Diesel (C10-C24)		ND	*	30	30

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	83	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: **MW18-080207-100**

Lab Sample ID: 580-6774-6
Client Matrix: Solid
% Moisture: 18.6
Date Sampled: 08/02/2007 0950
Date Received: 08/03/2007 0950

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1842
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30505.D
Initial Weight/Volume: 10.3156 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	60	60
#2 Diesel (C10-C24)		ND	*	30	30

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	86	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW20-080207-020

Lab Sample ID: 580-6774-8
Client Matrix: Solid
% Moisture: 17.1
Date Sampled: 08/02/2007 1245
Date Received: 08/03/2007 0950

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1902
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30506.D
Initial Weight/Volume: 10.1332 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	59	59
#2 Diesel (C10-C24)		ND	*	30	30

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	74	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW20-080207-060

Lab Sample ID: 580-6774-10
Client Matrix: Solid
% Moisture: 70.1
Date Sampled: 08/02/2007 1310
Date Received: 08/03/2007 0950

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1923
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30507.D
Initial Weight/Volume: 10.0678 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND	*	170	170
#2 Diesel (C10-C24)		ND	*	83	83

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	55	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW17-080207-040

Lab Sample ID: 580-6774-15
Client Matrix: Solid
% Moisture: 20.8
Date Sampled: 08/02/2007 1550
Date Received: 08/03/2007 0950

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 1943
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30508.D
Initial Weight/Volume: 10.8952 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		230	*	58	58
#2 Diesel (C10-C24)		ND	*	29	29

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	70	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: **MW17-080207-100**

Lab Sample ID: 580-6774-18
Client Matrix: Solid
% Moisture: 72.5
Date Sampled: 08/02/2007 1605
Date Received: 08/03/2007 0950

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 2003
Date Prepared: 08/07/2007 1023
Analysis Batch: 580-21970
Prep Batch: 580-21439
Instrument ID: SEA013
Lab File ID: FA30509.D
Initial Weight/Volume: 10.5286 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		3800	*	170	170
#2 Diesel (C10-C24)		1400	*	86	86

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	55	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW18-080207-080

Lab Sample ID:	580-6774-5	Date Sampled:	08/02/2007 0935
Client Matrix:	Solid % Moisture: 21.0	Date Received:	08/03/2007 0950

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0374 g
Date Analyzed:	08/09/2007 1940		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.7	3.7
Barium		73		0.61	0.61
Cadmium		ND		0.61	0.61
Chromium		17		1.6	1.6
Lead		ND		1.8	1.8
Selenium		ND		6.1	6.1
Silver		ND		1.2	1.2

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21769	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21695	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5750 g
Date Analyzed:	08/13/2007 1249		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 0854		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.022	0.022

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW18-080207-100

Lab Sample ID:	580-6774-6	Date Sampled:	08/02/2007 0950
Client Matrix:	Solid % Moisture: 18.6	Date Received:	08/03/2007 0950

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-21623		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0187 g
Date Analyzed:	08/09/2007 1944			Final Weight/Volume:	50 mL
Date Prepared:	08/09/2007 1429				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.6	3.6
Barium		36		0.60	0.60
Cadmium		ND		0.60	0.60
Chromium		13		1.6	1.6
Lead		ND		1.8	1.8
Selenium		ND		6.0	6.0
Silver		ND		1.2	1.2

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21769		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-21695		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.6317 g
Date Analyzed:	08/13/2007 1254			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 0854				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.019	0.019

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW20-080207-020

Lab Sample ID:	580-6774-8	Date Sampled:	08/02/2007 1245
Client Matrix:	Solid % Moisture: 17.1	Date Received:	08/03/2007 0950

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0675 g
Date Analyzed:	08/09/2007 1948		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.4	3.4
Barium		51		0.56	0.56
Cadmium		ND		0.56	0.56
Chromium		25		1.5	1.5
Lead		1.8		1.7	1.7
Selenium		ND		5.6	5.6
Silver		ND		1.1	1.1

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21769	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21695	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5710 g
Date Analyzed:	08/13/2007 1258		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 0854		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.021	0.021

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW20-080207-060

Lab Sample ID:	580-6774-10	Date Sampled:	08/02/2007 1310
Client Matrix:	Solid % Moisture: 70.1	Date Received:	08/03/2007 0950

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0343 g
Date Analyzed:	08/09/2007 1952		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		9.7	9.7
Barium		160		1.6	1.6
Cadmium		ND		1.6	1.6
Chromium		19		4.2	4.2
Lead		25		4.9	4.9
Selenium		ND		16	16
Silver		ND		3.2	3.2

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21769	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21695	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.6321 g
Date Analyzed:	08/13/2007 1303		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 0854		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.053	0.053

Client: GeoEngineers Inc | Job Number: 580-6774-1

Client Sample ID: MW17-080207-040

Lab Sample ID:	580-6774-15	Date Sampled:	08/02/2007 1550
Client Matrix:	Solid % Moisture: 20.8	Date Received:	08/03/2007 0950

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671	Instrument ID:	SEA027	
Preparation:	3050B	Prep Batch: 580-21623	Lab File ID:	N/A	
Dilution:	1.0		Initial Weight/Volume:	1.0579 g	
Date Analyzed:	08/09/2007 1956		Final Weight/Volume:	50 mL	
Date Prepared:	08/09/2007 1429				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		4.7		3.6	3.6
Barium		52		0.60	0.60
Cadmium		ND		0.60	0.60
Chromium		24		1.6	1.6
Lead		ND		1.8	1.8
Selenium		ND		6.0	6.0
Silver		ND		1.2	1.2

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21769	Instrument ID:	SEA029	
Preparation:	7471A	Prep Batch: 580-21695	Lab File ID:	N/A	
Dilution:	1.0		Initial Weight/Volume:	0.6207 g	
Date Analyzed:	08/13/2007 1308		Final Weight/Volume:	50 mL	
Date Prepared:	08/13/2007 0854				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.020	0.020

Client: GeoEngineers Inc

Job Number: 580-6774-1

Client Sample ID: MW17-080207-100

Lab Sample ID:	580-6774-18	Date Sampled:	08/02/2007 1605
Client Matrix:	Solid % Moisture: 72.5	Date Received:	08/03/2007 0950

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21671	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21623	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0933 g
Date Analyzed:	08/09/2007 2000		Final Weight/Volume: 50 mL
Date Prepared:	08/09/2007 1429		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		12		10	10
Barium		4.4		1.7	1.7
Cadmium		ND		1.7	1.7
Chromium		ND		4.3	4.3
Lead		67		5.0	5.0
Selenium		ND		17	17
Silver		ND		3.3	3.3

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21769	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21695	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.6281 g
Date Analyzed:	08/13/2007 1313		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 0854		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.077		0.058	0.058

Client: GeoEngineers Inc

Job Number: 580-6774-1

Method Blank - Batch: 580-21539

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-21539/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1349
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008215.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		5.6	40
Chloromethane	ND		7.3	40
Vinyl chloride	ND		5.2	16
Bromomethane	ND		28	200
Chloroethane	ND		29	200
Trichlorofluoromethane	ND		3.8	40
1,1-Dichloroethene	ND		5.3	16
Methylene Chloride	7.7	J	6.1	40
trans-1,2-Dichloroethene	ND		4.3	40
1,1-Dichloroethane	ND		9.5	40
2,2-Dichloropropane	ND		4.7	40
cis-1,2-Dichloroethene	ND		6.0	40
Chlorobromomethane	ND		4.8	40
Chloroform	ND		3.8	40
1,1,1-Trichloroethane	ND		3.9	16
Carbon tetrachloride	ND		3.0	16
1,1-Dichloropropene	ND		3.1	40
Benzene	ND		2.8	8.0
1,2-Dichloroethane	ND		8.1	40
Trichloroethene	ND		3.0	16
1,2-Dichloropropane	ND		2.5	8.0
Dibromomethane	ND		7.3	40
Dichlorobromomethane	ND		2.8	40
cis-1,3-Dichloropropene	ND		2.8	40
Toluene	ND		7.4	40
trans-1,3-Dichloropropene	ND		2.8	40
1,1,2-Trichloroethane	ND		3.6	40
Tetrachloroethene	ND		7.3	25
1,3-Dichloropropane	ND		4.2	16
Chlorodibromomethane	ND		2.5	40
Ethylene Dibromide	ND		6.6	40
Chlorobenzene	ND		12	40
Ethylbenzene	ND		7.2	40
1,1,1,2-Tetrachloroethane	ND		3.8	40
1,1,2,2-Tetrachloroethane	ND		2.4	8.0
m-Xylene & p-Xylene	ND		15	40
o-Xylene	ND		7.2	40
Styrene	ND		3.2	40
Bromoform	ND		2.8	40
Isopropylbenzene	ND		6.1	40
Bromobenzene	ND		3.6	40

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Method Blank - Batch: 580-21539

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-21539/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1349
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008215.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
N-Propylbenzene	ND		6.9	40
1,2,3-Trichloropropane	ND		7.1	40
2-Chlorotoluene	ND		5.8	40
1,3,5-Trimethylbenzene	ND		6.0	40
4-Chlorotoluene	ND		3.5	40
tert-Butylbenzene	ND		3.4	40
1,2,4-Trimethylbenzene	ND		6.9	40
sec-Butylbenzene	ND		1.6	40
1,3-Dichlorobenzene	ND		4.1	40
4-Isopropyltoluene	ND		2.8	40
1,4-Dichlorobenzene	ND		2.0	40
n-Butylbenzene	ND		2.4	40
1,2-Dichlorobenzene	ND		3.4	40
1,2-Dibromo-3-Chloropropane	ND		8.8	40
1,2,4-Trichlorobenzene	ND		3.9	40
1,2,3-Trichlorobenzene	ND		4.8	40
Hexachlorobutadiene	ND		6.6	40
Naphthalene	ND		2.6	40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	94	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	90	75 - 125
4-Bromofluorobenzene (Surr)	93	85 - 120
Trifluorotoluene (Surr)	103	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21539

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-21539/4-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1412
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008216.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-21539/5-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1434
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008217.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dichlorodifluoromethane	85	80	35 - 135	6	20		
Chloromethane	83	77	50 - 130	8	20		
Vinyl chloride	87	81	60 - 125	7	20		
Bromomethane	74	70	30 - 160	6	20	J	J
Chloroethane	26	29	40 - 155	11	20	J *	J *
Trichlorofluoromethane	124	111	25 - 185	10	20		
1,1-Dichloroethene	97	75	65 - 135	25	26		
Methylene Chloride	86	79	55 - 140	8	20		
trans-1,2-Dichloroethene	101	84	65 - 135	18	20		
1,1-Dichloroethane	103	90	75 - 125	13	20		
2,2-Dichloropropane	107	93	65 - 135	14	20		
cis-1,2-Dichloroethene	89	78	65 - 125	13	20		
Chlorobromomethane	124	110	70 - 125	12	20		
Chloroform	86	77	70 - 125	11	20		
1,1,1-Trichloroethane	90	77	70 - 135	16	20		
Carbon tetrachloride	73	62	65 - 135	18	20		*
1,1-Dichloropropene	95	85	70 - 135	10	20		
Benzene	102	87	75 - 125	16	22		
1,2-Dichloroethane	89	80	70 - 135	10	20		
Trichloroethene	102	89	75 - 125	13	28		
1,2-Dichloropropane	96	92	70 - 120	4	20		
Dibromomethane	84	75	75 - 130	12	20		
Dichlorobromomethane	54	49	70 - 130	9	20	*	*
cis-1,3-Dichloropropene	60	56	70 - 125	6	20	*	*
Toluene	99	88	70 - 125	11	21		
trans-1,3-Dichloropropene	55	50	65 - 125	8	20	*	*
1,1,2-Trichloroethane	79	74	60 - 125	7	20		
Tetrachloroethene	109	88	65 - 140	22	20		*
1,3-Dichloropropane	86	78	75 - 125	10	20		
Chlorodibromomethane	44	45	65 - 130	1	20	*	*
Ethylene Dibromide	72	67	70 - 125	7	20		*
Chlorobenzene	90	81	75 - 125	11	24		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21539

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-21539/4-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1412
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008216.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-21539/5-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1434
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008217.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethylbenzene	96	85	75 - 125	12	20		
1,1,1,2-Tetrachloroethane	59	48	75 - 125	21	20	*	*
1,1,2,2-Tetrachloroethane	77	68	55 - 130	13	20		
m-Xylene & p-Xylene	98	86	80 - 125	14	20		
o-Xylene	95	87	75 - 125	9	20		
Styrene	93	81	75 - 125	14	20		
Bromoform	52	44	55 - 135	16	20	*	*
Isopropylbenzene	94	83	75 - 130	12	20		
Bromobenzene	90	80	65 - 120	12	20		
N-Propylbenzene	99	87	65 - 135	13	20		
1,2,3-Trichloropropane	80	70	65 - 130	13	20		
2-Chlorotoluene	99	87	70 - 130	13	20		
1,3,5-Trimethylbenzene	102	88	65 - 135	15	20		
4-Chlorotoluene	95	85	75 - 125	11	20		
tert-Butylbenzene	94	83	65 - 130	13	20		
1,2,4-Trimethylbenzene	96	85	65 - 135	12	20		
sec-Butylbenzene	93	86	65 - 130	8	20		
1,3-Dichlorobenzene	92	85	70 - 125	8	20		
4-Isopropyltoluene	97	87	75 - 135	11	20		
1,4-Dichlorobenzene	98	90	70 - 125	9	20		
n-Butylbenzene	95	82	65 - 140	15	20		
1,2-Dichlorobenzene	99	86	75 - 120	14	20		
1,2-Dibromo-3-Chloropropane	48	37	40 - 135	27	20		*
1,2,4-Trichlorobenzene	93	82	65 - 130	13	20		
1,2,3-Trichlorobenzene	93	81	60 - 135	13	20		
Hexachlorobutadiene	93	86	55 - 140	8	20		
Naphthalene	91	82	40 - 125	11	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	95	95	75 - 125
Toluene-d8 (Surr)	99	100	85 - 115
Ethylbenzene-d10	94	96	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	95	99	85 - 120
Trifluorotoluene (Surr)	105	95	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21539

Method: 8260B
Preparation: 5035

MS Lab Sample ID: 580-6774-5
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 2137
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539

Instrument ID: SEA043
Lab File ID: VB0008236.D
Initial Weight/Volume: 4.89 g
Final Weight/Volume: 400 mL

MSD Lab Sample ID: 580-6774-5
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 2200
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539

Instrument ID: SEA043
Lab File ID: VB0008237.D
Initial Weight/Volume: 4.89 g
Final Weight/Volume: 400 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Dichlorodifluoromethane	95	102	35 - 135	7	20		
Chloromethane	90	93	50 - 130	4	20		
Vinyl chloride	85	96	60 - 125	12	20		
Bromomethane	56	61	30 - 160	8	20	J	J
Chloroethane	31	33	40 - 155	5	20	J F	J F
Trichlorofluoromethane	112	123	25 - 185	9	20		
1,1-Dichloroethene	100	106	65 - 135	6	26		
Methylene Chloride	89	95	55 - 140	6	20	B	B
trans-1,2-Dichloroethene	103	102	65 - 135	1	20		
1,1-Dichloroethane	107	109	75 - 125	3	20		
2,2-Dichloropropane	91	94	65 - 135	3	20		
cis-1,2-Dichloroethene	94	94	65 - 125	0	20		
Chlorobromomethane	133	138	70 - 125	4	20	F	F
Chloroform	86	93	70 - 125	7	20		
1,1,1-Trichloroethane	82	88	70 - 135	6	20		
Carbon tetrachloride	65	71	65 - 135	10	20		
1,1-Dichloropropene	100	101	70 - 135	1	20		
Benzene	107	108	75 - 125	1	22		
1,2-Dichloroethane	91	94	70 - 135	3	20		
Trichloroethene	104	105	75 - 125	2	28		
1,2-Dichloropropane	102	107	70 - 120	5	20		
Dibromomethane	81	87	75 - 130	8	20		
Dichlorobromomethane	47	48	70 - 130	2	20	F	F
cis-1,3-Dichloropropene	52	59	70 - 125	12	20	F	F
Toluene	100	104	70 - 125	4	21		
trans-1,3-Dichloropropene	47	56	65 - 125	17	20	F	F
1,1,2-Trichloroethane	79	83	60 - 125	5	20		
Tetrachloroethene	106	113	65 - 140	7	20		
1,3-Dichloropropane	87	90	75 - 125	3	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21539

Method: 8260B
Preparation: 5035

MS Lab Sample ID: 580-6774-5
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 2137
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539

Instrument ID: SEA043
Lab File ID: VB0008236.D
Initial Weight/Volume: 4.89 g
Final Weight/Volume: 400 mL

MSD Lab Sample ID: 580-6774-5
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 2200
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21685
Prep Batch: 580-21539

Instrument ID: SEA043
Lab File ID: VB0008237.D
Initial Weight/Volume: 4.89 g
Final Weight/Volume: 400 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chlorodibromomethane	41	43	65 - 130	4	20	F	F
Ethylene Dibromide	70	76	70 - 125	8	20		
Chlorobenzene	93	95	75 - 125	2	24		
Ethylbenzene	97	100	75 - 125	4	20		
1,1,1,2-Tetrachloroethane	51	54	75 - 125	5	20	F	F
1,1,2,2-Tetrachloroethane	73	76	55 - 130	3	20		
m-Xylene & p-Xylene	97	100	80 - 125	3	20		
o-Xylene	99	105	75 - 125	6	20		
Styrene	90	98	75 - 125	9	20		
Bromoform	44	43	55 - 135	2	20	F	F
Isopropylbenzene	96	100	75 - 130	4	20		
Bromobenzene	93	92	65 - 120	1	20		
N-Propylbenzene	98	99	65 - 135	1	20		
1,2,3-Trichloropropane	85	81	65 - 130	5	20		
2-Chlorotoluene	95	99	70 - 130	4	20		
1,3,5-Trimethylbenzene	100	103	65 - 135	2	20		
4-Chlorotoluene	95	97	75 - 125	3	20		
tert-Butylbenzene	91	96	65 - 130	5	20		
1,2,4-Trimethylbenzene	95	101	65 - 135	5	20		
sec-Butylbenzene	92	96	65 - 130	4	20		
1,3-Dichlorobenzene	97	99	70 - 125	2	20		
4-Isopropyltoluene	94	99	75 - 135	5	20		
1,4-Dichlorobenzene	101	102	70 - 125	2	20		
n-Butylbenzene	92	94	65 - 140	2	20		
1,2-Dichlorobenzene	99	99	75 - 120	0	20		
1,2-Dibromo-3-Chloropropane	41	43	40 - 135	6	20		
1,2,4-Trichlorobenzene	90	92	65 - 130	1	20		
1,2,3-Trichlorobenzene	88	88	60 - 135	0	20		
Hexachlorobutadiene	81	86	55 - 140	6	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21539

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	580-6774-5	Analysis Batch:	580-21685	Instrument ID:	SEA043
Client Matrix:	Solid	Prep Batch:	580-21539	Lab File ID:	VB0008236.D
Dilution:	1.0			Initial Weight/Volume:	4.89 g
Date Analyzed:	08/09/2007 2137			Final Weight/Volume:	400 mL
Date Prepared:	08/08/2007 1428				

MSD Lab Sample ID:	580-6774-5	Analysis Batch:	580-21685	Instrument ID:	SEA043
Client Matrix:	Solid	Prep Batch:	580-21539	Lab File ID:	VB0008237.D
Dilution:	1.0			Initial Weight/Volume:	4.89 g
Date Analyzed:	08/09/2007 2200			Final Weight/Volume:	400 mL
Date Prepared:	08/08/2007 1428				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Naphthalene	94	93	40 - 125	1	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	93	93	75 - 125
Toluene-d8 (Surr)	100	100	85 - 115
Ethylbenzene-d10	97	97	75 - 125
4-Bromofluorobenzene (Surr)	98	98	85 - 120
Trifluorotoluene (Surr)	87	86	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Method Blank - Batch: 580-21475

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-21475/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1649
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05324.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Phenol	ND		100	100
Bis(2-chloroethyl)ether	ND		100	100
2-Chlorophenol	ND		100	100
1,3-Dichlorobenzene	ND		50	50
1,4-Dichlorobenzene	ND		50	50
Benzyl alcohol	ND		100	100
1,2-Dichlorobenzene	ND		50	50
2-Methylphenol	ND		100	100
Bis(2-chloroisopropyl) ether	ND		150	150
3 & 4 Methylphenol	ND		200	200
N-Nitrosodi-n-propylamine	ND		100	100
Hexachloroethane	ND		100	100
Nitrobenzene	ND		100	100
Isophorone	ND		100	100
2-Nitrophenol	ND		100	100
2,4-Dimethylphenol	ND		100	100
Benzoic acid	ND		2500	2500
Bis(2-chloroethoxy)methane	ND		100	100
2,4-Dichlorophenol	ND		100	100
1,2,4-Trichlorobenzene	ND		50	50
Naphthalene	ND		20	20
4-Chloroaniline	ND		100	100
Hexachlorobutadiene	ND		50	50
4-Chloro-3-methylphenol	ND		100	100
2-Methylnaphthalene	ND		20	20
Hexachlorocyclopentadiene	ND		100	100
2,4,6-Trichlorophenol	ND		150	150
2,4,5-Trichlorophenol	ND		100	100
2-Chloronaphthalene	ND		20	20
2-Nitroaniline	ND		100	100
Dimethyl phthalate	ND		100	100
Acenaphthylene	ND		20	20
2,6-Dinitrotoluene	ND		100	100
3-Nitroaniline	ND		100	100
Acenaphthene	ND		20	20
2,4-Dinitrophenol	ND		1000	1000
4-Nitrophenol	ND		1000	1000
Dibenzofuran	ND		100	100
2,4-Dinitrotoluene	ND		100	100
Diethyl phthalate	ND		100	100
4-Chlorophenyl phenyl ether	ND		100	100

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Method Blank - Batch: 580-21475

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-21475/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1649
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05324.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Fluorene	ND		20	20
4-Nitroaniline	ND		100	100
4,6-Dinitro-2-methylphenol	ND		1000	1000
N-Nitrosodiphenylamine	ND		50	50
4-Bromophenyl phenyl ether	ND		100	100
Hexachlorobenzene	ND		50	50
Pentachlorophenol	ND		100	100
Phenanthrene	ND		20	20
Anthracene	ND		20	20
Di-n-butyl phthalate	ND		200	200
Fluoranthene	ND		20	20
Pyrene	ND		20	20
Butyl benzyl phthalate	ND		100	100
3,3'-Dichlorobenzidine	ND		200	200
Benzo[a]anthracene	ND		25	25
Chrysene	ND		25	25
Bis(2-ethylhexyl) phthalate	ND		1500	1500
Di-n-octyl phthalate	ND		200	200
Benzo[a]pyrene	ND		30	30
Indeno[1,2,3-cd]pyrene	ND		40	40
Dibenz(a,h)anthracene	ND		40	40
Benzo[g,h,i]perylene	ND		25	25
Carbazole	ND		150	150
1-Methylnaphthalene	ND		30	30
Benzo[b]fluoranthene	ND		20	20
Benzo[k]fluoranthene	ND		25	25

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	80	36 - 145
Phenol-d5	85	38 - 149
Nitrobenzene-d5	136	38 - 141
2-Fluorobiphenyl	106	42 - 140
2,4,6-Tribromophenol	87	28 - 143
Terphenyl-d14	105	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21475

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21475/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1716
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05325.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-21475/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1743
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05326.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	92	93	66 - 126	1	26		
Bis(2-chloroethyl)ether	78	82	57 - 122	5	60		
2-Chlorophenol	103	102	65 - 125	1	27		
1,3-Dichlorobenzene	85	90	64 - 124	6	60		
1,4-Dichlorobenzene	94	90	62 - 132	4	32		
Benzyl alcohol	100	95	42 - 147	5	60		
1,2-Dichlorobenzene	101	102	68 - 118	2	60		
2-Methylphenol	87	82	56 - 121	5	25		
Bis(2-chloroisopropyl) ether	103	104	44 - 140	1	60		
3 & 4 Methylphenol	90	91	61 - 126	1	27		
N-Nitrosodi-n-propylamine	101	101	52 - 127	0	28		
Hexachloroethane	111	113	56 - 131	1	60		
Nitrobenzene	105	105	59 - 134	0	60		
Isophorone	107	108	53 - 118	1	60		
2-Nitrophenol	89	94	58 - 128	5	60		
2,4-Dimethylphenol	99	99	58 - 133	0	60		
Benzoic acid	37	34	10 - 130	7	60		
Bis(2-chloroethoxy)methane	93	94	63 - 128	1	60		
2,4-Dichlorophenol	87	89	59 - 124	2	60		
1,2,4-Trichlorobenzene	96	100	63 - 128	3	28		
Naphthalene	98	102	64 - 129	4	26		
4-Chloroaniline	79	80	20 - 181	1	60		
Hexachlorobutadiene	115	111	59 - 134	3	60		
4-Chloro-3-methylphenol	88	91	58 - 128	3	27		
2-Methylnaphthalene	105	107	65 - 125	2	27		
Hexachlorocyclopentadiene	89	95	30 - 132	7	60		
2,4,6-Trichlorophenol	88	90	66 - 131	2	60		
2,4,5-Trichlorophenol	95	96	64 - 124	1	60		
2-Chloronaphthalene	100	100	69 - 129	1	25		
2-Nitroaniline	94	92	58 - 133	2	60		
Dimethyl phthalate	102	102	65 - 125	0	60		
Acenaphthylene	98	102	69 - 129	4	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21475

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21475/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1716
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05325.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-21475/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1743
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05326.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	105	109	65 - 125	3	60		
3-Nitroaniline	86	88	80 - 165	3	60		
Acenaphthene	100	103	65 - 130	4	27		
2,4-Dinitrophenol	64	66	53 - 168	4	60		
4-Nitrophenol	85	87	47 - 172	2	33		
Dibenzofuran	96	99	70 - 125	4	60		
2,4-Dinitrotoluene	93	104	57 - 122	11	31		
Diethyl phthalate	103	104	64 - 129	1	26		
4-Chlorophenyl phenyl ether	96	101	65 - 130	5	60		
Fluorene	99	101	68 - 128	2	31		
4-Nitroaniline	73	80	70 - 150	9	60		
4,6-Dinitro-2-methylphenol	81	81	38 - 143	0	60		
N-Nitrosodiphenylamine	104	100	88 - 153	4	60		
4-Bromophenyl phenyl ether	108	103	64 - 134	5	60		
Hexachlorobenzene	104	102	61 - 136	2	60		
Pentachlorophenol	68	70	29 - 124	2	68		
Phenanthrene	102	100	65 - 125	1	28		
Anthracene	101	100	73 - 123	1	27		
Di-n-butyl phthalate	110	108	69 - 124	2	60		
Fluoranthene	96	96	61 - 121	0	36		
Pyrene	94	93	54 - 134	2	31		
Butyl benzyl phthalate	113	119	65 - 140	5	60		
3,3'-Dichlorobenzidine	108	105	73 - 163	3	60		
Benzo[a]anthracene	99	101	64 - 124	1	27		
Chrysene	106	108	71 - 126	2	26		
Bis(2-ethylhexyl) phthalate	122	126	64 - 144	3	60		
Di-n-octyl phthalate	113	122	58 - 148	8	31		
Benzo[a]pyrene	107	113	68 - 128	5	30		
Indeno[1,2,3-cd]pyrene	115	118	59 - 139	2	29		
Dibenz(a,h)anthracene	119	120	57 - 142	1	30		
Benzo[g,h,i]perylene	110	116	57 - 142	5	28		
Carbazole	96	96	88 - 158	0	60		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21475

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21475/2-A	Analysis Batch: 580-21765	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21475	Lab File ID: HP05325.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/09/2007 1716		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-21475/3-A	Analysis Batch: 580-21765	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21475	Lab File ID: HP05326.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/09/2007 1743		Final Weight/Volume: 10 mL
Date Prepared:	08/07/2007 1517		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1-Methylnaphthalene	100	102	48 - 148	2	30		
Benzo[b]fluoranthene	100	106	66 - 136	6	31		
Benzo[k]fluoranthene	109	112	63 - 143	3	31		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	82	79	36 - 145
Phenol-d5	95	93	38 - 149
Nitrobenzene-d5	107	107	38 - 141
2-Fluorobiphenyl	106	104	42 - 140
2,4,6-Tribromophenol	112	107	28 - 143
Terphenyl-d14	110	109	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21475

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-6774-8	Analysis Batch:	580-21765	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21475	Lab File ID:	HP05339.D
Dilution:	1.0			Initial Weight/Volume:	10.8914 g
Date Analyzed:	08/09/2007 2340			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1517			Injection Volume:	

MSD Lab Sample ID:	580-6774-8	Analysis Batch:	580-21765	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21475	Lab File ID:	HP05340.D
Dilution:	1.0			Initial Weight/Volume:	10.1683 g
Date Analyzed:	08/10/2007 0008			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1517			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Phenol	85	86	66 - 126	8	26		
Bis(2-chloroethyl)ether	80	77	57 - 122	2	60		
2-Chlorophenol	96	99	65 - 125	10	27		
1,3-Dichlorobenzene	86	87	64 - 124	7	60		
1,4-Dichlorobenzene	83	87	62 - 132	13	32		
Benzyl alcohol	89	95	42 - 147	12	60		
1,2-Dichlorobenzene	95	101	68 - 118	13	60		
2-Methylphenol	79	79	56 - 121	6	25		
Bis(2-chloroisopropyl) ether	96	100	44 - 140	11	60		
3 & 4 Methylphenol	81	82	61 - 126	8	27		
N-Nitrosodi-n-propylamine	97	97	52 - 127	7	28		
Hexachloroethane	96	101	56 - 131	12	60		
Nitrobenzene	101	102	59 - 134	7	60		
Isophorone	100	101	53 - 118	7	60		
2-Nitrophenol	85	83	58 - 128	4	60		
2,4-Dimethylphenol	90	91	58 - 133	8	60		
Benzoic acid	10	10	10 - 130	NC	60		
Bis(2-chloroethoxy)methane	87	89	63 - 128	9	60		
2,4-Dichlorophenol	79	81	59 - 124	9	60		
1,2,4-Trichlorobenzene	90	91	63 - 128	7	28		
Naphthalene	95	96	64 - 129	8	26		
4-Chloroaniline	66	67	20 - 181	8	60		
Hexachlorobutadiene	109	105	59 - 134	4	60		
4-Chloro-3-methylphenol	76	81	58 - 128	12	27		
2-Methylnaphthalene	98	100	65 - 125	8	27		
Hexachlorocyclopentadiene	88	87	30 - 132	6	60		
2,4,6-Trichlorophenol	85	86	66 - 131	9	60		
2,4,5-Trichlorophenol	91	89	64 - 124	5	60		
2-Chloronaphthalene	96	97	69 - 129	8	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21475

Method: 8270C
Preparation: 3550B

MS Lab Sample ID: 580-6774-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 2340
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475

Instrument ID: SEA023
Lab File ID: HP05339.D
Initial Weight/Volume: 10.8914 g
Final Weight/Volume: 10 mL
Injection Volume:

MSD Lab Sample ID: 580-6774-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/10/2007 0008
Date Prepared: 08/07/2007 1517

Analysis Batch: 580-21765
Prep Batch: 580-21475

Instrument ID: SEA023
Lab File ID: HP05340.D
Initial Weight/Volume: 10.1683 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2-Nitroaniline	84	88	58 - 133	11	60		
Dimethyl phthalate	102	101	65 - 125	6	60		
Acenaphthylene	99	98	69 - 129	5	28		
2,6-Dinitrotoluene	108	103	65 - 125	3	60		
3-Nitroaniline	77	79	80 - 165	9	60	F	F
Acenaphthene	103	100	65 - 130	4	27		
2,4-Dinitrophenol	19	20	53 - 168	NC	60	F	F
4-Nitrophenol	56	65	47 - 172	22	33		
Dibenzofuran	94	94	70 - 125	6	60		
2,4-Dinitrotoluene	96	93	57 - 122	5	31		
Diethyl phthalate	103	102	64 - 129	6	26		
4-Chlorophenyl phenyl ether	97	96	65 - 130	6	60		
Fluorene	98	95	68 - 128	4	31		
4-Nitroaniline	66	69	70 - 150	11	60	F	F
4,6-Dinitro-2-methylphenol	64	71	38 - 143	18	60		
N-Nitrosodiphenylamine	116	121	88 - 153	11	60		
4-Bromophenyl phenyl ether	121	123	64 - 134	9	60		
Hexachlorobenzene	127	127	61 - 136	7	60		
Pentachlorophenol	60	62	29 - 124	11	68		
Phenanthrene	115	118	65 - 125	9	28		
Anthracene	110	116	73 - 123	12	27		
Di-n-butyl phthalate	128	130	69 - 124	9	60	F	F
Fluoranthene	108	115	61 - 121	13	36		
Pyrene	106	111	54 - 134	11	31		
Butyl benzyl phthalate	127	115	65 - 140	3	60		
3,3'-Dichlorobenzidine	101	103	73 - 163	9	60		
Benzo[a]anthracene	100	95	64 - 124	2	27		
Chrysene	104	103	71 - 126	6	26		
Bis(2-ethylhexyl) phthalate	149	136	64 - 144	NC	60	F	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21475

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-6774-8	Analysis Batch:	580-21765	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21475	Lab File ID:	HP05339.D
Dilution:	1.0			Initial Weight/Volume:	10.8914 g
Date Analyzed:	08/09/2007 2340			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1517			Injection Volume:	

MSD Lab Sample ID:	580-6774-8	Analysis Batch:	580-21765	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21475	Lab File ID:	HP05340.D
Dilution:	1.0			Initial Weight/Volume:	10.1683 g
Date Analyzed:	08/10/2007 0008			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1517			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Di-n-octyl phthalate	128	123	58 - 148	3	31		
Benzo[a]pyrene	108	113	68 - 128	11	30		
Indeno[1,2,3-cd]pyrene	113	120	59 - 139	13	29		
Dibenz(a,h)anthracene	112	116	57 - 142	10	30		
Benzo[g,h,i]perylene	111	114	57 - 142	9	28		
Carbazole	103	109	88 - 158	13	60		
1-Methylnaphthalene	99	96	48 - 148	4	30		
Benzo[b]fluoranthene	105	105	66 - 136	6	31		
Benzo[k]fluoranthene	102	104	63 - 143	9	31		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	78	77	36 - 145
Phenol-d5	89	90	38 - 149
Nitrobenzene-d5	133	135	38 - 141
2-Fluorobiphenyl	110	106	42 - 140
2,4,6-Tribromophenol	122	125	28 - 143
Terphenyl-d14	120	125	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Method Blank - Batch: 580-21539

Method: NWTPH-Gx
Preparation: 5035

Lab Sample ID: MB 580-21539/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/12/2007 1818
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21755
Prep Batch: 580-21539
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS171537.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
Gasoline	ND		4.0	4.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	102	50 - 150
Trifluorotoluene (Surr)	101	50 - 150
Ethylbenzene-d10	117	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21539

Method: NWTPH-Gx
Preparation: 5035

LCS Lab Sample ID: LCS 580-21539/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/12/2007 1901
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21755
Prep Batch: 580-21539
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS171539.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-21539/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/12/2007 1922
Date Prepared: 08/08/2007 1428

Analysis Batch: 580-21755
Prep Batch: 580-21539
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS171540.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	93	94	68 - 120	0	10		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	103	104	50 - 150
Trifluorotoluene (Surr)	105	104	50 - 150
Ethylbenzene-d10	117	117	50 - 150
Fluorobenzene (Surr)	94	94	50 - 150
Toluene-d8 (Surr)	105	104	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21539

Method: NWTPH-Gx
Preparation: 5035

MS Lab Sample ID:	580-6774-5	Analysis Batch: 580-21755	Instrument ID: SEA003
Client Matrix:	Solid	Prep Batch: 580-21539	Lab File ID: CS171566.D
Dilution:	1.0		Initial Weight/Volume: 4.89 g
Date Analyzed:	08/13/2007 0931		Final Weight/Volume: 400 mL
Date Prepared:	08/08/2007 1428		Injection Volume:
			Column ID: PRIMARY
MSD Lab Sample ID:	580-6774-5	Analysis Batch: 580-21755	Instrument ID: SEA003
Client Matrix:	Solid	Prep Batch: 580-21539	Lab File ID: CS171567.D
Dilution:	1.0		Initial Weight/Volume: 4.89 g
Date Analyzed:	08/13/2007 0952		Final Weight/Volume: 400 mL
Date Prepared:	08/08/2007 1428		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Gasoline	92	95	50 - 150	3	35		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	103	103	50 - 150
Trifluorotoluene (Surr)	97	100	50 - 150
Ethylbenzene-d10	118	118	50 - 150
Fluorobenzene (Surr)	93	92	50 - 150
Toluene-d8 (Surr)	104	104	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Method Blank - Batch: 580-21510

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-21510/1-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/09/2007 0049
Date Prepared: 08/08/2007 0956

Analysis Batch: 580-21776
Prep Batch: 580-21510
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB9912.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
PCB-1016	ND		0.10	0.10
PCB-1221	ND		0.10	0.10
PCB-1232	ND		0.10	0.10
PCB-1242	ND		0.10	0.10
PCB-1248	ND		0.10	0.10
PCB-1254	ND		0.10	0.10
PCB-1260	ND		0.10	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	64	45 - 155
DCB Decachlorobiphenyl	71	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21510

Method: 8082
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21510/2-A	Analysis Batch: 580-21776	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21510	Lab File ID: PCB9913.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/09/2007 0113		Final Weight/Volume: 20 mL
Date Prepared:	08/08/2007 0956		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-21510/3-A	Analysis Batch: 580-21776	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21510	Lab File ID: PCB9914.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/09/2007 0137		Final Weight/Volume: 20 mL
Date Prepared:	08/08/2007 0956		Injection Volume:
			Column ID: PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	67	68	57 - 128	6	8		
PCB-1260	73	70	65 - 132	10	8		*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	73	69	45 - 155
DCB Decachlorobiphenyl	73	73	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Method Blank - Batch: 580-21439

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-21439/1-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/10/2007 1314
Date Prepared: 08/07/2007 1023

Analysis Batch: 580-21970
Prep Batch: 580-21439
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA30478.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Motor Oil (>C24-C36)	ND		50	50
#2 Diesel (C10-C24)	ND		25	25

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	98	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21439

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21439/2-B	Analysis Batch:	580-21970	Instrument ID:	SEA013
Client Matrix:	Solid	Prep Batch:	580-21439	Lab File ID:	FA30480.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	08/10/2007 1335			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1023			Injection Volume:	

LCSD Lab Sample ID:	LCSD 580-21439/3-B	Analysis Batch:	580-21970	Instrument ID:	SEA013
Client Matrix:	Solid	Prep Batch:	580-21439	Lab File ID:	FA30482.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	08/10/2007 1401			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1023			Injection Volume:	

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
#2 Diesel (C10-C24)	125	122	64 - 127	69	16		*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	113	103	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21439

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21439/2-B	Analysis Batch:	580-21970	Instrument ID:	SEA013
Client Matrix:	Solid	Prep Batch:	580-21439	Lab File ID:	FA30519.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	08/13/2007 0840			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1023			Injection Volume:	

LCSD Lab Sample ID:	LCSD 580-21439/3-B	Analysis Batch:	580-21970	Instrument ID:	SEA013
Client Matrix:	Solid	Prep Batch:	580-21439	Lab File ID:	FA30520.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	08/13/2007 0906			Final Weight/Volume:	10 mL
Date Prepared:	08/07/2007 1023			Injection Volume:	

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Motor Oil (>C24-C36)	71	95	70 - 125	40	17		*
#2 Diesel (C10-C24)	73	93	64 - 127	44	16		*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	61	83	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Method Blank - Batch: 580-21623

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-21623/21-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1823
Date Prepared: 08/09/2007 1429

Analysis Batch: 580-21671
Prep Batch: 580-21623
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Arsenic	ND		3.0	3.0
Barium	ND		0.50	0.50
Cadmium	ND		0.50	0.50
Chromium	ND		1.3	1.3
Lead	ND		1.5	1.5
Selenium	ND		5.0	5.0
Silver	ND		1.0	1.0

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21623

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-21623/22-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1849
Date Prepared: 08/09/2007 1429

Analysis Batch: 580-21671
Prep Batch: 580-21623
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-21623/23-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/09/2007 1852
Date Prepared: 08/09/2007 1429

Analysis Batch: 580-21671
Prep Batch: 580-21623
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	89	95	80 - 120	6	35		
Barium	93	97	80 - 120	4	35		
Cadmium	89	95	80 - 120	6	35		
Chromium	93	97	80 - 120	4	35		
Lead	88	94	80 - 120	6	35		
Selenium	84	89	80 - 120	6	35		
Silver	89	93	80 - 120	4	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-1

Method Blank - Batch: 580-21695

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 580-21695/19-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1118
Date Prepared: 08/13/2007 0854

Analysis Batch: 580-21769
Prep Batch: 580-21695
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Mercury	ND		0.020	0.020

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-6774-1

Lab Section	Qualifier	Description
GC/MS VOA		
	B	Compound was found in the blank and sample.
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	*	RPD of the LCS and LCSD exceeds the control limits
GC/MS Semi VOA		
	F	MS or MSD exceeds the control limits
	X	Surrogate exceeds the control limits
GC Semi VOA		
	*	LCS or LCSD exceeds the control limits
	*	RPD of the LCS and LCSD exceeds the control limits

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

6774

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GeoEngineers	Kevin Broom	8/02	28695
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 2
1101 S. Fawcett	253-383-4940		
City / State / Zip Code	Site Contact	Lab Contact	
Tacoma WA 98402			
Project Name and Location (State)	Carrier/Waybill Number		
Port of Olympia Phase II			
Contract/Purchase Order/Quote No.			
0615-039-02			

	Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Other	Analysis: Hg 8270	NWTPH-Gx	NWTPH-Dx	RCRA metals (6010/7471)	SVOCs 8270c	cPAHs 8270	PCBs	Hold				Hold 4oz	Special Instructions/ Conditions of Receipt
1	MW18-080202-000	8/02	840				X	1						X	X												
2	" "020		850				X	1						X	X												
3	" "040		905				X	1						1	X												
4	" "060		920				X	1						1	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	X					
5	" "080		935				X	1						1	X	X	X	X	X	X	X				X	mod 1/2 jar (8oz)	
6	" "100		950				X	1						1	X	X	X	X	X	X	X				X	1/2 jar (8oz)	
7	MW30-080202-000		1220				X	2						1	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~			X				X	
8	" "020		1245				X	1						1	X	X	X	X	Y	X	X						
9	" "040		1255				X	1						1								X				1/2 jar (8oz) mod	
10	" "060		1310				X	1						1	X	X	X	X	X	X	X				X	1/2 jar (8oz) mod	
11	" "080		1315				X	1						1								X				3/4 jar (8oz) mod	
12	" "100		1330				X	1						1								X				1/4 jar (8oz) mod	

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Cooler: ☑ Yes ☐ No Cooler Temp: _____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☑ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Kevin Broom	8/3/07	0745	1. Received By: [signature] 4.0 °C	8-3-07	9:50
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

STL8274-580 (12/02)

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

6774

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GeoEngineers	Kevin Broom	8/02	28694
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 2**
1101 S. Fawcett	253-383-4940		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Tacoma / WA / 98402			
Project Name and Location (State)	**Carrier/Waybill Number**		
Port of Olympia - Phase II			
Contract/Purchase Order/Quote No.			
0615-034-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOCs 8270B	NWTPH-Gx	NWTPH-Dx	Cleaned (w/ NWTPH-Dx)	SVOCs 8270C	CPAHs 8270C	PCB 8082	Hold				Hold 4oz/8oz	Special Instructions/ Conditions of Receipt
13 MW17-080207-000	8/02	1540				X	2					1								X				X	
14 " 020		1645				X	2					1								X				X	
15 " 040		1550				X	1					1	X	X	X	X	X	X	X						
16 " 060		1555				X	2					1								X				X	
17 " 080		1600				X	2					1								X				X	
18 " 100		1605				X	2					1	X	X	X	X	X	X	X					X	
19 Trip Blank ~~9/07~~ 8/3/07																									

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Cooler	Possible Hazard Identification	Sample Disposal	(A fee may be assessed if samples are retained longer than 1 month)
[X] Yes [ ] No Cooler Temp:	[ ] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown	[ ] Return To Client [ ] Disposal By Lab [ ] Archive For ____ Months	

Turn Around Time Required (business days)
[ ] 24 Hours [ ] 48 Hours [ ] 5 Days [X] 10 Days [ ] 15 Days [ ] Other ____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Kevin Broom	8/3/07	0745	4.0 °C	8-3-07	9:50
2.						
3.						

Comments

LOGIN SAMPLE RECEIPT CHECK LIST

Client: GeoEngineers Inc

Job Number: 580-6774-1

Login Number: 6774

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 580-6774-2

Job Description: 0615-034-02

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
10/29/2007

cc: Tonya Kauhi

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TestAmerica Laboratories, Inc.
TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com

ACCREDITED IN ACCORDANCE WITH nelac

METHOD SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6774-2

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)	TAL TAC	SW846 8270C	
Ultrasonic Extraction (Low Level)	TAL TAC		SW846 3550B

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6774-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-6774-11	MW20-080207-080	Solid	08/02/2007 1315	08/03/2007 0950

Client: GeoEngineers Inc | Job Number: 580-6774-2

Client Sample ID: **MW20-080207-080**

Lab Sample ID:	580-6774-11			Date Sampled:	08/02/2007 1315
Client Matrix:	Solid	% Moisture:	83.7	Date Received:	08/03/2007 0950

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-25014		Instrument ID:	SEA002
Preparation:	3550B	Prep Batch: 580-24439		Lab File ID:	AT08183.D
Dilution:	1.0			Initial Weight/Volume:	10.8983 g
Date Analyzed:	10/24/2007 1007			Final Weight/Volume:	10 mL
Date Prepared:	10/15/2007 0817			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		ND	H	0.0096	0.028
Chrysene		0.0091	J H	0.0023	0.028
Benzo[a]pyrene		0.0095	J H	0.0023	0.028
Indeno[1,2,3-cd]pyrene		0.011	J H B	0.0014	0.028
Dibenz(a,h)anthracene		0.0084	J H B	0.0012	0.028
Benzo[b]fluoranthene		0.019	J H B	0.0014	0.028
Benzo[k]fluoranthene		0.020	J H B	0.0016	0.028

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	87	38 - 141
2-Fluorobiphenyl	89	42 - 140
Terphenyl-d14	108	42 - 151

General Chemistry

Client Sample ID: **MW20-080207-080**

Lab Sample ID: 580-6774-11
Client Matrix: Solid

Date Sampled: 08/02/2007 1315
Date Received: 08/03/2007 0950

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	16		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-24183	Date Analyzed	10/08/2007 1255				
Percent Moisture	84		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 580-24183	Date Analyzed	10/08/2007 1255				

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-6774-2

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	H	Sample was prepped or analyzed beyond the specified holding time

Client: GeoEngineers Inc

Job Number: 580-6774-2

Method Blank - Batch: 580-24439

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-24439/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/24/2007 0904
Date Prepared: 10/15/2007 0817

Analysis Batch: 580-25014
Prep Batch: 580-24439
Units: mg/Kg

Instrument ID: SEA002
Lab File ID: AT08180.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Benzo[a]anthracene	ND		0.0017	0.0050
Chrysene	ND		0.00040	0.0050
Benzo[a]pyrene	ND		0.00040	0.0050
Indeno[1,2,3-cd]pyrene	0.00069	J	0.00025	0.0050
Dibenz(a,h)anthracene	0.00075	J	0.00022	0.0050
Benzo[b]fluoranthene	0.00035	J	0.00025	0.0050
Benzo[k]fluoranthene	0.00033	J	0.00028	0.0050

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	86	38 - 141
2-Fluorobiphenyl	94	42 - 140
Terphenyl-d14	96	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-2

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-24439

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-24439/2-A	Analysis Batch: 580-25014	Instrument ID: SEA002
Client Matrix:	Solid	Prep Batch: 580-24439	Lab File ID: AT08181.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	10/24/2007 0925		Final Weight/Volume: 10 mL
Date Prepared:	10/15/2007 0817		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-24439/3-A	Analysis Batch: 580-25014	Instrument ID: SEA002
Client Matrix:	Solid	Prep Batch: 580-24439	Lab File ID: AT08182.D
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	10/24/2007 0946		Final Weight/Volume: 10 mL
Date Prepared:	10/15/2007 0817		Injection Volume:

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzo[a]anthracene	103	108	64 - 124	5	27		
Chrysene	94	97	71 - 126	3	26		
Benzo[a]pyrene	97	101	68 - 128	4	30		
Indeno[1,2,3-cd]pyrene	74	87	59 - 139	17	29		
Dibenz(a,h)anthracene	64	79	57 - 142	21	30		
Benzo[b]fluoranthene	101	105	66 - 136	4	31		
Benzo[k]fluoranthene	92	94	63 - 143	1	31		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	87	94	38 - 141
2-Fluorobiphenyl	89	92	42 - 140
Terphenyl-d14	98	106	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6774-2

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-24439

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-6774-11	Analysis Batch:	580-25014	Instrument ID:	SEA002
Client Matrix:	Solid	Prep Batch:	580-24439	Lab File ID:	AT08184.D
Dilution:	1.0			Initial Weight/Volume:	10.5539 g
Date Analyzed:	10/24/2007 1028			Final Weight/Volume:	10 mL
Date Prepared:	10/15/2007 0817			Injection Volume:	

MSD Lab Sample ID:	580-6774-11	Analysis Batch:	580-25014	Instrument ID:	SEA002
Client Matrix:	Solid	Prep Batch:	580-24439	Lab File ID:	AT08185.D
Dilution:	1.0			Initial Weight/Volume:	10.8010 g
Date Analyzed:	10/24/2007 1048			Final Weight/Volume:	10 mL
Date Prepared:	10/15/2007 0817			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzo[a]anthracene	110	113	64 - 124	0	27		
Chrysene	96	97	71 - 126	1	26		
Benzo[a]pyrene	96	99	68 - 128	1	30		
Indeno[1,2,3-cd]pyrene	92	101	59 - 139	7	29		
Dibenz(a,h)anthracene	87	98	57 - 142	9	30		
Benzo[b]fluoranthene	87	89	66 - 136	1	31		
Benzo[k]fluoranthene	87	87	63 - 143	2	31		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Nitrobenzene-d5	89	84	38 - 141
2-Fluorobiphenyl	79	80	42 - 140
Terphenyl-d14	103	105	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Login Sample Receipt Check List

Client: GeoEngineers Inc

Job Number: 580-6774-2

Login Number: 6774
List Source: TestAmerica Tacoma
Creator: Moon, Joseph
List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 580-6792-1

Job Description: 0615-034-02

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
08/21/2007

cc: Tonya Kauhi

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ACCREDITED IN ACCORDANCE WITH nelac

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method 8260B: 5035/8260B

The recoveries of the spiking compounds Chloroethane; Dichlorobromomethane; cis-1,3-Dichloropropene; trans-1,3-Dichloropropene; Chlorodibromomethane; 1,1,1,2-Tetrachloroethane; Bromoform; and 1,2-Dibromo-3-Chloropropane fell below the QC recovery range in the LCS and LCSD. In addition, the compounds Carbon Tetrachloride and Ethylene Dibromide fell below QC recovery range in the LCS. Since a water LCS (data file: VB0008345), which was prepared using the same spiking solutions, was found to be within control limits for all listed compounds except for 1,1,1,2-Tetrachloroethane, which met ME criteria, the anomalies were attributed to the increased amount of methanol in the sparged volume of methanolic extracts. The anomalies were flagged on the appropriate forms. No further corrective action was performed.

No other analytical or quality issues were noted.

GC/MS Semi VOA
The recovery of the surrogate 2-Fluorobiphenyl in sample 580-6792-8 and 2-Fluorophenol in sample 580-6792-35 exceeded quality control limits. All other surrogates were within control limits. No further action was taken on this outlier.

No other analytical or quality issues were noted.

GC Semi VOA
Method 8082: Surrogate recovery for the following sample(s) was outside the upper control limit: 27 and 35. These samples did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed. Noted possible double surrogate.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6792-2	**DP24-080307-080**					
Gasoline		150		9.8	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		170		66	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		81		33	mg/Kg	NWTPH-Dx
580-6792-8	**DP17-080307-040**					
Naphthalene		75	J	720	ug/Kg	8260B
Acenaphthene		240		93	ug/Kg	8270C
#2 Diesel (C10-C24)		130		120	mg/Kg	NWTPH-Dx
Barium		36		2.4	mg/Kg	6010B
Chromium		8.4		6.2	mg/Kg	6010B
Lead		17		7.1	mg/Kg	6010B
580-6792-11	**DP17-080307-100**					
Phenanthrene		98		69	ug/Kg	8270C
Fluoranthene		130		69	ug/Kg	8270C
Pyrene		150		69	ug/Kg	8270C
Benzo[a]anthracene		95		86	ug/Kg	8270C
Chrysene		89		86	ug/Kg	8270C
Motor Oil (>C24-C36)		490		180	mg/Kg	NWTPH-Dx
Arsenic		84		11	mg/Kg	6010B
Barium		33		1.8	mg/Kg	6010B
Chromium		27		4.6	mg/Kg	6010B
Lead		110		5.4	mg/Kg	6010B
580-6792-13	**DP18-080307-020**					
Pyrene		43		28	ug/Kg	8270C
Gasoline		11		11	mg/Kg	NWTPH-Gx
Motor Oil (>C24-C36)		730		72	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		580		36	mg/Kg	NWTPH-Dx
Barium		54		0.72	mg/Kg	6010B
Chromium		16		1.9	mg/Kg	6010B
Lead		4.5		2.2	mg/Kg	6010B

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6792-17	**DP18-080307-100**					
4-Isopropyltoluene		34	J	370	ug/Kg	8260B
3 & 4 Methylphenol		6100		570	ug/Kg	8270C
Phenanthrene		90		57	ug/Kg	8270C
Fluoranthene		160		57	ug/Kg	8270C
Pyrene		160		57	ug/Kg	8270C
Benzo[a]anthracene		91		72	ug/Kg	8270C
Chrysene		80		72	ug/Kg	8270C
Benzo[a]pyrene		130		86	ug/Kg	8270C
Motor Oil (>C24-C36)		4600		140	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		960		71	mg/Kg	NWTPH-Dx
Barium		14		1.5	mg/Kg	6010B
Chromium		11		3.8	mg/Kg	6010B
Lead		8.0		4.4	mg/Kg	6010B
Mercury		0.064		0.061	mg/Kg	7471A
580-6792-19	**DP20-080307-020**					
Bis(2-ethylhexyl) phthalate		3000		1800	ug/Kg	8270C
Barium		30		0.60	mg/Kg	6010B
Chromium		20		1.6	mg/Kg	6010B
580-6792-23	**DP20-080307-100**					
4-Isopropyltoluene		66	J	230	ug/Kg	8260B
#2 Diesel (C10-C24)		600		48	mg/Kg	NWTPH-Dx
Barium		31		0.96	mg/Kg	6010B
Chromium		17		2.5	mg/Kg	6010B
Lead		140		2.9	mg/Kg	6010B
580-6792-27	**DP21-080307-060**					
4-Isopropyltoluene		10	J	110	ug/Kg	8260B
Naphthalene		11	J	110	ug/Kg	8260B
Benzo[g,h,i]perylene		61		40	ug/Kg	8270C
Motor Oil (>C24-C36)		650		79	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		87		39	mg/Kg	NWTPH-Dx
Arsenic		72		4.8	mg/Kg	6010B
Barium		66		0.80	mg/Kg	6010B
Chromium		26		2.1	mg/Kg	6010B
Lead		30		2.4	mg/Kg	6010B
Mercury		0.22		0.031	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6792-29	**DP21-080307-100**					
Motor Oil (>C24-C36)		230		190	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		110		95	mg/Kg	NWTPH-Dx
Barium		23		1.9	mg/Kg	6010B
Chromium		6.3		4.9	mg/Kg	6010B
580-6792-32	**MW15-080307-040**					
Arsenic		3.6		3.5	mg/Kg	6010B
Barium		24		0.58	mg/Kg	6010B
Chromium		19		1.5	mg/Kg	6010B
580-6792-35	**MW15-080307-100**					
Fluoranthene		69		66	ug/Kg	8270C
Pyrene		85		66	ug/Kg	8270C
Motor Oil (>C24-C36)		450		160	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		300		80	mg/Kg	NWTPH-Dx
Barium		4.7		1.6	mg/Kg	6010B
Chromium		7.7		4.3	mg/Kg	6010B
Lead		12		4.9	mg/Kg	6010B
Mercury		0.11		0.068	mg/Kg	7471A
580-6792-38	**DP22-080307-040**					
4-Isopropyltoluene		6.3	J	84	ug/Kg	8260B
Barium		43		0.63	mg/Kg	6010B
Chromium		25		1.6	mg/Kg	6010B
Lead		2.2		1.9	mg/Kg	6010B
580-6792-41	**DP22-080307-100**					
Chloromethane		20	J	100	ug/Kg	8260B
Benzene		8.5	J	20	ug/Kg	8260B
4-Isopropyltoluene		27	J	100	ug/Kg	8260B
Barium		63		0.65	mg/Kg	6010B
Chromium		25		1.7	mg/Kg	6010B
Lead		11		2.0	mg/Kg	6010B
Mercury		0.042		0.027	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6792-44	**DP19-080307-060**					
Benzyl alcohol		770		110	ug/Kg	8270C
Gasoline		73		7.9	mg/Kg	NWTPH-Gx
#2 Diesel (C10-C24)		370		29	mg/Kg	NWTPH-Dx
Barium		36		0.58	mg/Kg	6010B
Chromium		21		1.5	mg/Kg	6010B
Lead		3.0		1.8	mg/Kg	6010B
Mercury		0.031		0.023	mg/Kg	7471A
580-6792-46	**DP19-080307-100**					
Toluene		38	J	170	ug/Kg	8260B
Fluoranthene		32		30	ug/Kg	8270C
Pyrene		35		30	ug/Kg	8270C
Motor Oil (>C24-C36)		89		76	mg/Kg	NWTPH-Dx
#2 Diesel (C10-C24)		67		38	mg/Kg	NWTPH-Dx
Barium		12		0.76	mg/Kg	6010B
Cadmium		0.94		0.76	mg/Kg	6010B
Chromium		23		2.0	mg/Kg	6010B
Lead		10		2.3	mg/Kg	6010B
Mercury		0.065		0.031	mg/Kg	7471A

METHOD SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6792-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds by GC/MS	TAL TAC	SW846 8260B	
Closed System Purge & Trap/Field Methanol	TAL TAC		SW846 5035
Volatile Petroleum Products	TAL TAC	NWTPH NWTPH-Gx	
Closed System Purge & Trap/Field Methanol	TAL TAC		SW846 5035
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL TAC	SW846 8270C	
Ultrasonic Extraction (Low Level)	TAL TAC		SW846 3550B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL TAC	SW846 8082	
Ultrasonic Extraction (Low Level)	TAL TAC		SW846 3550B
Semi-Volatile Petroleum Products by NWTPH-Dx	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Silica Gel Cleanup	TAL TAC		SW846 3630C
Inductively Coupled Plasma - Atomic Emission Spectrometry	TAL TAC	SW846 6010B	
Acid Digestion of Sediments, Sludges, and Soils	TAL TAC		SW846 3050B
Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)	TAL TAC	SW846 7471A	
Mercury in Solid or Semi-Solid Waste (Manual Cold	TAL TAC		SW846 7471A

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

NWTPH =

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-6792-2	DP24-080307-080	Solid	08/03/2007 0855	08/06/2007 1430
580-6792-4	DP25-080307-100	Solid	08/03/2007 1025	08/06/2007 1430
580-6792-8	DP17-080307-040	Solid	08/03/2007 1125	08/06/2007 1430
580-6792-11	DP17-080307-100	Solid	08/03/2007 1140	08/06/2007 1430
580-6792-13	DP18-080307-020	Solid	08/03/2007 1200	08/06/2007 1430
580-6792-17	DP18-080307-100	Solid	08/03/2007 1220	08/06/2007 1430
580-6792-19	DP20-080307-020	Solid	08/03/2007 1245	08/06/2007 1430
580-6792-23	DP20-080307-100	Solid	08/03/2007 1305	08/06/2007 1430
580-6792-27	DP21-080307-060	Solid	08/03/2007 1340	08/06/2007 1430
580-6792-29	DP21-080307-100	Solid	08/03/2007 1350	08/06/2007 1430
580-6792-32	MW15-080307-040	Solid	08/03/2007 1505	08/06/2007 1430
580-6792-35	MW15-080307-100	Solid	08/03/2007 1520	08/06/2007 1430
580-6792-38	DP22-080307-040	Solid	08/03/2007 1615	08/06/2007 1430
580-6792-41	DP22-080307-100	Solid	08/03/2007 1630	08/06/2007 1430
580-6792-44	DP19-080307-060	Solid	08/03/2007 1715	08/06/2007 1430
580-6792-46	DP19-080307-100	Solid	08/03/2007 1725	08/06/2007 1430

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP17-080307-040**

Lab Sample ID: 580-6792-8 | Date Sampled: 08/03/2007 1125
Client Matrix: Solid | % Moisture: 80.0 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008353.D
Dilution: 1.0 | Initial Weight/Volume: 2.79 g
Date Analyzed: 08/14/2007 1640 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		100	720
Chloromethane		ND		130	720
Vinyl chloride		ND		93	290
Bromomethane		ND		500	3600
Chloroethane		ND	*	520	3600
Trichlorofluoromethane		ND		68	720
1,1-Dichloroethene		ND		95	290
Methylene Chloride		ND		110	720
trans-1,2-Dichloroethene		ND		77	720
1,1-Dichloroethane		ND		170	720
2,2-Dichloropropane		ND		84	720
cis-1,2-Dichloroethene		ND		110	720
Chlorobromomethane		ND		86	720
Chloroform		ND		68	720
1,1,1-Trichloroethane		ND		70	290
Carbon tetrachloride		ND	*	54	290
1,1-Dichloropropene		ND		55	720
Benzene		ND		50	140
1,2-Dichloroethane		ND		140	720
Trichloroethene		ND		54	290
1,2-Dichloropropane		ND		45	140
Dibromomethane		ND		130	720
Dichlorobromomethane		ND	*	50	720
cis-1,3-Dichloropropene		ND	*	50	720
Toluene		ND		130	720
trans-1,3-Dichloropropene		ND	*	50	720
1,1,2-Trichloroethane		ND		64	720
Tetrachloroethene		ND		130	450
1,3-Dichloropropane		ND		75	290
Chlorodibromomethane		ND	*	45	720
Ethylene Dibromide		ND	*	120	720
Chlorobenzene		ND		210	720
Ethylbenzene		ND		130	720
1,1,1,2-Tetrachloroethane		ND	*	68	720
1,1,2,2-Tetrachloroethane		ND		43	140
m-Xylene & p-Xylene		ND		270	720
o-Xylene		ND		130	720
Styrene		ND		57	720
Bromoform		ND	*	50	720
Isopropylbenzene		ND		110	720
Bromobenzene		ND		64	720
N-Propylbenzene		ND		120	720
1,2,3-Trichloropropane		ND		130	720
2-Chlorotoluene		ND		100	720

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP17-080307-040

Lab Sample ID: 580-6792-8 | Date Sampled: 08/03/2007 1125
Client Matrix: Solid | % Moisture: 80.0 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008353.D
Dilution: 1.0 | Initial Weight/Volume: 2.79 g
Date Analyzed: 08/14/2007 1640 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		110	720
4-Chlorotoluene		ND		63	720
tert-Butylbenzene		ND		61	720
1,2,4-Trimethylbenzene		ND		120	720
sec-Butylbenzene		ND		29	720
1,3-Dichlorobenzene		ND		73	720
4-Isopropyltoluene		ND		50	720
1,4-Dichlorobenzene		ND		36	720
n-Butylbenzene		ND		43	720
1,2-Dichlorobenzene		ND		61	720
1,2-Dibromo-3-Chloropropane		ND	*	160	720
1,2,4-Trichlorobenzene		ND		70	720
1,2,3-Trichlorobenzene		ND		86	720
Hexachlorobutadiene		ND		120	720
Naphthalene		75	J	46	720

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	98	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	93	85 - 120
Trifluorotoluene (Surr)	89	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP17-080307-100

Lab Sample ID: 580-6792-11 | Date Sampled: 08/03/2007 1140
Client Matrix: Solid | % Moisture: 72.9 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008354.D
Dilution: 1.0 | Initial Weight/Volume: 2.87 g
Date Analyzed: 08/14/2007 1703 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		72	510
Chloromethane		ND		94	510
Vinyl chloride		ND		67	210
Bromomethane		ND		360	2600
Chloroethane		ND	*	370	2600
Trichlorofluoromethane		ND		49	510
1,1-Dichloroethene		ND		68	210
Methylene Chloride		ND		78	510
trans-1,2-Dichloroethene		ND		55	510
1,1-Dichloroethane		ND		120	510
2,2-Dichloropropane		ND		60	510
cis-1,2-Dichloroethene		ND		77	510
Chlorobromomethane		ND		62	510
Chloroform		ND		49	510
1,1,1-Trichloroethane		ND		50	210
Carbon tetrachloride		ND	*	39	210
1,1-Dichloropropene		ND		40	510
Benzene		ND		36	100
1,2-Dichloroethane		ND		100	510
Trichloroethene		ND		39	210
1,2-Dichloropropane		ND		32	100
Dibromomethane		ND		94	510
Dichlorobromomethane		ND	*	36	510
cis-1,3-Dichloropropene		ND	*	36	510
Toluene		ND		95	510
trans-1,3-Dichloropropene		ND	*	36	510
1,1,2-Trichloroethane		ND		46	510
Tetrachloroethene		ND		94	320
1,3-Dichloropropane		ND		54	210
Chlorodibromomethane		ND	*	32	510
Ethylene Dibromide		ND	*	85	510
Chlorobenzene		ND		150	510
Ethylbenzene		ND		93	510
1,1,1,2-Tetrachloroethane		ND	*	49	510
1,1,2,2-Tetrachloroethane		ND		31	100
m-Xylene & p-Xylene		ND		190	510
o-Xylene		ND		93	510
Styrene		ND		41	510
Bromoform		ND	*	36	510
Isopropylbenzene		ND		78	510
Bromobenzene		ND		46	510
N-Propylbenzene		ND		89	510
1,2,3-Trichloropropane		ND		91	510
2-Chlorotoluene		ND		75	510

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP17-080307-100

Lab Sample ID: 580-6792-11
Client Matrix: Solid
% Moisture: 72.9
Date Sampled: 08/03/2007 1140
Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/14/2007 1703
Date Prepared: 08/13/2007 1154
Analysis Batch: 580-21828
Prep Batch: 580-21722
Instrument ID: SEA043
Lab File ID: VB0008354.D
Initial Weight/Volume: 2.87 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		77	510
4-Chlorotoluene		ND		45	510
tert-Butylbenzene		ND		44	510
1,2,4-Trimethylbenzene		ND		89	510
sec-Butylbenzene		ND		21	510
1,3-Dichlorobenzene		ND		53	510
4-Isopropyltoluene		ND		36	510
1,4-Dichlorobenzene		ND		26	510
n-Butylbenzene		ND		31	510
1,2-Dichlorobenzene		ND		44	510
1,2-Dibromo-3-Chloropropane		ND	*	110	510
1,2,4-Trichlorobenzene		ND		50	510
1,2,3-Trichlorobenzene		ND		62	510
Hexachlorobutadiene		ND		85	510
Naphthalene		ND		33	510

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	98	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	87	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP18-080307-020

Lab Sample ID: 580-6792-13 | Date Sampled: 08/03/2007 1200
Client Matrix: Solid | % Moisture: 33.7 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008355.D
Dilution: 1.0 | Initial Weight/Volume: 5.54 g
Date Analyzed: 08/14/2007 1725 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		15	110
Chloromethane		ND		20	110
Vinyl chloride		ND		14	44
Bromomethane		ND		76	540
Chloroethane		ND	*	79	540
Trichlorofluoromethane		ND		10	110
1,1-Dichloroethene		ND		14	44
Methylene Chloride		ND		17	110
trans-1,2-Dichloroethene		ND		12	110
1,1-Dichloroethane		ND		26	110
2,2-Dichloropropane		ND		13	110
cis-1,2-Dichloroethene		ND		16	110
Chlorobromomethane		ND		13	110
Chloroform		ND		10	110
1,1,1-Trichloroethane		ND		11	44
Carbon tetrachloride		ND	*	8.2	44
1,1-Dichloropropene		ND		8.4	110
Benzene		ND		7.6	22
1,2-Dichloroethane		ND		22	110
Trichloroethene		ND		8.2	44
1,2-Dichloropropane		ND		6.8	22
Dibromomethane		ND		20	110
Dichlorobromomethane		ND	*	7.6	110
cis-1,3-Dichloropropene		ND	*	7.6	110
Toluene		ND		20	110
trans-1,3-Dichloropropene		ND	*	7.6	110
1,1,2-Trichloroethane		ND		9.8	110
Tetrachloroethene		ND		20	68
1,3-Dichloropropane		ND		11	44
Chlorodibromomethane		ND	*	6.8	110
Ethylene Dibromide		ND	*	18	110
Chlorobenzene		ND		33	110
Ethylbenzene		ND		20	110
1,1,1,2-Tetrachloroethane		ND	*	10	110
1,1,2,2-Tetrachloroethane		ND		6.5	22
m-Xylene & p-Xylene		ND		41	110
o-Xylene		ND		20	110
Styrene		ND		8.7	110
Bromoform		ND	*	7.6	110
Isopropylbenzene		ND		17	110
Bromobenzene		ND		9.8	110
N-Propylbenzene		ND		19	110
1,2,3-Trichloropropane		ND		19	110
2-Chlorotoluene		ND		16	110

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP18-080307-020

Lab Sample ID: 580-6792-13 | Date Sampled: 08/03/2007 1200
Client Matrix: Solid | % Moisture: 33.7 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008355.D
Dilution: 1.0 | Initial Weight/Volume: 5.54 g
Date Analyzed: 08/14/2007 1725 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		16	110
4-Chlorotoluene		ND		9.5	110
tert-Butylbenzene		ND		9.3	110
1,2,4-Trimethylbenzene		ND		19	110
sec-Butylbenzene		ND		4.4	110
1,3-Dichlorobenzene		ND		11	110
4-Isopropyltoluene		ND		7.6	110
1,4-Dichlorobenzene		ND		5.4	110
n-Butylbenzene		ND		6.5	110
1,2-Dichlorobenzene		ND		9.3	110
1,2-Dibromo-3-Chloropropane		ND	*	24	110
1,2,4-Trichlorobenzene		ND		11	110
1,2,3-Trichlorobenzene		ND		13	110
Hexachlorobutadiene		ND		18	110
Naphthalene		ND		7.1	110

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	92	75 - 125
4-Bromofluorobenzene (Surr)	90	85 - 120
Trifluorotoluene (Surr)	100	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP18-080307-100

Lab Sample ID: 580-6792-17 | Date Sampled: 08/03/2007 1220
Client Matrix: Solid | % Moisture: 67.4 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008356.D
Dilution: 1.0 | Initial Weight/Volume: 3.29 g
Date Analyzed: 08/14/2007 1747 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		52	370
Chloromethane		ND		68	370
Vinyl chloride		ND		48	150
Bromomethane		ND		260	1900
Chloroethane		ND	*	270	1900
Trichlorofluoromethane		ND		35	370
1,1-Dichloroethene		ND		49	150
Methylene Chloride		ND		57	370
trans-1,2-Dichloroethene		ND		40	370
1,1-Dichloroethane		ND		88	370
2,2-Dichloropropane		ND		44	370
cis-1,2-Dichloroethene		ND		56	370
Chlorobromomethane		ND		45	370
Chloroform		ND		35	370
1,1,1-Trichloroethane		ND		36	150
Carbon tetrachloride		ND	*	28	150
1,1-Dichloropropene		ND		29	370
Benzene		ND		26	75
1,2-Dichloroethane		ND		75	370
Trichloroethene		ND		28	150
1,2-Dichloropropane		ND		23	75
Dibromomethane		ND		68	370
Dichlorobromomethane		ND	*	26	370
cis-1,3-Dichloropropene		ND	*	26	370
Toluene		ND		69	370
trans-1,3-Dichloropropene		ND	*	26	370
1,1,2-Trichloroethane		ND		34	370
Tetrachloroethene		ND		68	230
1,3-Dichloropropane		ND		39	150
Chlorodibromomethane		ND	*	23	370
Ethylene Dibromide		ND	*	61	370
Chlorobenzene		ND		110	370
Ethylbenzene		ND		67	370
1,1,1,2-Tetrachloroethane		ND	*	35	370
1,1,2,2-Tetrachloroethane		ND		22	75
m-Xylene & p-Xylene		ND		140	370
o-Xylene		ND		67	370
Styrene		ND		30	370
Bromoform		ND	*	26	370
Isopropylbenzene		ND		57	370
Bromobenzene		ND		34	370
N-Propylbenzene		ND		64	370
1,2,3-Trichloropropane		ND		66	370
2-Chlorotoluene		ND		54	370

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP18-080307-100

Lab Sample ID: 580-6792-17 | Date Sampled: 08/03/2007 1220
Client Matrix: Solid | % Moisture: 67.4 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008356.D
Dilution: 1.0 | Initial Weight/Volume: 3.29 g
Date Analyzed: 08/14/2007 1747 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		56	370
4-Chlorotoluene		ND		33	370
tert-Butylbenzene		ND		32	370
1,2,4-Trimethylbenzene		ND		64	370
sec-Butylbenzene		ND		15	370
1,3-Dichlorobenzene		ND		38	370
4-Isopropyltoluene		34	J	26	370
1,4-Dichlorobenzene		ND		19	370
n-Butylbenzene		ND		22	370
1,2-Dichlorobenzene		ND		32	370
1,2-Dibromo-3-Chloropropane		ND	*	82	370
1,2,4-Trichlorobenzene		ND		36	370
1,2,3-Trichlorobenzene		ND		45	370
Hexachlorobutadiene		ND		61	370
Naphthalene		ND		24	370

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	92	75 - 125
Toluene-d8 (Surr)	98	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	93	85 - 120
Trifluorotoluene (Surr)	76	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP20-080307-020

Lab Sample ID: 580-6792-19 | Date Sampled: 08/03/2007 1245
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008357.D
Dilution: 1.0 | Initial Weight/Volume: 5.93 g
Date Analyzed: 08/14/2007 1810 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		12	85
Chloromethane		ND		16	85
Vinyl chloride		ND		11	34
Bromomethane		ND		60	430
Chloroethane		ND	*	62	430
Trichlorofluoromethane		ND		8.1	85
1,1-Dichloroethene		ND		11	34
Methylene Chloride		ND		13	85
trans-1,2-Dichloroethene		ND		9.2	85
1,1-Dichloroethane		ND		20	85
2,2-Dichloropropane		ND		10	85
cis-1,2-Dichloroethene		ND		13	85
Chlorobromomethane		ND		10	85
Chloroform		ND		8.1	85
1,1,1-Trichloroethane		ND		8.3	34
Carbon tetrachloride		ND	*	6.4	34
1,1-Dichloropropene		ND		6.6	85
Benzene		ND		6.0	17
1,2-Dichloroethane		ND		17	85
Trichloroethene		ND		6.4	34
1,2-Dichloropropane		ND		5.3	17
Dibromomethane		ND		16	85
Dichlorobromomethane		ND	*	6.0	85
cis-1,3-Dichloropropene		ND	*	6.0	85
Toluene		ND		16	85
trans-1,3-Dichloropropene		ND	*	6.0	85
1,1,2-Trichloroethane		ND		7.7	85
Tetrachloroethene		ND		16	53
1,3-Dichloropropane		ND		9.0	34
Chlorodibromomethane		ND	*	5.3	85
Ethylene Dibromide		ND	*	14	85
Chlorobenzene		ND		26	85
Ethylbenzene		ND		15	85
1,1,1,2-Tetrachloroethane		ND	*	8.1	85
1,1,2,2-Tetrachloroethane		ND		5.1	17
m-Xylene & p-Xylene		ND		32	85
o-Xylene		ND		15	85
Styrene		ND		6.8	85
Bromoform		ND	*	6.0	85
Isopropylbenzene		ND		13	85
Bromobenzene		ND		7.7	85
N-Propylbenzene		ND		15	85
1,2,3-Trichloropropane		ND		15	85
2-Chlorotoluene		ND		12	85

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP20-080307-020

Lab Sample ID: 580-6792-19 | Date Sampled: 08/03/2007 1245
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008357.D
Dilution: 1.0 | Initial Weight/Volume: 5.93 g
Date Analyzed: 08/14/2007 1810 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		13	85
4-Chlorotoluene		ND		7.5	85
tert-Butylbenzene		ND		7.3	85
1,2,4-Trimethylbenzene		ND		15	85
sec-Butylbenzene		ND		3.4	85
1,3-Dichlorobenzene		ND		8.7	85
4-Isopropyltoluene		ND		6.0	85
1,4-Dichlorobenzene		ND		4.3	85
n-Butylbenzene		ND		5.1	85
1,2-Dichlorobenzene		ND		7.3	85
1,2-Dibromo-3-Chloropropane		ND	*	19	85
1,2,4-Trichlorobenzene		ND		8.3	85
1,2,3-Trichlorobenzene		ND		10	85
Hexachlorobutadiene		ND		14	85
Naphthalene		ND		5.5	85

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	90	85 - 120
Trifluorotoluene (Surr)	89	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP20-080307-100

Lab Sample ID: 580-6792-23 | Date Sampled: 08/03/2007 1305
Client Matrix: Solid | % Moisture: 50.7 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008358.D
Dilution: 1.0 | Initial Weight/Volume: 3.51 g
Date Analyzed: 08/14/2007 1832 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		32	230
Chloromethane		ND		42	230
Vinyl chloride		ND		30	92
Bromomethane		ND		160	1200
Chloroethane		ND	*	170	1200
Trichlorofluoromethane		ND		22	230
1,1-Dichloroethene		ND		31	92
Methylene Chloride		ND		35	230
trans-1,2-Dichloroethene		ND		25	230
1,1-Dichloroethane		ND		55	230
2,2-Dichloropropane		ND		27	230
cis-1,2-Dichloroethene		ND		35	230
Chlorobromomethane		ND		28	230
Chloroform		ND		22	230
1,1,1-Trichloroethane		ND		23	92
Carbon tetrachloride		ND	*	17	92
1,1-Dichloropropene		ND		18	230
Benzene		ND		16	46
1,2-Dichloroethane		ND		47	230
Trichloroethene		ND		17	92
1,2-Dichloropropane		ND		14	46
Dibromomethane		ND		42	230
Dichlorobromomethane		ND	*	16	230
cis-1,3-Dichloropropene		ND	*	16	230
Toluene		ND		43	230
trans-1,3-Dichloropropene		ND	*	16	230
1,1,2-Trichloroethane		ND		21	230
Tetrachloroethene		ND		42	140
1,3-Dichloropropane		ND		24	92
Chlorodibromomethane		ND	*	14	230
Ethylene Dibromide		ND	*	38	230
Chlorobenzene		ND		69	230
Ethylbenzene		ND		42	230
1,1,1,2-Tetrachloroethane		ND	*	22	230
1,1,2,2-Tetrachloroethane		ND		14	46
m-Xylene & p-Xylene		ND		87	230
o-Xylene		ND		42	230
Styrene		ND		18	230
Bromoform		ND	*	16	230
Isopropylbenzene		ND		35	230
Bromobenzene		ND		21	230
N-Propylbenzene		ND		40	230
1,2,3-Trichloropropane		ND		41	230
2-Chlorotoluene		ND		34	230

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP20-080307-100

Lab Sample ID: 580-6792-23 | Date Sampled: 08/03/2007 1305
Client Matrix: Solid | % Moisture: 50.7 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008358.D
Dilution: 1.0 | Initial Weight/Volume: 3.51 g
Date Analyzed: 08/14/2007 1832 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		35	230
4-Chlorotoluene		ND		20	230
tert-Butylbenzene		ND		20	230
1,2,4-Trimethylbenzene		ND		40	230
sec-Butylbenzene		ND		9.2	230
1,3-Dichlorobenzene		ND		24	230
4-Isopropyltoluene		66	J	16	230
1,4-Dichlorobenzene		ND		12	230
n-Butylbenzene		ND		14	230
1,2-Dichlorobenzene		ND		20	230
1,2-Dibromo-3-Chloropropane		ND	*	51	230
1,2,4-Trichlorobenzene		ND		23	230
1,2,3-Trichlorobenzene		ND		28	230
Hexachlorobutadiene		ND		38	230
Naphthalene		ND		15	230

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	89	75 - 125
Toluene-d8 (Surr)	99	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	89	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP21-080307-060

Lab Sample ID: 580-6792-27 | Date Sampled: 08/03/2007 1340
Client Matrix: Solid | % Moisture: 40.5 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008359.D
Dilution: 1.0 | Initial Weight/Volume: 6.01 g
Date Analyzed: 08/14/2007 1854 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		16	110
Chloromethane		ND		20	110
Vinyl chloride		ND		15	45
Bromomethane		ND		78	560
Chloroethane		ND	*	81	560
Trichlorofluoromethane		ND		11	110
1,1-Dichloroethene		ND		15	45
Methylene Chloride		ND		17	110
trans-1,2-Dichloroethene		ND		12	110
1,1-Dichloroethane		ND		27	110
2,2-Dichloropropane		ND		13	110
cis-1,2-Dichloroethene		ND		17	110
Chlorobromomethane		ND		13	110
Chloroform		ND		11	110
1,1,1-Trichloroethane		ND		11	45
Carbon tetrachloride		ND	*	8.4	45
1,1-Dichloropropene		ND		8.7	110
Benzene		ND		7.8	22
1,2-Dichloroethane		ND		23	110
Trichloroethene		ND		8.4	45
1,2-Dichloropropane		ND		7.0	22
Dibromomethane		ND		20	110
Dichlorobromomethane		ND	*	7.8	110
cis-1,3-Dichloropropene		ND	*	7.8	110
Toluene		ND		21	110
trans-1,3-Dichloropropene		ND	*	7.8	110
1,1,2-Trichloroethane		ND		10	110
Tetrachloroethene		ND		20	70
1,3-Dichloropropane		ND		12	45
Chlorodibromomethane		ND	*	7.0	110
Ethylene Dibromide		ND	*	18	110
Chlorobenzene		ND		34	110
Ethylbenzene		ND		20	110
1,1,1,2-Tetrachloroethane		ND	*	11	110
1,1,2,2-Tetrachloroethane		ND		6.7	22
m-Xylene & p-Xylene		ND		42	110
o-Xylene		ND		20	110
Styrene		ND		8.9	110
Bromoform		ND	*	7.8	110
Isopropylbenzene		ND		17	110
Bromobenzene		ND		10	110
N-Propylbenzene		ND		19	110
1,2,3-Trichloropropane		ND		20	110
2-Chlorotoluene		ND		16	110

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP21-080307-060

Lab Sample ID: 580-6792-27 | Date Sampled: 08/03/2007 1340
Client Matrix: Solid | % Moisture: 40.5 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008359.D
Dilution: 1.0 | Initial Weight/Volume: 6.01 g
Date Analyzed: 08/14/2007 1854 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		17	110
4-Chlorotoluene		ND		9.8	110
tert-Butylbenzene		ND		9.5	110
1,2,4-Trimethylbenzene		ND		19	110
sec-Butylbenzene		ND		4.5	110
1,3-Dichlorobenzene		ND		11	110
4-Isopropyltoluene		10	J	7.8	110
1,4-Dichlorobenzene		ND		5.6	110
n-Butylbenzene		ND		6.7	110
1,2-Dichlorobenzene		ND		9.5	110
1,2-Dibromo-3-Chloropropane		ND	*	25	110
1,2,4-Trichlorobenzene		ND		11	110
1,2,3-Trichlorobenzene		ND		13	110
Hexachlorobutadiene		ND		18	110
Naphthalene		11	J	7.3	110

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	92	85 - 120
Trifluorotoluene (Surr)	93	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP21-080307-100**

Lab Sample ID: 580-6792-29 | Date Sampled: 08/03/2007 1350
Client Matrix: Solid | % Moisture: 74.3 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008360.D
Dilution: 1.0 | Initial Weight/Volume: 2.96 g
Date Analyzed: 08/14/2007 1916 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		74	530
Chloromethane		ND		96	530
Vinyl chloride		ND		68	210
Bromomethane		ND		370	2600
Chloroethane		ND	*	380	2600
Trichlorofluoromethane		ND		50	530
1,1-Dichloroethene		ND		70	210
Methylene Chloride		ND		80	530
trans-1,2-Dichloroethene		ND		57	530
1,1-Dichloroethane		ND		120	530
2,2-Dichloropropane		ND		62	530
cis-1,2-Dichloroethene		ND		79	530
Chlorobromomethane		ND		63	530
Chloroform		ND		50	530
1,1,1-Trichloroethane		ND		51	210
Carbon tetrachloride		ND	*	39	210
1,1-Dichloropropene		ND		41	530
Benzene		ND		37	110
1,2-Dichloroethane		ND		110	530
Trichloroethene		ND		39	210
1,2-Dichloropropane		ND		33	110
Dibromomethane		ND		96	530
Dichlorobromomethane		ND	*	37	530
cis-1,3-Dichloropropene		ND	*	37	530
Toluene		ND		97	530
trans-1,3-Dichloropropene		ND	*	37	530
1,1,2-Trichloroethane		ND		47	530
Tetrachloroethene		ND		96	330
1,3-Dichloropropane		ND		55	210
Chlorodibromomethane		ND	*	33	530
Ethylene Dibromide		ND	*	87	530
Chlorobenzene		ND		160	530
Ethylbenzene		ND		95	530
1,1,1,2-Tetrachloroethane		ND	*	50	530
1,1,2,2-Tetrachloroethane		ND		32	110
m-Xylene & p-Xylene		ND		200	530
o-Xylene		ND		95	530
Styrene		ND		42	530
Bromoform		ND	*	37	530
Isopropylbenzene		ND		80	530
Bromobenzene		ND		47	530
N-Propylbenzene		ND		91	530
1,2,3-Trichloropropane		ND		93	530
2-Chlorotoluene		ND		76	530

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP21-080307-100

Lab Sample ID: 580-6792-29
Client Matrix: Solid
% Moisture: 74.3
Date Sampled: 08/03/2007 1350
Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/14/2007 1916
Date Prepared: 08/13/2007 1154
Analysis Batch: 580-21828
Prep Batch: 580-21722
Instrument ID: SEA043
Lab File ID: VB0008360.D
Initial Weight/Volume: 2.96 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		79	530
4-Chlorotoluene		ND		46	530
tert-Butylbenzene		ND		45	530
1,2,4-Trimethylbenzene		ND		91	530
sec-Butylbenzene		ND		21	530
1,3-Dichlorobenzene		ND		54	530
4-Isopropyltoluene		ND		37	530
1,4-Dichlorobenzene		ND		26	530
n-Butylbenzene		ND		32	530
1,2-Dichlorobenzene		ND		45	530
1,2-Dibromo-3-Chloropropane		ND	*	120	530
1,2,4-Trichlorobenzene		ND		51	530
1,2,3-Trichlorobenzene		ND		63	530
Hexachlorobutadiene		ND		87	530
Naphthalene		ND		34	530

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	92	75 - 125
Toluene-d8 (Surr)	96	85 - 115
Ethylbenzene-d10	93	75 - 125
4-Bromofluorobenzene (Surr)	90	85 - 120
Trifluorotoluene (Surr)	86	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: MW15-080307-040

Lab Sample ID: 580-6792-32 | Date Sampled: 08/03/2007 1505
Client Matrix: Solid | % Moisture: 16.8 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008361.D
Dilution: 1.0 | Initial Weight/Volume: 5.66 g
Date Analyzed: 08/14/2007 1939 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		12	85
Chloromethane		ND		15	85
Vinyl chloride		ND		11	34
Bromomethane		ND		59	420
Chloroethane		ND	*	62	420
Trichlorofluoromethane		ND		8.1	85
1,1-Dichloroethene		ND		11	34
Methylene Chloride		ND		13	85
trans-1,2-Dichloroethene		ND		9.1	85
1,1-Dichloroethane		ND		20	85
2,2-Dichloropropane		ND		10	85
cis-1,2-Dichloroethene		ND		13	85
Chlorobromomethane		ND		10	85
Chloroform		ND		8.1	85
1,1,1-Trichloroethane		ND		8.3	34
Carbon tetrachloride		ND	*	6.4	34
1,1-Dichloropropene		ND		6.6	85
Benzene		ND		5.9	17
1,2-Dichloroethane		ND		17	85
Trichloroethene		ND		6.4	34
1,2-Dichloropropane		ND		5.3	17
Dibromomethane		ND		15	85
Dichlorobromomethane		ND	*	5.9	85
cis-1,3-Dichloropropene		ND	*	5.9	85
Toluene		ND		16	85
trans-1,3-Dichloropropene		ND	*	5.9	85
1,1,2-Trichloroethane		ND		7.6	85
Tetrachloroethene		ND		15	53
1,3-Dichloropropane		ND		8.9	34
Chlorodibromomethane		ND	*	5.3	85
Ethylene Dibromide		ND	*	14	85
Chlorobenzene		ND		25	85
Ethylbenzene		ND		15	85
1,1,1,2-Tetrachloroethane		ND	*	8.1	85
1,1,2,2-Tetrachloroethane		ND		5.1	17
m-Xylene & p-Xylene		ND		32	85
o-Xylene		ND		15	85
Styrene		ND		6.8	85
Bromoform		ND	*	5.9	85
Isopropylbenzene		ND		13	85
Bromobenzene		ND		7.6	85
N-Propylbenzene		ND		15	85
1,2,3-Trichloropropane		ND		15	85
2-Chlorotoluene		ND		12	85

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: MW15-080307-040

Lab Sample ID: 580-6792-32
Client Matrix: Solid
% Moisture: 16.8
Date Sampled: 08/03/2007 1505
Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/14/2007 1939
Date Prepared: 08/13/2007 1154
Analysis Batch: 580-21828
Prep Batch: 580-21722
Instrument ID: SEA043
Lab File ID: VB0008361.D
Initial Weight/Volume: 5.66 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		13	85
4-Chlorotoluene		ND		7.4	85
tert-Butylbenzene		ND		7.2	85
1,2,4-Trimethylbenzene		ND		15	85
sec-Butylbenzene		ND		3.4	85
1,3-Dichlorobenzene		ND		8.7	85
4-Isopropyltoluene		ND		5.9	85
1,4-Dichlorobenzene		ND		4.2	85
n-Butylbenzene		ND		5.1	85
1,2-Dichlorobenzene		ND		7.2	85
1,2-Dibromo-3-Chloropropane		ND	*	19	85
1,2,4-Trichlorobenzene		ND		8.3	85
1,2,3-Trichlorobenzene		ND		10	85
Hexachlorobutadiene		ND		14	85
Naphthalene		ND		5.5	85

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	90	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	89	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: MW15-080307-100

Lab Sample ID: 580-6792-35 | Date Sampled: 08/03/2007 1520
Client Matrix: Solid | % Moisture: 71.2 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008362.D
Dilution: 1.0 | Initial Weight/Volume: 3.71 g
Date Analyzed: 08/14/2007 2001 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		52	370
Chloromethane		ND		68	370
Vinyl chloride		ND		49	150
Bromomethane		ND		260	1900
Chloroethane		ND	*	270	1900
Trichlorofluoromethane		ND		36	370
1,1-Dichloroethene		ND		50	150
Methylene Chloride		ND		57	370
trans-1,2-Dichloroethene		ND		40	370
1,1-Dichloroethane		ND		89	370
2,2-Dichloropropane		ND		44	370
cis-1,2-Dichloroethene		ND		56	370
Chlorobromomethane		ND		45	370
Chloroform		ND		36	370
1,1,1-Trichloroethane		ND		37	150
Carbon tetrachloride		ND	*	28	150
1,1-Dichloropropene		ND		29	370
Benzene		ND		26	75
1,2-Dichloroethane		ND		76	370
Trichloroethene		ND		28	150
1,2-Dichloropropane		ND		23	75
Dibromomethane		ND		68	370
Dichlorobromomethane		ND	*	26	370
cis-1,3-Dichloropropene		ND	*	26	370
Toluene		ND		69	370
trans-1,3-Dichloropropene		ND	*	26	370
1,1,2-Trichloroethane		ND		34	370
Tetrachloroethene		ND		68	230
1,3-Dichloropropane		ND		39	150
Chlorodibromomethane		ND	*	23	370
Ethylene Dibromide		ND	*	62	370
Chlorobenzene		ND		110	370
Ethylbenzene		ND		67	370
1,1,1,2-Tetrachloroethane		ND	*	36	370
1,1,2,2-Tetrachloroethane		ND		22	75
m-Xylene & p-Xylene		ND		140	370
o-Xylene		ND		67	370
Styrene		ND		30	370
Bromoform		ND	*	26	370
Isopropylbenzene		ND		57	370
Bromobenzene		ND		34	370
N-Propylbenzene		ND		65	370
1,2,3-Trichloropropane		ND		67	370
2-Chlorotoluene		ND		54	370

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: MW15-080307-100

Lab Sample ID: 580-6792-35 | Date Sampled: 08/03/2007 1520
Client Matrix: Solid | % Moisture: 71.2 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008362.D
Dilution: 1.0 | Initial Weight/Volume: 3.71 g
Date Analyzed: 08/14/2007 2001 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		56	370
4-Chlorotoluene		ND		33	370
tert-Butylbenzene		ND		32	370
1,2,4-Trimethylbenzene		ND		65	370
sec-Butylbenzene		ND		15	370
1,3-Dichlorobenzene		ND		38	370
4-Isopropyltoluene		ND		26	370
1,4-Dichlorobenzene		ND		19	370
n-Butylbenzene		ND		22	370
1,2-Dichlorobenzene		ND		32	370
1,2-Dibromo-3-Chloropropane		ND	*	82	370
1,2,4-Trichlorobenzene		ND		37	370
1,2,3-Trichlorobenzene		ND		45	370
Hexachlorobutadiene		ND		62	370
Naphthalene		ND		24	370

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	89	75 - 125
Toluene-d8 (Surr)	99	85 - 115
Ethylbenzene-d10	93	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	84	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP22-080307-040

Lab Sample ID: 580-6792-38 | Date Sampled: 08/03/2007 1615
Client Matrix: Solid | % Moisture: 22.3 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008363.D
Dilution: 1.0 | Initial Weight/Volume: 6.13 g
Date Analyzed: 08/14/2007 2023 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		12	84
Chloromethane		ND		15	84
Vinyl chloride		ND		11	34
Bromomethane		ND		59	420
Chloroethane		ND	*	61	420
Trichlorofluoromethane		ND		8.0	84
1,1-Dichloroethene		ND		11	34
Methylene Chloride		ND		13	84
trans-1,2-Dichloroethene		ND		9.0	84
1,1-Dichloroethane		ND		20	84
2,2-Dichloropropane		ND		9.9	84
cis-1,2-Dichloroethene		ND		13	84
Chlorobromomethane		ND		10	84
Chloroform		ND		8.0	84
1,1,1-Trichloroethane		ND		8.2	34
Carbon tetrachloride		ND	*	6.3	34
1,1-Dichloropropene		ND		6.5	84
Benzene		ND		5.9	17
1,2-Dichloroethane		ND		17	84
Trichloroethene		ND		6.3	34
1,2-Dichloropropane		ND		5.2	17
Dibromomethane		ND		15	84
Dichlorobromomethane		ND	*	5.9	84
cis-1,3-Dichloropropene		ND	*	5.9	84
Toluene		ND		16	84
trans-1,3-Dichloropropene		ND	*	5.9	84
1,1,2-Trichloroethane		ND		7.6	84
Tetrachloroethene		ND		15	52
1,3-Dichloropropane		ND		8.8	34
Chlorodibromomethane		ND	*	5.2	84
Ethylene Dibromide		ND	*	14	84
Chlorobenzene		ND		25	84
Ethylbenzene		ND		15	84
1,1,1,2-Tetrachloroethane		ND	*	8.0	84
1,1,2,2-Tetrachloroethane		ND		5.0	17
m-Xylene & p-Xylene		ND		31	84
o-Xylene		ND		15	84
Styrene		ND		6.7	84
Bromoform		ND	*	5.9	84
Isopropylbenzene		ND		13	84
Bromobenzene		ND		7.6	84
N-Propylbenzene		ND		14	84
1,2,3-Trichloropropane		ND		15	84
2-Chlorotoluene		ND		12	84

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP22-080307-040

Lab Sample ID: 580-6792-38 | Date Sampled: 08/03/2007 1615
Client Matrix: Solid | % Moisture: 22.3 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008363.D
Dilution: 1.0 | Initial Weight/Volume: 6.13 g
Date Analyzed: 08/14/2007 2023 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		13	84
4-Chlorotoluene		ND		7.3	84
tert-Butylbenzene		ND		7.1	84
1,2,4-Trimethylbenzene		ND		14	84
sec-Butylbenzene		ND		3.4	84
1,3-Dichlorobenzene		ND		8.6	84
4-Isopropyltoluene		6.3	J	5.9	84
1,4-Dichlorobenzene		ND		4.2	84
n-Butylbenzene		ND		5.0	84
1,2-Dichlorobenzene		ND		7.1	84
1,2-Dibromo-3-Chloropropane		ND	*	18	84
1,2,4-Trichlorobenzene		ND		8.2	84
1,2,3-Trichlorobenzene		ND		10	84
Hexachlorobutadiene		ND		14	84
Naphthalene		ND		5.5	84

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	89	75 - 125
Toluene-d8 (Surr)	98	85 - 115
Ethylbenzene-d10	92	75 - 125
4-Bromofluorobenzene (Surr)	89	85 - 120
Trifluorotoluene (Surr)	92	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP22-080307-100

Lab Sample ID: 580-6792-41 | Date Sampled: 08/03/2007 1630
Client Matrix: Solid | % Moisture: 27.9 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008364.D
Dilution: 1.0 | Initial Weight/Volume: 5.47 g
Date Analyzed: 08/14/2007 2046 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		14	100
Chloromethane		20	J	19	100
Vinyl chloride		ND		13	41
Bromomethane		ND		71	510
Chloroethane		ND	*	74	510
Trichlorofluoromethane		ND		9.6	100
1,1-Dichloroethene		ND		13	41
Methylene Chloride		ND		15	100
trans-1,2-Dichloroethene		ND		11	100
1,1-Dichloroethane		ND		24	100
2,2-Dichloropropane		ND		12	100
cis-1,2-Dichloroethene		ND		15	100
Chlorobromomethane		ND		12	100
Chloroform		ND		9.6	100
1,1,1-Trichloroethane		ND		9.9	41
Carbon tetrachloride		ND	*	7.6	41
1,1-Dichloropropene		ND		7.9	100
Benzene		8.5	J	7.1	20
1,2-Dichloroethane		ND		21	100
Trichloroethene		ND		7.6	41
1,2-Dichloropropane		ND		6.3	20
Dibromomethane		ND		19	100
Dichlorobromomethane		ND	*	7.1	100
cis-1,3-Dichloropropene		ND	*	7.1	100
Toluene		ND		19	100
trans-1,3-Dichloropropene		ND	*	7.1	100
1,1,2-Trichloroethane		ND		9.1	100
Tetrachloroethene		ND		19	63
1,3-Dichloropropane		ND		11	41
Chlorodibromomethane		ND	*	6.3	100
Ethylene Dibromide		ND	*	17	100
Chlorobenzene		ND		30	100
Ethylbenzene		ND		18	100
1,1,1,2-Tetrachloroethane		ND	*	9.6	100
1,1,2,2-Tetrachloroethane		ND		6.1	20
m-Xylene & p-Xylene		ND		38	100
o-Xylene		ND		18	100
Styrene		ND		8.1	100
Bromoform		ND	*	7.1	100
Isopropylbenzene		ND		15	100
Bromobenzene		ND		9.1	100
N-Propylbenzene		ND		17	100
1,2,3-Trichloropropane		ND		18	100
2-Chlorotoluene		ND		15	100

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP22-080307-100

Lab Sample ID: 580-6792-41 | Date Sampled: 08/03/2007 1630
Client Matrix: Solid | % Moisture: 27.9 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008364.D
Dilution: 1.0 | Initial Weight/Volume: 5.47 g
Date Analyzed: 08/14/2007 2046 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		15	100
4-Chlorotoluene		ND		8.9	100
tert-Butylbenzene		ND		8.6	100
1,2,4-Trimethylbenzene		ND		17	100
sec-Butylbenzene		ND		4.1	100
1,3-Dichlorobenzene		ND		10	100
4-Isopropyltoluene		27	J	7.1	100
1,4-Dichlorobenzene		ND		5.1	100
n-Butylbenzene		ND		6.1	100
1,2-Dichlorobenzene		ND		8.6	100
1,2-Dibromo-3-Chloropropane		ND	*	22	100
1,2,4-Trichlorobenzene		ND		9.9	100
1,2,3-Trichlorobenzene		ND		12	100
Hexachlorobutadiene		ND		17	100
Naphthalene		ND		6.6	100

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	90	75 - 125
Toluene-d8 (Surr)	97	85 - 115
Ethylbenzene-d10	92	75 - 125
4-Bromofluorobenzene (Surr)	90	85 - 120
Trifluorotoluene (Surr)	78	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP19-080307-060

Lab Sample ID: 580-6792-44 | Date Sampled: 08/03/2007 1715
Client Matrix: Solid | % Moisture: 18.0 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008365.D
Dilution: 1.0 | Initial Weight/Volume: 6.18 g
Date Analyzed: 08/14/2007 2108 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		11	79
Chloromethane		ND		14	79
Vinyl chloride		ND		10	32
Bromomethane		ND		55	390
Chloroethane		ND	*	57	390
Trichlorofluoromethane		ND		7.5	79
1,1-Dichloroethene		ND		10	32
Methylene Chloride		ND		12	79
trans-1,2-Dichloroethene		ND		8.5	79
1,1-Dichloroethane		ND		19	79
2,2-Dichloropropane		ND		9.3	79
cis-1,2-Dichloroethene		ND		12	79
Chlorobromomethane		ND		9.5	79
Chloroform		ND		7.5	79
1,1,1-Trichloroethane		ND		7.7	32
Carbon tetrachloride		ND	*	5.9	32
1,1-Dichloropropene		ND		6.1	79
Benzene		ND		5.5	16
1,2-Dichloroethane		ND		16	79
Trichloroethene		ND		5.9	32
1,2-Dichloropropane		ND		4.9	16
Dibromomethane		ND		14	79
Dichlorobromomethane		ND	*	5.5	79
cis-1,3-Dichloropropene		ND	*	5.5	79
Toluene		ND		15	79
trans-1,3-Dichloropropene		ND	*	5.5	79
1,1,2-Trichloroethane		ND		7.1	79
Tetrachloroethene		ND		14	49
1,3-Dichloropropane		ND		8.3	32
Chlorodibromomethane		ND	*	4.9	79
Ethylene Dibromide		ND	*	13	79
Chlorobenzene		ND		24	79
Ethylbenzene		ND		14	79
1,1,1,2-Tetrachloroethane		ND	*	7.5	79
1,1,2,2-Tetrachloroethane		ND		4.7	16
m-Xylene & p-Xylene		ND		30	79
o-Xylene		ND		14	79
Styrene		ND		6.3	79
Bromoform		ND	*	5.5	79
Isopropylbenzene		ND		12	79
Bromobenzene		ND		7.1	79
N-Propylbenzene		ND		14	79
1,2,3-Trichloropropane		ND		14	79
2-Chlorotoluene		ND		11	79

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP19-080307-060

Lab Sample ID: 580-6792-44 | Date Sampled: 08/03/2007 1715
Client Matrix: Solid | % Moisture: 18.0 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008365.D
Dilution: 1.0 | Initial Weight/Volume: 6.18 g
Date Analyzed: 08/14/2007 2108 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		12	79
4-Chlorotoluene		ND		6.9	79
tert-Butylbenzene		ND		6.7	79
1,2,4-Trimethylbenzene		ND		14	79
sec-Butylbenzene		ND		3.2	79
1,3-Dichlorobenzene		ND		8.1	79
4-Isopropyltoluene		ND		5.5	79
1,4-Dichlorobenzene		ND		3.9	79
n-Butylbenzene		ND		4.7	79
1,2-Dichlorobenzene		ND		6.7	79
1,2-Dibromo-3-Chloropropane		ND	*	17	79
1,2,4-Trichlorobenzene		ND		7.7	79
1,2,3-Trichlorobenzene		ND		9.5	79
Hexachlorobutadiene		ND		13	79
Naphthalene		ND		5.1	79

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	90	75 - 125
Toluene-d8 (Surr)	99	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	91	85 - 120
Trifluorotoluene (Surr)	94	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP19-080307-100

Lab Sample ID: 580-6792-46 | Date Sampled: 08/03/2007 1725
Client Matrix: Solid | % Moisture: 38.3 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008366.D
Dilution: 1.0 | Initial Weight/Volume: 3.86 g
Date Analyzed: 08/14/2007 2130 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		24	170
Chloromethane		ND		31	170
Vinyl chloride		ND		22	67
Bromomethane		ND		120	840
Chloroethane		ND	*	120	840
Trichlorofluoromethane		ND		16	170
1,1-Dichloroethene		ND		22	67
Methylene Chloride		ND		26	170
trans-1,2-Dichloroethene		ND		18	170
1,1-Dichloroethane		ND		40	170
2,2-Dichloropropane		ND		20	170
cis-1,2-Dichloroethene		ND		25	170
Chlorobromomethane		ND		20	170
Chloroform		ND		16	170
1,1,1-Trichloroethane		ND		16	67
Carbon tetrachloride		ND	*	13	67
1,1-Dichloropropene		ND		13	170
Benzene		ND		12	34
1,2-Dichloroethane		ND		34	170
Trichloroethene		ND		13	67
1,2-Dichloropropane		ND		11	34
Dibromomethane		ND		31	170
Dichlorobromomethane		ND	*	12	170
cis-1,3-Dichloropropene		ND	*	12	170
Toluene		38	J	31	170
trans-1,3-Dichloropropene		ND	*	12	170
1,1,2-Trichloroethane		ND		15	170
Tetrachloroethene		ND		31	110
1,3-Dichloropropane		ND		18	67
Chlorodibromomethane		ND	*	11	170
Ethylene Dibromide		ND	*	28	170
Chlorobenzene		ND		50	170
Ethylbenzene		ND		30	170
1,1,1,2-Tetrachloroethane		ND	*	16	170
1,1,2,2-Tetrachloroethane		ND		10	34
m-Xylene & p-Xylene		ND		63	170
o-Xylene		ND		30	170
Styrene		ND		13	170
Bromoform		ND	*	12	170
Isopropylbenzene		ND		26	170
Bromobenzene		ND		15	170
N-Propylbenzene		ND		29	170
1,2,3-Trichloropropane		ND		30	170
2-Chlorotoluene		ND		24	170

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP19-080307-100

Lab Sample ID: 580-6792-46 | Date Sampled: 08/03/2007 1725
Client Matrix: Solid | % Moisture: 38.3 | Date Received: 08/06/2007 1430

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 580-21828 | Instrument ID: SEA043
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: VB0008366.D
Dilution: 1.0 | Initial Weight/Volume: 3.86 g
Date Analyzed: 08/14/2007 2130 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,3,5-Trimethylbenzene		ND		25	170
4-Chlorotoluene		ND		15	170
tert-Butylbenzene		ND		14	170
1,2,4-Trimethylbenzene		ND		29	170
sec-Butylbenzene		ND		6.7	170
1,3-Dichlorobenzene		ND		17	170
4-Isopropyltoluene		ND		12	170
1,4-Dichlorobenzene		ND		8.4	170
n-Butylbenzene		ND		10	170
1,2-Dichlorobenzene		ND		14	170
1,2-Dibromo-3-Chloropropane		ND	*	37	170
1,2,4-Trichlorobenzene		ND		16	170
1,2,3-Trichlorobenzene		ND		20	170
Hexachlorobutadiene		ND		28	170
Naphthalene		ND		11	170

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	91	75 - 125
Toluene-d8 (Surr)	101	85 - 115
Ethylbenzene-d10	95	75 - 125
4-Bromofluorobenzene (Surr)	91	85 - 120
Trifluorotoluene (Surr)	88	75 - 125

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP24-080307-080

Lab Sample ID: 580-6792-2 | Date Sampled: 08/03/2007 0855
Client Matrix: Solid | % Moisture: 29.3 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05381.D
Dilution: 1.0 | Initial Weight/Volume: 10.4433 g
Date Analyzed: 08/13/2007 1503 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		ND		8.8	34
Chrysene		ND		10	34
Benzo[a]pyrene		ND		12	41
Indeno[1,2,3-cd]pyrene		ND		16	54
Dibenz(a,h)anthracene		ND		16	54
Benzo[b]fluoranthene		ND		7.3	27
Benzo[k]fluoranthene		ND		9.3	34

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	132	38 - 141
2-Fluorobiphenyl	91	42 - 140
Terphenyl-d14	107	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP25-080307-100**

Lab Sample ID:	580-6792-4			Date Sampled:	08/03/2007 1025
Client Matrix:	Solid	% Moisture:	12.7	Date Received:	08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21806		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-21641		Lab File ID:	HP05382.D
Dilution:	1.0			Initial Weight/Volume:	10.6521 g
Date Analyzed:	08/13/2007 1531			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0736			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		ND		7.0	27
Chrysene		ND		8.1	27
Benzo[a]pyrene		ND		9.1	32
Indeno[1,2,3-cd]pyrene		ND		13	43
Dibenz(a,h)anthracene		ND		13	43
Benzo[b]fluoranthene		ND		5.8	22
Benzo[k]fluoranthene		ND		7.4	27

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	135	38 - 141
2-Fluorobiphenyl	103	42 - 140
Terphenyl-d14	108	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP17-080307-040**

Lab Sample ID: 580-6792-8 | Date Sampled: 08/03/2007 1125
Client Matrix: Solid | % Moisture: 80.0 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05383.D
Dilution: 1.0 | Initial Weight/Volume: 10.6894 g
Date Analyzed: 08/13/2007 1558 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		470	470
Bis(2-chloroethyl)ether		ND		470	470
2-Chlorophenol		ND		470	470
1,3-Dichlorobenzene		ND		230	230
1,4-Dichlorobenzene		ND		230	230
Benzyl alcohol		ND		470	470
1,2-Dichlorobenzene		ND		230	230
2-Methylphenol		ND		470	470
Bis(2-chloroisopropyl) ether		ND		700	700
3 & 4 Methylphenol		ND		930	930
N-Nitrosodi-n-propylamine		ND		470	470
Hexachloroethane		ND		470	470
Nitrobenzene		ND		470	470
Isophorone		ND		470	470
2-Nitrophenol		ND		470	470
2,4-Dimethylphenol		ND		470	470
Benzoic acid		ND		12000	12000
Bis(2-chloroethoxy)methane		ND		470	470
2,4-Dichlorophenol		ND		470	470
1,2,4-Trichlorobenzene		ND		230	230
Naphthalene		ND		93	93
4-Chloroaniline		ND		470	470
Hexachlorobutadiene		ND		230	230
4-Chloro-3-methylphenol		ND		470	470
2-Methylnaphthalene		ND		93	93
Hexachlorocyclopentadiene		ND		470	470
2,4,6-Trichlorophenol		ND		700	700
2,4,5-Trichlorophenol		ND		470	470
2-Chloronaphthalene		ND		93	93
2-Nitroaniline		ND		470	470
Dimethyl phthalate		ND		470	470
Acenaphthylene		ND		93	93
2,6-Dinitrotoluene		ND		470	470
3-Nitroaniline		ND		470	470
Acenaphthene		240		93	93
2,4-Dinitrophenol		ND		4700	4700
4-Nitrophenol		ND		4700	4700
Dibenzofuran		ND		470	470
2,4-Dinitrotoluene		ND		470	470
Diethyl phthalate		ND		470	470
4-Chlorophenyl phenyl ether		ND		470	470
Fluorene		ND		93	93
4-Nitroaniline		ND		470	470
4,6-Dinitro-2-methylphenol		ND		4700	4700

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP17-080307-040**

Lab Sample ID: 580-6792-8 | Date Sampled: 08/03/2007 1125
Client Matrix: Solid | % Moisture: 80.0 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21806	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21641	Lab File ID: HP05383.D
Dilution:	1.0		Initial Weight/Volume: 10.6894 g
Date Analyzed:	08/13/2007 1558		Final Weight/Volume: 10 mL
Date Prepared:	08/10/2007 0736		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		230	230
4-Bromophenyl phenyl ether		ND		470	470
Hexachlorobenzene		ND		230	230
Pentachlorophenol		ND		470	470
Phenanthrene		ND		93	93
Anthracene		ND		93	93
Di-n-butyl phthalate		ND		930	930
Fluoranthene		ND		93	93
Pyrene		ND		93	93
Butyl benzyl phthalate		ND		470	470
3,3'-Dichlorobenzidine		ND		930	930
Benzo[a]anthracene		ND		120	120
Chrysene		ND		120	120
Bis(2-ethylhexyl) phthalate		ND		7000	7000
Di-n-octyl phthalate		ND		930	930
Benzo[a]pyrene		ND		140	140
Indeno[1,2,3-cd]pyrene		ND		190	190
Dibenz(a,h)anthracene		ND		190	190
Benzo[g,h,i]perylene		ND		120	120
Carbazole		ND		700	700
1-Methylnaphthalene		ND		140	140
Benzo[b]fluoranthene		ND		93	93
Benzo[k]fluoranthene		ND		120	120

Surrogate	%Rec		Acceptance Limits
2-Fluorophenol	62		36 - 145
Phenol-d5	52		38 - 149
Nitrobenzene-d5	107		38 - 141
2-Fluorobiphenyl	39	X	42 - 140
2,4,6-Tribromophenol	61		28 - 143
Terphenyl-d14	97		42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP17-080307-100**

Lab Sample ID: 580-6792-11 | Date Sampled: 08/03/2007 1140
Client Matrix: Solid | % Moisture: 72.9 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05384.D
Dilution: 1.0 | Initial Weight/Volume: 10.7181 g
Date Analyzed: 08/13/2007 1625 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		340	340
Bis(2-chloroethyl)ether		ND		340	340
2-Chlorophenol		ND		340	340
1,3-Dichlorobenzene		ND		170	170
1,4-Dichlorobenzene		ND		170	170
Benzyl alcohol		ND		340	340
1,2-Dichlorobenzene		ND		170	170
2-Methylphenol		ND		340	340
Bis(2-chloroisopropyl) ether		ND		520	520
3 & 4 Methylphenol		ND		690	690
N-Nitrosodi-n-propylamine		ND		340	340
Hexachloroethane		ND		340	340
Nitrobenzene		ND		340	340
Isophorone		ND		340	340
2-Nitrophenol		ND		340	340
2,4-Dimethylphenol		ND		340	340
Benzoic acid		ND		8600	8600
Bis(2-chloroethoxy)methane		ND		340	340
2,4-Dichlorophenol		ND		340	340
1,2,4-Trichlorobenzene		ND		170	170
Naphthalene		ND		69	69
4-Chloroaniline		ND		340	340
Hexachlorobutadiene		ND		170	170
4-Chloro-3-methylphenol		ND		340	340
2-Methylnaphthalene		ND		69	69
Hexachlorocyclopentadiene		ND		340	340
2,4,6-Trichlorophenol		ND		520	520
2,4,5-Trichlorophenol		ND		340	340
2-Chloronaphthalene		ND		69	69
2-Nitroaniline		ND		340	340
Dimethyl phthalate		ND		340	340
Acenaphthylene		ND		69	69
2,6-Dinitrotoluene		ND		340	340
3-Nitroaniline		ND		340	340
Acenaphthene		ND		69	69
2,4-Dinitrophenol		ND		3400	3400
4-Nitrophenol		ND		3400	3400
Dibenzofuran		ND		340	340
2,4-Dinitrotoluene		ND		340	340
Diethyl phthalate		ND		340	340
4-Chlorophenyl phenyl ether		ND		340	340
Fluorene		ND		69	69
4-Nitroaniline		ND		340	340
4,6-Dinitro-2-methylphenol		ND		3400	3400

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP17-080307-100**

Lab Sample ID: 580-6792-11 | Date Sampled: 08/03/2007 1140
Client Matrix: Solid | % Moisture: 72.9 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05384.D
Dilution: 1.0 | Initial Weight/Volume: 10.7181 g
Date Analyzed: 08/13/2007 1625 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		170	170
4-Bromophenyl phenyl ether		ND		340	340
Hexachlorobenzene		ND		170	170
Pentachlorophenol		ND		340	340
Phenanthrene		98		69	69
Anthracene		ND		69	69
Di-n-butyl phthalate		ND		690	690
Fluoranthene		130		69	69
Pyrene		150		69	69
Butyl benzyl phthalate		ND		340	340
3,3'-Dichlorobenzidine		ND		690	690
Benzo[a]anthracene		95		86	86
Chrysene		89		86	86
Bis(2-ethylhexyl) phthalate		ND		5200	5200
Di-n-octyl phthalate		ND		690	690
Benzo[a]pyrene		ND		100	100
Indeno[1,2,3-cd]pyrene		ND		140	140
Dibenz(a,h)anthracene		ND		140	140
Benzo[g,h,i]perylene		ND		86	86
Carbazole		ND		520	520
1-Methylnaphthalene		ND		100	100
Benzo[b]fluoranthene		ND		69	69
Benzo[k]fluoranthene		ND		86	86

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	74	36 - 145
Phenol-d5	62	38 - 149
Nitrobenzene-d5	122	38 - 141
2-Fluorobiphenyl	60	42 - 140
2,4,6-Tribromophenol	73	28 - 143
Terphenyl-d14	102	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP18-080307-020**

Lab Sample ID: 580-6792-13 | Date Sampled: 08/03/2007 1200
Client Matrix: Solid | % Moisture: 33.7 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05385.D
Dilution: 1.0 | Initial Weight/Volume: 10.8486 g
Date Analyzed: 08/13/2007 1653 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		140	140
Bis(2-chloroethyl)ether		ND		140	140
2-Chlorophenol		ND		140	140
1,3-Dichlorobenzene		ND		69	69
1,4-Dichlorobenzene		ND		69	69
Benzyl alcohol		ND		140	140
1,2-Dichlorobenzene		ND		69	69
2-Methylphenol		ND		140	140
Bis(2-chloroisopropyl) ether		ND		210	210
3 & 4 Methylphenol		ND		280	280
N-Nitrosodi-n-propylamine		ND		140	140
Hexachloroethane		ND		140	140
Nitrobenzene		ND		140	140
Isophorone		ND		140	140
2-Nitrophenol		ND		140	140
2,4-Dimethylphenol		ND		140	140
Benzoic acid		ND		3500	3500
Bis(2-chloroethoxy)methane		ND		140	140
2,4-Dichlorophenol		ND		140	140
1,2,4-Trichlorobenzene		ND		69	69
Naphthalene		ND		28	28
4-Chloroaniline		ND		140	140
Hexachlorobutadiene		ND		69	69
4-Chloro-3-methylphenol		ND		140	140
2-Methylnaphthalene		ND		28	28
Hexachlorocyclopentadiene		ND		140	140
2,4,6-Trichlorophenol		ND		210	210
2,4,5-Trichlorophenol		ND		140	140
2-Chloronaphthalene		ND		28	28
2-Nitroaniline		ND		140	140
Dimethyl phthalate		ND		140	140
Acenaphthylene		ND		28	28
2,6-Dinitrotoluene		ND		140	140
3-Nitroaniline		ND		140	140
Acenaphthene		ND		28	28
2,4-Dinitrophenol		ND		1400	1400
4-Nitrophenol		ND		1400	1400
Dibenzofuran		ND		140	140
2,4-Dinitrotoluene		ND		140	140
Diethyl phthalate		ND		140	140
4-Chlorophenyl phenyl ether		ND		140	140
Fluorene		ND		28	28
4-Nitroaniline		ND		140	140
4,6-Dinitro-2-methylphenol		ND		1400	1400

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP18-080307-020**

Lab Sample ID: 580-6792-13 | Date Sampled: 08/03/2007 1200
Client Matrix: Solid | % Moisture: 33.7 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05385.D
Dilution: 1.0 | Initial Weight/Volume: 10.8486 g
Date Analyzed: 08/13/2007 1653 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		69	69
4-Bromophenyl phenyl ether		ND		140	140
Hexachlorobenzene		ND		69	69
Pentachlorophenol		ND		140	140
Phenanthrene		ND		28	28
Anthracene		ND		28	28
Di-n-butyl phthalate		ND		280	280
Fluoranthene		ND		28	28
Pyrene		43		28	28
Butyl benzyl phthalate		ND		140	140
3,3'-Dichlorobenzidine		ND		280	280
Benzo[a]anthracene		ND		35	35
Chrysene		ND		35	35
Bis(2-ethylhexyl) phthalate		ND		2100	2100
Di-n-octyl phthalate		ND		280	280
Benzo[a]pyrene		ND		42	42
Indeno[1,2,3-cd]pyrene		ND		56	56
Dibenz(a,h)anthracene		ND		56	56
Benzo[g,h,i]perylene		ND		35	35
Carbazole		ND		210	210
1-Methylnaphthalene		ND		42	42
Benzo[b]fluoranthene		ND		28	28
Benzo[k]fluoranthene		ND		35	35

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	80	36 - 145
Phenol-d5	76	38 - 149
Nitrobenzene-d5	123	38 - 141
2-Fluorobiphenyl	80	42 - 140
2,4,6-Tribromophenol	81	28 - 143
Terphenyl-d14	93	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP18-080307-100**

Lab Sample ID: 580-6792-17 | Date Sampled: 08/03/2007 1220
Client Matrix: Solid | % Moisture: 67.4 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05386.D
Dilution: 1.0 | Initial Weight/Volume: 10.7063 g
Date Analyzed: 08/13/2007 1720 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		290	290
Bis(2-chloroethyl)ether		ND		290	290
2-Chlorophenol		ND		290	290
1,3-Dichlorobenzene		ND		140	140
1,4-Dichlorobenzene		ND		140	140
Benzyl alcohol		ND		290	290
1,2-Dichlorobenzene		ND		140	140
2-Methylphenol		ND		290	290
Bis(2-chloroisopropyl) ether		ND		430	430
3 & 4 Methylphenol		6100		570	570
N-Nitrosodi-n-propylamine		ND		290	290
Hexachloroethane		ND		290	290
Nitrobenzene		ND		290	290
Isophorone		ND		290	290
2-Nitrophenol		ND		290	290
2,4-Dimethylphenol		ND		290	290
Benzoic acid		ND		7200	7200
Bis(2-chloroethoxy)methane		ND		290	290
2,4-Dichlorophenol		ND		290	290
1,2,4-Trichlorobenzene		ND		140	140
Naphthalene		ND		57	57
4-Chloroaniline		ND		290	290
Hexachlorobutadiene		ND		140	140
4-Chloro-3-methylphenol		ND		290	290
2-Methylnaphthalene		ND		57	57
Hexachlorocyclopentadiene		ND		290	290
2,4,6-Trichlorophenol		ND		430	430
2,4,5-Trichlorophenol		ND		290	290
2-Chloronaphthalene		ND		57	57
2-Nitroaniline		ND		290	290
Dimethyl phthalate		ND		290	290
Acenaphthylene		ND		57	57
2,6-Dinitrotoluene		ND		290	290
3-Nitroaniline		ND		290	290
Acenaphthene		ND		57	57
2,4-Dinitrophenol		ND		2900	2900
4-Nitrophenol		ND		2900	2900
Dibenzofuran		ND		290	290
2,4-Dinitrotoluene		ND		290	290
Diethyl phthalate		ND		290	290
4-Chlorophenyl phenyl ether		ND		290	290
Fluorene		ND		57	57
4-Nitroaniline		ND		290	290
4,6-Dinitro-2-methylphenol		ND		2900	2900

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP18-080307-100**

Lab Sample ID: 580-6792-17 | Date Sampled: 08/03/2007 1220
Client Matrix: Solid | % Moisture: 67.4 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05386.D
Dilution: 1.0 | Initial Weight/Volume: 10.7063 g
Date Analyzed: 08/13/2007 1720 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		140	140
4-Bromophenyl phenyl ether		ND		290	290
Hexachlorobenzene		ND		140	140
Pentachlorophenol		ND		290	290
Phenanthrene		90		57	57
Anthracene		ND		57	57
Di-n-butyl phthalate		ND		570	570
Fluoranthene		160		57	57
Pyrene		160		57	57
Butyl benzyl phthalate		ND		290	290
3,3'-Dichlorobenzidine		ND		570	570
Benzo[a]anthracene		91		72	72
Chrysene		80		72	72
Bis(2-ethylhexyl) phthalate		ND		4300	4300
Di-n-octyl phthalate		ND		570	570
Benzo[a]pyrene		130		86	86
Indeno[1,2,3-cd]pyrene		ND		110	110
Dibenz(a,h)anthracene		ND		110	110
Benzo[g,h,i]perylene		ND		72	72
Carbazole		ND		430	430
1-Methylnaphthalene		ND		86	86
Benzo[b]fluoranthene		ND		57	57
Benzo[k]fluoranthene		ND		72	72

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	59	36 - 145
Phenol-d5	49	38 - 149
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	63	42 - 140
2,4,6-Tribromophenol	79	28 - 143
Terphenyl-d14	101	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP20-080307-020**

Lab Sample ID: 580-6792-19 | Date Sampled: 08/03/2007 1245
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05387.D
Dilution: 1.0 | Initial Weight/Volume: 10.8245 g
Date Analyzed: 08/13/2007 1748 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		120	120
Bis(2-chloroethyl)ether		ND		120	120
2-Chlorophenol		ND		120	120
1,3-Dichlorobenzene		ND		58	58
1,4-Dichlorobenzene		ND		58	58
Benzyl alcohol		ND		120	120
1,2-Dichlorobenzene		ND		58	58
2-Methylphenol		ND		120	120
Bis(2-chloroisopropyl) ether		ND		180	180
3 & 4 Methylphenol		ND		230	230
N-Nitrosodi-n-propylamine		ND		120	120
Hexachloroethane		ND		120	120
Nitrobenzene		ND		120	120
Isophorone		ND		120	120
2-Nitrophenol		ND		120	120
2,4-Dimethylphenol		ND		120	120
Benzoic acid		ND		2900	2900
Bis(2-chloroethoxy)methane		ND		120	120
2,4-Dichlorophenol		ND		120	120
1,2,4-Trichlorobenzene		ND		58	58
Naphthalene		ND		23	23
4-Chloroaniline		ND		120	120
Hexachlorobutadiene		ND		58	58
4-Chloro-3-methylphenol		ND		120	120
2-Methylnaphthalene		ND		23	23
Hexachlorocyclopentadiene		ND		120	120
2,4,6-Trichlorophenol		ND		180	180
2,4,5-Trichlorophenol		ND		120	120
2-Chloronaphthalene		ND		23	23
2-Nitroaniline		ND		120	120
Dimethyl phthalate		ND		120	120
Acenaphthylene		ND		23	23
2,6-Dinitrotoluene		ND		120	120
3-Nitroaniline		ND		120	120
Acenaphthene		ND		23	23
2,4-Dinitrophenol		ND		1200	1200
4-Nitrophenol		ND		1200	1200
Dibenzofuran		ND		120	120
2,4-Dinitrotoluene		ND		120	120
Diethyl phthalate		ND		120	120
4-Chlorophenyl phenyl ether		ND		120	120
Fluorene		ND		23	23
4-Nitroaniline		ND		120	120
4,6-Dinitro-2-methylphenol		ND		1200	1200

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP20-080307-020**

Lab Sample ID: 580-6792-19 | Date Sampled: 08/03/2007 1245
Client Matrix: Solid | % Moisture: 21.0 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21806	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21641	Lab File ID: HP05387.D
Dilution:	1.0		Initial Weight/Volume: 10.8245 g
Date Analyzed:	08/13/2007 1748		Final Weight/Volume: 10 mL
Date Prepared:	08/10/2007 0736		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		58	58
4-Bromophenyl phenyl ether		ND		120	120
Hexachlorobenzene		ND		58	58
Pentachlorophenol		ND		120	120
Phenanthrene		ND		23	23
Anthracene		ND		23	23
Di-n-butyl phthalate		ND		230	230
Fluoranthene		ND		23	23
Pyrene		ND		23	23
Butyl benzyl phthalate		ND		120	120
3,3'-Dichlorobenzidine		ND		230	230
Benzo[a]anthracene		ND		29	29
Chrysene		ND		29	29
Bis(2-ethylhexyl) phthalate		3000		1800	1800
Di-n-octyl phthalate		ND		230	230
Benzo[a]pyrene		ND		35	35
Indeno[1,2,3-cd]pyrene		ND		47	47
Dibenz(a,h)anthracene		ND		47	47
Benzo[g,h,i]perylene		ND		29	29
Carbazole		ND		180	180
1-Methylnaphthalene		ND		35	35
Benzo[b]fluoranthene		ND		23	23
Benzo[k]fluoranthene		ND		29	29

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	85	36 - 145
Phenol-d5	83	38 - 149
Nitrobenzene-d5	129	38 - 141
2-Fluorobiphenyl	90	42 - 140
2,4,6-Tribromophenol	96	28 - 143
Terphenyl-d14	106	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP20-080307-100**

Lab Sample ID: 580-6792-23 | Date Sampled: 08/03/2007 1305
Client Matrix: Solid | % Moisture: 50.7 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05388.D
Dilution: 1.0 | Initial Weight/Volume: 10.4024 g
Date Analyzed: 08/13/2007 1815 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		200	200
Bis(2-chloroethyl)ether		ND		200	200
2-Chlorophenol		ND		200	200
1,3-Dichlorobenzene		ND		98	98
1,4-Dichlorobenzene		ND		98	98
Benzyl alcohol		ND		200	200
1,2-Dichlorobenzene		ND		98	98
2-Methylphenol		ND		200	200
Bis(2-chloroisopropyl) ether		ND		290	290
3 & 4 Methylphenol		ND		390	390
N-Nitrosodi-n-propylamine		ND		200	200
Hexachloroethane		ND		200	200
Nitrobenzene		ND		200	200
Isophorone		ND		200	200
2-Nitrophenol		ND		200	200
2,4-Dimethylphenol		ND		200	200
Benzoic acid		ND		4900	4900
Bis(2-chloroethoxy)methane		ND		200	200
2,4-Dichlorophenol		ND		200	200
1,2,4-Trichlorobenzene		ND		98	98
Naphthalene		ND		39	39
4-Chloroaniline		ND		200	200
Hexachlorobutadiene		ND		98	98
4-Chloro-3-methylphenol		ND		200	200
2-Methylnaphthalene		ND		39	39
Hexachlorocyclopentadiene		ND		200	200
2,4,6-Trichlorophenol		ND		290	290
2,4,5-Trichlorophenol		ND		200	200
2-Chloronaphthalene		ND		39	39
2-Nitroaniline		ND		200	200
Dimethyl phthalate		ND		200	200
Acenaphthylene		ND		39	39
2,6-Dinitrotoluene		ND		200	200
3-Nitroaniline		ND		200	200
Acenaphthene		ND		39	39
2,4-Dinitrophenol		ND		2000	2000
4-Nitrophenol		ND		2000	2000
Dibenzofuran		ND		200	200
2,4-Dinitrotoluene		ND		200	200
Diethyl phthalate		ND		200	200
4-Chlorophenyl phenyl ether		ND		200	200
Fluorene		ND		39	39
4-Nitroaniline		ND		200	200
4,6-Dinitro-2-methylphenol		ND		2000	2000

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP20-080307-100**

Lab Sample ID: 580-6792-23 | Date Sampled: 08/03/2007 1305
Client Matrix: Solid | % Moisture: 50.7 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05388.D
Dilution: 1.0 | Initial Weight/Volume: 10.4024 g
Date Analyzed: 08/13/2007 1815 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		98	98
4-Bromophenyl phenyl ether		ND		200	200
Hexachlorobenzene		ND		98	98
Pentachlorophenol		ND		200	200
Phenanthrene		ND		39	39
Anthracene		ND		39	39
Di-n-butyl phthalate		ND		390	390
Fluoranthene		ND		39	39
Pyrene		ND		39	39
Butyl benzyl phthalate		ND		200	200
3,3'-Dichlorobenzidine		ND		390	390
Benzo[a]anthracene		ND		49	49
Chrysene		ND		49	49
Bis(2-ethylhexyl) phthalate		ND		2900	2900
Di-n-octyl phthalate		ND		390	390
Benzo[a]pyrene		ND		59	59
Indeno[1,2,3-cd]pyrene		ND		78	78
Dibenz(a,h)anthracene		ND		78	78
Benzo[g,h,i]perylene		ND		49	49
Carbazole		ND		290	290
1-Methylnaphthalene		ND		59	59
Benzo[b]fluoranthene		ND		39	39
Benzo[k]fluoranthene		ND		49	49

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	69	36 - 145
Phenol-d5	68	38 - 149
Nitrobenzene-d5	123	38 - 141
2-Fluorobiphenyl	80	42 - 140
2,4,6-Tribromophenol	80	28 - 143
Terphenyl-d14	96	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP21-080307-060**

Lab Sample ID: 580-6792-27 | Date Sampled: 08/03/2007 1340
Client Matrix: Solid | % Moisture: 40.5 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05390.D
Dilution: 1.0 | Initial Weight/Volume: 10.5716 g
Date Analyzed: 08/13/2007 1910 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		160	160
Bis(2-chloroethyl)ether		ND		160	160
2-Chlorophenol		ND		160	160
1,3-Dichlorobenzene		ND		79	79
1,4-Dichlorobenzene		ND		79	79
Benzyl alcohol		ND		160	160
1,2-Dichlorobenzene		ND		79	79
2-Methylphenol		ND		160	160
Bis(2-chloroisopropyl) ether		ND		240	240
3 & 4 Methylphenol		ND		320	320
N-Nitrosodi-n-propylamine		ND		160	160
Hexachloroethane		ND		160	160
Nitrobenzene		ND		160	160
Isophorone		ND		160	160
2-Nitrophenol		ND		160	160
2,4-Dimethylphenol		ND		160	160
Benzoic acid		ND		4000	4000
Bis(2-chloroethoxy)methane		ND		160	160
2,4-Dichlorophenol		ND		160	160
1,2,4-Trichlorobenzene		ND		79	79
Naphthalene		ND		32	32
4-Chloroaniline		ND		160	160
Hexachlorobutadiene		ND		79	79
4-Chloro-3-methylphenol		ND		160	160
2-Methylnaphthalene		ND		32	32
Hexachlorocyclopentadiene		ND		160	160
2,4,6-Trichlorophenol		ND		240	240
2,4,5-Trichlorophenol		ND		160	160
2-Chloronaphthalene		ND		32	32
2-Nitroaniline		ND		160	160
Dimethyl phthalate		ND		160	160
Acenaphthylene		ND		32	32
2,6-Dinitrotoluene		ND		160	160
3-Nitroaniline		ND		160	160
Acenaphthene		ND		32	32
2,4-Dinitrophenol		ND		1600	1600
4-Nitrophenol		ND		1600	1600
Dibenzofuran		ND		160	160
2,4-Dinitrotoluene		ND		160	160
Diethyl phthalate		ND		160	160
4-Chlorophenyl phenyl ether		ND		160	160
Fluorene		ND		32	32
4-Nitroaniline		ND		160	160
4,6-Dinitro-2-methylphenol		ND		1600	1600

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP21-080307-060**

Lab Sample ID: 580-6792-27 | Date Sampled: 08/03/2007 1340
Client Matrix: Solid | % Moisture: 40.5 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05390.D
Dilution: 1.0 | Initial Weight/Volume: 10.5716 g
Date Analyzed: 08/13/2007 1910 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		79	79
4-Bromophenyl phenyl ether		ND		160	160
Hexachlorobenzene		ND		79	79
Pentachlorophenol		ND		160	160
Phenanthrene		ND		32	32
Anthracene		ND		32	32
Di-n-butyl phthalate		ND		320	320
Fluoranthene		ND		32	32
Pyrene		ND		32	32
Butyl benzyl phthalate		ND		160	160
3,3'-Dichlorobenzidine		ND		320	320
Benzo[a]anthracene		ND		40	40
Chrysene		ND		40	40
Bis(2-ethylhexyl) phthalate		ND		2400	2400
Di-n-octyl phthalate		ND		320	320
Benzo[a]pyrene		ND		48	48
Indeno[1,2,3-cd]pyrene		ND		64	64
Dibenz(a,h)anthracene		ND		64	64
Benzo[g,h,i]perylene		61		40	40
Carbazole		ND		240	240
1-Methylnaphthalene		ND		48	48
Benzo[b]fluoranthene		ND		32	32
Benzo[k]fluoranthene		ND		40	40

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	69	36 - 145
Phenol-d5	62	38 - 149
Nitrobenzene-d5	113	38 - 141
2-Fluorobiphenyl	78	42 - 140
2,4,6-Tribromophenol	73	28 - 143
Terphenyl-d14	96	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP21-080307-100**

Lab Sample ID: 580-6792-29 | Date Sampled: 08/03/2007 1350
Client Matrix: Solid | % Moisture: 74.3 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05391.D
Dilution: 1.0 | Initial Weight/Volume: 10.7344 g
Date Analyzed: 08/13/2007 1937 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		360	360
Bis(2-chloroethyl)ether		ND		360	360
2-Chlorophenol		ND		360	360
1,3-Dichlorobenzene		ND		180	180
1,4-Dichlorobenzene		ND		180	180
Benzyl alcohol		ND		360	360
1,2-Dichlorobenzene		ND		180	180
2-Methylphenol		ND		360	360
Bis(2-chloroisopropyl) ether		ND		540	540
3 & 4 Methylphenol		ND		730	730
N-Nitrosodi-n-propylamine		ND		360	360
Hexachloroethane		ND		360	360
Nitrobenzene		ND		360	360
Isophorone		ND		360	360
2-Nitrophenol		ND		360	360
2,4-Dimethylphenol		ND		360	360
Benzoic acid		ND		9100	9100
Bis(2-chloroethoxy)methane		ND		360	360
2,4-Dichlorophenol		ND		360	360
1,2,4-Trichlorobenzene		ND		180	180
Naphthalene		ND		73	73
4-Chloroaniline		ND		360	360
Hexachlorobutadiene		ND		180	180
4-Chloro-3-methylphenol		ND		360	360
2-Methylnaphthalene		ND		73	73
Hexachlorocyclopentadiene		ND		360	360
2,4,6-Trichlorophenol		ND		540	540
2,4,5-Trichlorophenol		ND		360	360
2-Chloronaphthalene		ND		73	73
2-Nitroaniline		ND		360	360
Dimethyl phthalate		ND		360	360
Acenaphthylene		ND		73	73
2,6-Dinitrotoluene		ND		360	360
3-Nitroaniline		ND		360	360
Acenaphthene		ND		73	73
2,4-Dinitrophenol		ND		3600	3600
4-Nitrophenol		ND		3600	3600
Dibenzofuran		ND		360	360
2,4-Dinitrotoluene		ND		360	360
Diethyl phthalate		ND		360	360
4-Chlorophenyl phenyl ether		ND		360	360
Fluorene		ND		73	73
4-Nitroaniline		ND		360	360
4,6-Dinitro-2-methylphenol		ND		3600	3600

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP21-080307-100**

Lab Sample ID: 580-6792-29 | Date Sampled: 08/03/2007 1350
Client Matrix: Solid | % Moisture: 74.3 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21806	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21641	Lab File ID: HP05391.D
Dilution:	1.0		Initial Weight/Volume: 10.7344 g
Date Analyzed:	08/13/2007 1937		Final Weight/Volume: 10 mL
Date Prepared:	08/10/2007 0736		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		180	180
4-Bromophenyl phenyl ether		ND		360	360
Hexachlorobenzene		ND		180	180
Pentachlorophenol		ND		360	360
Phenanthrene		ND		73	73
Anthracene		ND		73	73
Di-n-butyl phthalate		ND		730	730
Fluoranthene		ND		73	73
Pyrene		ND		73	73
Butyl benzyl phthalate		ND		360	360
3,3'-Dichlorobenzidine		ND		730	730
Benzo[a]anthracene		ND		91	91
Chrysene		ND		91	91
Bis(2-ethylhexyl) phthalate		ND		5400	5400
Di-n-octyl phthalate		ND		730	730
Benzo[a]pyrene		ND		110	110
Indeno[1,2,3-cd]pyrene		ND		150	150
Dibenz(a,h)anthracene		ND		150	150
Benzo[g,h,i]perylene		ND		91	91
Carbazole		ND		540	540
1-Methylnaphthalene		ND		110	110
Benzo[b]fluoranthene		ND		73	73
Benzo[k]fluoranthene		ND		91	91

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	66	36 - 145
Phenol-d5	51	38 - 149
Nitrobenzene-d5	118	38 - 141
2-Fluorobiphenyl	79	42 - 140
2,4,6-Tribromophenol	82	28 - 143
Terphenyl-d14	106	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **MW15-080307-040**

Lab Sample ID: 580-6792-32 | Date Sampled: 08/03/2007 1505
Client Matrix: Solid | % Moisture: 16.8 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05392.D
Dilution: 1.0 | Initial Weight/Volume: 10.7379 g
Date Analyzed: 08/13/2007 2004 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		110	110
Bis(2-chloroethyl)ether		ND		110	110
2-Chlorophenol		ND		110	110
1,3-Dichlorobenzene		ND		56	56
1,4-Dichlorobenzene		ND		56	56
Benzyl alcohol		ND		110	110
1,2-Dichlorobenzene		ND		56	56
2-Methylphenol		ND		110	110
Bis(2-chloroisopropyl) ether		ND		170	170
3 & 4 Methylphenol		ND		220	220
N-Nitrosodi-n-propylamine		ND		110	110
Hexachloroethane		ND		110	110
Nitrobenzene		ND		110	110
Isophorone		ND		110	110
2-Nitrophenol		ND		110	110
2,4-Dimethylphenol		ND		110	110
Benzoic acid		ND		2800	2800
Bis(2-chloroethoxy)methane		ND		110	110
2,4-Dichlorophenol		ND		110	110
1,2,4-Trichlorobenzene		ND		56	56
Naphthalene		ND		22	22
4-Chloroaniline		ND		110	110
Hexachlorobutadiene		ND		56	56
4-Chloro-3-methylphenol		ND		110	110
2-Methylnaphthalene		ND		22	22
Hexachlorocyclopentadiene		ND		110	110
2,4,6-Trichlorophenol		ND		170	170
2,4,5-Trichlorophenol		ND		110	110
2-Chloronaphthalene		ND		22	22
2-Nitroaniline		ND		110	110
Dimethyl phthalate		ND		110	110
Acenaphthylene		ND		22	22
2,6-Dinitrotoluene		ND		110	110
3-Nitroaniline		ND		110	110
Acenaphthene		ND		22	22
2,4-Dinitrophenol		ND		1100	1100
4-Nitrophenol		ND		1100	1100
Dibenzofuran		ND		110	110
2,4-Dinitrotoluene		ND		110	110
Diethyl phthalate		ND		110	110
4-Chlorophenyl phenyl ether		ND		110	110
Fluorene		ND		22	22
4-Nitroaniline		ND		110	110
4,6-Dinitro-2-methylphenol		ND		1100	1100

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **MW15-080307-040**

Lab Sample ID: 580-6792-32 | Date Sampled: 08/03/2007 1505
Client Matrix: Solid | % Moisture: 16.8 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21806	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21641	Lab File ID: HP05392.D
Dilution:	1.0		Initial Weight/Volume: 10.7379 g
Date Analyzed:	08/13/2007 2004		Final Weight/Volume: 10 mL
Date Prepared:	08/10/2007 0736		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		56	56
4-Bromophenyl phenyl ether		ND		110	110
Hexachlorobenzene		ND		56	56
Pentachlorophenol		ND		110	110
Phenanthrene		ND		22	22
Anthracene		ND		22	22
Di-n-butyl phthalate		ND		220	220
Fluoranthene		ND		22	22
Pyrene		ND		22	22
Butyl benzyl phthalate		ND		110	110
3,3'-Dichlorobenzidine		ND		220	220
Benzo[a]anthracene		ND		28	28
Chrysene		ND		28	28
Bis(2-ethylhexyl) phthalate		ND		1700	1700
Di-n-octyl phthalate		ND		220	220
Benzo[a]pyrene		ND		34	34
Indeno[1,2,3-cd]pyrene		ND		45	45
Dibenz(a,h)anthracene		ND		45	45
Benzo[g,h,i]perylene		ND		28	28
Carbazole		ND		170	170
1-Methylnaphthalene		ND		34	34
Benzo[b]fluoranthene		ND		22	22
Benzo[k]fluoranthene		ND		28	28

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	77	36 - 145
Phenol-d5	75	38 - 149
Nitrobenzene-d5	115	38 - 141
2-Fluorobiphenyl	85	42 - 140
2,4,6-Tribromophenol	91	28 - 143
Terphenyl-d14	101	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **MW15-080307-100**

Lab Sample ID: 580-6792-35 | Date Sampled: 08/03/2007 1520
Client Matrix: Solid | % Moisture: 71.2 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05395.D
Dilution: 1.0 | Initial Weight/Volume: 10.5206 g
Date Analyzed: 08/13/2007 2128 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		330	330
Bis(2-chloroethyl)ether		ND		330	330
2-Chlorophenol		ND		330	330
1,3-Dichlorobenzene		ND		170	170
1,4-Dichlorobenzene		ND		170	170
Benzyl alcohol		ND		330	330
1,2-Dichlorobenzene		ND		170	170
2-Methylphenol		ND		330	330
Bis(2-chloroisopropyl) ether		ND		500	500
3 & 4 Methylphenol		ND		660	660
N-Nitrosodi-n-propylamine		ND		330	330
Hexachloroethane		ND		330	330
Nitrobenzene		ND		330	330
Isophorone		ND		330	330
2-Nitrophenol		ND		330	330
2,4-Dimethylphenol		ND		330	330
Benzoic acid		ND		8300	8300
Bis(2-chloroethoxy)methane		ND		330	330
2,4-Dichlorophenol		ND		330	330
1,2,4-Trichlorobenzene		ND		170	170
Naphthalene		ND		66	66
4-Chloroaniline		ND		330	330
Hexachlorobutadiene		ND		170	170
4-Chloro-3-methylphenol		ND		330	330
2-Methylnaphthalene		ND		66	66
Hexachlorocyclopentadiene		ND		330	330
2,4,6-Trichlorophenol		ND		500	500
2,4,5-Trichlorophenol		ND		330	330
2-Chloronaphthalene		ND		66	66
2-Nitroaniline		ND		330	330
Dimethyl phthalate		ND		330	330
Acenaphthylene		ND		66	66
2,6-Dinitrotoluene		ND		330	330
3-Nitroaniline		ND		330	330
Acenaphthene		ND		66	66
2,4-Dinitrophenol		ND		3300	3300
4-Nitrophenol		ND		3300	3300
Dibenzofuran		ND		330	330
2,4-Dinitrotoluene		ND		330	330
Diethyl phthalate		ND		330	330
4-Chlorophenyl phenyl ether		ND		330	330
Fluorene		ND		66	66
4-Nitroaniline		ND		330	330
4,6-Dinitro-2-methylphenol		ND		3300	3300

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **MW15-080307-100**

Lab Sample ID: 580-6792-35 | Date Sampled: 08/03/2007 1520
Client Matrix: Solid | % Moisture: 71.2 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 580-21806	Instrument ID: SEA023
Preparation:	3550B	Prep Batch: 580-21641	Lab File ID: HP05395.D
Dilution:	1.0		Initial Weight/Volume: 10.5206 g
Date Analyzed:	08/13/2007 2128		Final Weight/Volume: 10 mL
Date Prepared:	08/10/2007 0736		Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		170	170
4-Bromophenyl phenyl ether		ND		330	330
Hexachlorobenzene		ND		170	170
Pentachlorophenol		ND		330	330
Phenanthrene		ND		66	66
Anthracene		ND		66	66
Di-n-butyl phthalate		ND		660	660
Fluoranthene		69		66	66
Pyrene		85		66	66
Butyl benzyl phthalate		ND		330	330
3,3'-Dichlorobenzidine		ND		660	660
Benzo[a]anthracene		ND		83	83
Chrysene		ND		83	83
Bis(2-ethylhexyl) phthalate		ND		5000	5000
Di-n-octyl phthalate		ND		660	660
Benzo[a]pyrene		ND		99	99
Indeno[1,2,3-cd]pyrene		ND		130	130
Dibenz(a,h)anthracene		ND		130	130
Benzo[g,h,i]perylene		ND		83	83
Carbazole		ND		500	500
1-Methylnaphthalene		ND		99	99
Benzo[b]fluoranthene		ND		66	66
Benzo[k]fluoranthene		ND		83	83

Surrogate	%Rec		Acceptance Limits
2-Fluorophenol	148	X	36 - 145
Phenol-d5	128		38 - 149
Nitrobenzene-d5	114		38 - 141
2-Fluorobiphenyl	58		42 - 140
2,4,6-Tribromophenol	78		28 - 143
Terphenyl-d14	102		42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP22-080307-040**

Lab Sample ID: 580-6792-38 | Date Sampled: 08/03/2007 1615
Client Matrix: Solid | % Moisture: 22.3 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05396.D
Dilution: 1.0 | Initial Weight/Volume: 10.6626 g
Date Analyzed: 08/13/2007 2156 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		120	120
Bis(2-chloroethyl)ether		ND		120	120
2-Chlorophenol		ND		120	120
1,3-Dichlorobenzene		ND		60	60
1,4-Dichlorobenzene		ND		60	60
Benzyl alcohol		ND		120	120
1,2-Dichlorobenzene		ND		60	60
2-Methylphenol		ND		120	120
Bis(2-chloroisopropyl) ether		ND		180	180
3 & 4 Methylphenol		ND		240	240
N-Nitrosodi-n-propylamine		ND		120	120
Hexachloroethane		ND		120	120
Nitrobenzene		ND		120	120
Isophorone		ND		120	120
2-Nitrophenol		ND		120	120
2,4-Dimethylphenol		ND		120	120
Benzoic acid		ND		3000	3000
Bis(2-chloroethoxy)methane		ND		120	120
2,4-Dichlorophenol		ND		120	120
1,2,4-Trichlorobenzene		ND		60	60
Naphthalene		ND		24	24
4-Chloroaniline		ND		120	120
Hexachlorobutadiene		ND		60	60
4-Chloro-3-methylphenol		ND		120	120
2-Methylnaphthalene		ND		24	24
Hexachlorocyclopentadiene		ND		120	120
2,4,6-Trichlorophenol		ND		180	180
2,4,5-Trichlorophenol		ND		120	120
2-Chloronaphthalene		ND		24	24
2-Nitroaniline		ND		120	120
Dimethyl phthalate		ND		120	120
Acenaphthylene		ND		24	24
2,6-Dinitrotoluene		ND		120	120
3-Nitroaniline		ND		120	120
Acenaphthene		ND		24	24
2,4-Dinitrophenol		ND		1200	1200
4-Nitrophenol		ND		1200	1200
Dibenzofuran		ND		120	120
2,4-Dinitrotoluene		ND		120	120
Diethyl phthalate		ND		120	120
4-Chlorophenyl phenyl ether		ND		120	120
Fluorene		ND		24	24
4-Nitroaniline		ND		120	120
4,6-Dinitro-2-methylphenol		ND		1200	1200

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP22-080307-040**

Lab Sample ID: 580-6792-38 | Date Sampled: 08/03/2007 1615
Client Matrix: Solid | % Moisture: 22.3 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05396.D
Dilution: 1.0 | Initial Weight/Volume: 10.6626 g
Date Analyzed: 08/13/2007 2156 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		60	60
4-Bromophenyl phenyl ether		ND		120	120
Hexachlorobenzene		ND		60	60
Pentachlorophenol		ND		120	120
Phenanthrene		ND		24	24
Anthracene		ND		24	24
Di-n-butyl phthalate		ND		240	240
Fluoranthene		ND		24	24
Pyrene		ND		24	24
Butyl benzyl phthalate		ND		120	120
3,3'-Dichlorobenzidine		ND		240	240
Benzo[a]anthracene		ND		30	30
Chrysene		ND		30	30
Di-n-octyl phthalate		ND		240	240
Benzo[a]pyrene		ND		36	36
Indeno[1,2,3-cd]pyrene		ND		48	48
Dibenz(a,h)anthracene		ND		48	48
Benzo[g,h,i]perylene		ND		30	30
Carbazole		ND		180	180
1-Methylnaphthalene		ND		36	36
Benzo[b]fluoranthene		ND		24	24
Benzo[k]fluoranthene		ND		30	30

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	78	36 - 145
Phenol-d5	73	38 - 149
Nitrobenzene-d5	109	38 - 141
2-Fluorobiphenyl	84	42 - 140
2,4,6-Tribromophenol	82	28 - 143
Terphenyl-d14	100	42 - 151

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: **DP22-080307-040**

Lab Sample ID: 580-6792-38
Client Matrix: Solid
% Moisture: 22.3
Date Sampled: 08/03/2007 1615
Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3550B
Dilution: 10
Date Analyzed: 08/14/2007 1413
Date Prepared: 08/10/2007 0736
Analysis Batch: 580-21806
Prep Batch: 580-21641
Instrument ID: SEA023
Lab File ID: HP05406.D
Initial Weight/Volume: 10.6626 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Bis(2-ethylhexyl) phthalate		ND		18000	18000

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP22-080307-100**

Lab Sample ID: 580-6792-41 | Date Sampled: 08/03/2007 1630
Client Matrix: Solid | % Moisture: 27.9 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05397.D
Dilution: 1.0 | Initial Weight/Volume: 10.4958 g
Date Analyzed: 08/13/2007 2223 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		130	130
Bis(2-chloroethyl)ether		ND		130	130
2-Chlorophenol		ND		130	130
1,3-Dichlorobenzene		ND		66	66
1,4-Dichlorobenzene		ND		66	66
Benzyl alcohol		ND		130	130
1,2-Dichlorobenzene		ND		66	66
2-Methylphenol		ND		130	130
Bis(2-chloroisopropyl) ether		ND		200	200
3 & 4 Methylphenol		ND		260	260
N-Nitrosodi-n-propylamine		ND		130	130
Hexachloroethane		ND		130	130
Nitrobenzene		ND		130	130
Isophorone		ND		130	130
2-Nitrophenol		ND		130	130
2,4-Dimethylphenol		ND		130	130
Benzoic acid		ND		3300	3300
Bis(2-chloroethoxy)methane		ND		130	130
2,4-Dichlorophenol		ND		130	130
1,2,4-Trichlorobenzene		ND		66	66
Naphthalene		ND		26	26
4-Chloroaniline		ND		130	130
Hexachlorobutadiene		ND		66	66
4-Chloro-3-methylphenol		ND		130	130
2-Methylnaphthalene		ND		26	26
Hexachlorocyclopentadiene		ND		130	130
2,4,6-Trichlorophenol		ND		200	200
2,4,5-Trichlorophenol		ND		130	130
2-Chloronaphthalene		ND		26	26
2-Nitroaniline		ND		130	130
Dimethyl phthalate		ND		130	130
Acenaphthylene		ND		26	26
2,6-Dinitrotoluene		ND		130	130
3-Nitroaniline		ND		130	130
Acenaphthene		ND		26	26
2,4-Dinitrophenol		ND		1300	1300
4-Nitrophenol		ND		1300	1300
Dibenzofuran		ND		130	130
2,4-Dinitrotoluene		ND		130	130
Diethyl phthalate		ND		130	130
4-Chlorophenyl phenyl ether		ND		130	130
Fluorene		ND		26	26
4-Nitroaniline		ND		130	130
4,6-Dinitro-2-methylphenol		ND		1300	1300

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP22-080307-100

Lab Sample ID: 580-6792-41 | Date Sampled: 08/03/2007 1630
Client Matrix: Solid | % Moisture: 27.9 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05397.D
Dilution: 1.0 | Initial Weight/Volume: 10.4958 g
Date Analyzed: 08/13/2007 2223 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		66	66
4-Bromophenyl phenyl ether		ND		130	130
Hexachlorobenzene		ND		66	66
Pentachlorophenol		ND		130	130
Phenanthrene		ND		26	26
Anthracene		ND		26	26
Di-n-butyl phthalate		ND		260	260
Fluoranthene		ND		26	26
Pyrene		ND		26	26
Butyl benzyl phthalate		ND		130	130
3,3'-Dichlorobenzidine		ND		260	260
Benzo[a]anthracene		ND		33	33
Chrysene		ND		33	33
Bis(2-ethylhexyl) phthalate		ND		2000	2000
Di-n-octyl phthalate		ND		260	260
Benzo[a]pyrene		ND		40	40
Indeno[1,2,3-cd]pyrene		ND		53	53
Dibenz(a,h)anthracene		ND		53	53
Benzo[g,h,i]perylene		ND		33	33
Carbazole		ND		200	200
1-Methylnaphthalene		ND		40	40
Benzo[b]fluoranthene		ND		26	26
Benzo[k]fluoranthene		ND		33	33

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	53	36 - 145
Phenol-d5	50	38 - 149
Nitrobenzene-d5	71	38 - 141
2-Fluorobiphenyl	49	42 - 140
2,4,6-Tribromophenol	58	28 - 143
Terphenyl-d14	99	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP19-080307-060**

Lab Sample ID: 580-6792-44 | Date Sampled: 08/03/2007 1715
Client Matrix: Solid | % Moisture: 18.0 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05398.D
Dilution: 1.0 | Initial Weight/Volume: 10.7083 g
Date Analyzed: 08/13/2007 2250 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		110	110
Bis(2-chloroethyl)ether		ND		110	110
2-Chlorophenol		ND		110	110
1,3-Dichlorobenzene		ND		57	57
1,4-Dichlorobenzene		ND		57	57
Benzyl alcohol		770		110	110
1,2-Dichlorobenzene		ND		57	57
2-Methylphenol		ND		110	110
Bis(2-chloroisopropyl) ether		ND		170	170
3 & 4 Methylphenol		ND		230	230
N-Nitrosodi-n-propylamine		ND		110	110
Hexachloroethane		ND		110	110
Nitrobenzene		ND		110	110
Isophorone		ND		110	110
2-Nitrophenol		ND		110	110
2,4-Dimethylphenol		ND		110	110
Benzoic acid		ND		2800	2800
Bis(2-chloroethoxy)methane		ND		110	110
2,4-Dichlorophenol		ND		110	110
1,2,4-Trichlorobenzene		ND		57	57
Naphthalene		ND		23	23
4-Chloroaniline		ND		110	110
Hexachlorobutadiene		ND		57	57
4-Chloro-3-methylphenol		ND		110	110
2-Methylnaphthalene		ND		23	23
Hexachlorocyclopentadiene		ND		110	110
2,4,6-Trichlorophenol		ND		170	170
2,4,5-Trichlorophenol		ND		110	110
2-Chloronaphthalene		ND		23	23
2-Nitroaniline		ND		110	110
Dimethyl phthalate		ND		110	110
Acenaphthylene		ND		23	23
2,6-Dinitrotoluene		ND		110	110
3-Nitroaniline		ND		110	110
Acenaphthene		ND		23	23
2,4-Dinitrophenol		ND		1100	1100
4-Nitrophenol		ND		1100	1100
Dibenzofuran		ND		110	110
2,4-Dinitrotoluene		ND		110	110
Diethyl phthalate		ND		110	110
4-Chlorophenyl phenyl ether		ND		110	110
Fluorene		ND		23	23
4-Nitroaniline		ND		110	110
4,6-Dinitro-2-methylphenol		ND		1100	1100

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP19-080307-060**

Lab Sample ID: 580-6792-44 | Date Sampled: 08/03/2007 1715
Client Matrix: Solid | % Moisture: 18.0 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05398.D
Dilution: 1.0 | Initial Weight/Volume: 10.7083 g
Date Analyzed: 08/13/2007 2250 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		57	57
4-Bromophenyl phenyl ether		ND		110	110
Hexachlorobenzene		ND		57	57
Pentachlorophenol		ND		110	110
Phenanthrene		ND		23	23
Anthracene		ND		23	23
Di-n-butyl phthalate		ND		230	230
Fluoranthene		ND		23	23
Pyrene		ND		23	23
Butyl benzyl phthalate		ND		110	110
3,3'-Dichlorobenzidine		ND		230	230
Benzo[a]anthracene		ND		28	28
Chrysene		ND		28	28
Bis(2-ethylhexyl) phthalate		ND		1700	1700
Di-n-octyl phthalate		ND		230	230
Benzo[a]pyrene		ND		34	34
Indeno[1,2,3-cd]pyrene		ND		46	46
Dibenz(a,h)anthracene		ND		46	46
Benzo[g,h,i]perylene		ND		28	28
Carbazole		ND		170	170
1-Methylnaphthalene		ND		34	34
Benzo[b]fluoranthene		ND		23	23
Benzo[k]fluoranthene		ND		28	28

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	85	36 - 145
Phenol-d5	77	38 - 149
Nitrobenzene-d5	135	38 - 141
2-Fluorobiphenyl	91	42 - 140
2,4,6-Tribromophenol	84	28 - 143
Terphenyl-d14	104	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP19-080307-100**

Lab Sample ID: 580-6792-46 | Date Sampled: 08/03/2007 1725
Client Matrix: Solid | % Moisture: 38.3 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05399.D
Dilution: 1.0 | Initial Weight/Volume: 10.8008 g
Date Analyzed: 08/13/2007 2318 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
Phenol		ND		150	150
Bis(2-chloroethyl)ether		ND		150	150
2-Chlorophenol		ND		150	150
1,3-Dichlorobenzene		ND		75	75
1,4-Dichlorobenzene		ND		75	75
Benzyl alcohol		ND		150	150
1,2-Dichlorobenzene		ND		75	75
2-Methylphenol		ND		150	150
Bis(2-chloroisopropyl) ether		ND		230	230
3 & 4 Methylphenol		ND		300	300
N-Nitrosodi-n-propylamine		ND		150	150
Hexachloroethane		ND		150	150
Nitrobenzene		ND		150	150
Isophorone		ND		150	150
2-Nitrophenol		ND		150	150
2,4-Dimethylphenol		ND		150	150
Benzoic acid		ND		3800	3800
Bis(2-chloroethoxy)methane		ND		150	150
2,4-Dichlorophenol		ND		150	150
1,2,4-Trichlorobenzene		ND		75	75
Naphthalene		ND		30	30
4-Chloroaniline		ND		150	150
Hexachlorobutadiene		ND		75	75
4-Chloro-3-methylphenol		ND		150	150
2-Methylnaphthalene		ND		30	30
Hexachlorocyclopentadiene		ND		150	150
2,4,6-Trichlorophenol		ND		230	230
2,4,5-Trichlorophenol		ND		150	150
2-Chloronaphthalene		ND		30	30
2-Nitroaniline		ND		150	150
Dimethyl phthalate		ND		150	150
Acenaphthylene		ND		30	30
2,6-Dinitrotoluene		ND		150	150
3-Nitroaniline		ND		150	150
Acenaphthene		ND		30	30
2,4-Dinitrophenol		ND		1500	1500
4-Nitrophenol		ND		1500	1500
Dibenzofuran		ND		150	150
2,4-Dinitrotoluene		ND		150	150
Diethyl phthalate		ND		150	150
4-Chlorophenyl phenyl ether		ND		150	150
Fluorene		ND		30	30
4-Nitroaniline		ND		150	150
4,6-Dinitro-2-methylphenol		ND		1500	1500

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: **DP19-080307-100**

Lab Sample ID: 580-6792-46 | Date Sampled: 08/03/2007 1725
Client Matrix: Solid | % Moisture: 38.3 | Date Received: 08/06/2007 1430

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-21806 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-21641 | Lab File ID: HP05399.D
Dilution: 1.0 | Initial Weight/Volume: 10.8008 g
Date Analyzed: 08/13/2007 2318 | Final Weight/Volume: 10 mL
Date Prepared: 08/10/2007 0736 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL	RL
N-Nitrosodiphenylamine		ND		75	75
4-Bromophenyl phenyl ether		ND		150	150
Hexachlorobenzene		ND		75	75
Pentachlorophenol		ND		150	150
Phenanthrene		ND		30	30
Anthracene		ND		30	30
Di-n-butyl phthalate		ND		300	300
Fluoranthene		32		30	30
Pyrene		35		30	30
Butyl benzyl phthalate		ND		150	150
3,3'-Dichlorobenzidine		ND		300	300
Benzo[a]anthracene		ND		38	38
Chrysene		ND		38	38
Bis(2-ethylhexyl) phthalate		ND		2300	2300
Di-n-octyl phthalate		ND		300	300
Benzo[a]pyrene		ND		45	45
Indeno[1,2,3-cd]pyrene		ND		60	60
Dibenz(a,h)anthracene		ND		60	60
Benzo[g,h,i]perylene		ND		38	38
Carbazole		ND		230	230
1-Methylnaphthalene		ND		45	45
Benzo[b]fluoranthene		ND		30	30
Benzo[k]fluoranthene		ND		38	38

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	71	36 - 145
Phenol-d5	60	38 - 149
Nitrobenzene-d5	91	38 - 141
2-Fluorobiphenyl	61	42 - 140
2,4,6-Tribromophenol	61	28 - 143
Terphenyl-d14	96	42 - 151

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP24-080307-080

Lab Sample ID: 580-6792-2 | Date Sampled: 08/03/2007 0855
Client Matrix: Solid | % Moisture: 29.3 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171595.D
Dilution: 1.0 | Initial Weight/Volume: 5.75 g
Date Analyzed: 08/13/2007 2130 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		150		9.8	9.8

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	99	50 - 150
Trifluorotoluene (Surr)	93	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP17-080307-040

Lab Sample ID: 580-6792-8 | Date Sampled: 08/03/2007 1125
Client Matrix: Solid | % Moisture: 80.0 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171598.D
Dilution: 1.0 | Initial Weight/Volume: 2.79 g
Date Analyzed: 08/13/2007 2235 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		72	72

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	50 - 150
Trifluorotoluene (Surr)	91	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP17-080307-100

Lab Sample ID: 580-6792-11 | Date Sampled: 08/03/2007 1140
Client Matrix: Solid | % Moisture: 72.9 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171599.D
Dilution: 1.0 | Initial Weight/Volume: 2.87 g
Date Analyzed: 08/13/2007 2256 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		51	51

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	97	50 - 150
Trifluorotoluene (Surr)	90	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	104	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP18-080307-020

Lab Sample ID: 580-6792-13 | Date Sampled: 08/03/2007 1200
Client Matrix: Solid | % Moisture: 33.7 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171600.D
Dilution: 1.0 | Initial Weight/Volume: 5.54 g
Date Analyzed: 08/13/2007 2317 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		11		11	11

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	97	50 - 150
Trifluorotoluene (Surr)	99	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP18-080307-100

Lab Sample ID: 580-6792-17 | Date Sampled: 08/03/2007 1220
Client Matrix: Solid | % Moisture: 67.4 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171601.D
Dilution: 1.0 | Initial Weight/Volume: 3.29 g
Date Analyzed: 08/13/2007 2339 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		37	37

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	97	50 - 150
Trifluorotoluene (Surr)	83	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP20-080307-020

Lab Sample ID: 580-6792-19
Client Matrix: Solid
% Moisture: 21.0
Date Sampled: 08/03/2007 1245
Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 08/14/2007 0000
Date Prepared: 08/13/2007 1154
Analysis Batch: 580-21763
Prep Batch: 580-21722
Instrument ID: SEA003
Lab File ID: CS171602.D
Initial Weight/Volume: 5.93 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		8.5	8.5

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	50 - 150
Trifluorotoluene (Surr)	96	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP20-080307-100

Lab Sample ID: 580-6792-23 | Date Sampled: 08/03/2007 1305
Client Matrix: Solid | % Moisture: 50.7 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171603.D
Dilution: 1.0 | Initial Weight/Volume: 3.51 g
Date Analyzed: 08/14/2007 0021 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		23	23

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	50 - 150
Trifluorotoluene (Surr)	90	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	114	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP21-080307-060

Lab Sample ID: 580-6792-27 | Date Sampled: 08/03/2007 1340
Client Matrix: Solid | % Moisture: 40.5 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171604.D
Dilution: 1.0 | Initial Weight/Volume: 6.01 g
Date Analyzed: 08/14/2007 0043 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		11	11

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	50 - 150
Trifluorotoluene (Surr)	95	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP21-080307-100

Lab Sample ID: 580-6792-29 | Date Sampled: 08/03/2007 1350
Client Matrix: Solid | % Moisture: 74.3 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171605.D
Dilution: 1.0 | Initial Weight/Volume: 2.96 g
Date Analyzed: 08/14/2007 0104 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		53	53

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	50 - 150
Trifluorotoluene (Surr)	89	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: MW15-080307-040

Lab Sample ID: 580-6792-32 | Date Sampled: 08/03/2007 1505
Client Matrix: Solid | % Moisture: 16.8 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171606.D
Dilution: 1.0 | Initial Weight/Volume: 5.66 g
Date Analyzed: 08/14/2007 0126 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		8.5	8.5

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	50 - 150
Trifluorotoluene (Surr)	97	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: MW15-080307-100

Lab Sample ID: 580-6792-35 | Date Sampled: 08/03/2007 1520
Client Matrix: Solid | % Moisture: 71.2 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171607.D
Dilution: 1.0 | Initial Weight/Volume: 3.71 g
Date Analyzed: 08/14/2007 0147 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		37	37

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	50 - 150
Trifluorotoluene (Surr)	90	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	114	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP22-080307-040

Lab Sample ID: 580-6792-38 | Date Sampled: 08/03/2007 1615
Client Matrix: Solid | % Moisture: 22.3 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171608.D
Dilution: 1.0 | Initial Weight/Volume: 6.13 g
Date Analyzed: 08/14/2007 0208 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		8.4	8.4

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	50 - 150
Trifluorotoluene (Surr)	95	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	104	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP22-080307-100

Lab Sample ID: 580-6792-41 | Date Sampled: 08/03/2007 1630
Client Matrix: Solid | % Moisture: 27.9 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171609.D
Dilution: 1.0 | Initial Weight/Volume: 5.47 g
Date Analyzed: 08/14/2007 0230 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		10	10

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	96	50 - 150
Trifluorotoluene (Surr)	85	50 - 150
Ethylbenzene-d10	115	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	114	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP19-080307-060

Lab Sample ID: 580-6792-44 | Date Sampled: 08/03/2007 1715
Client Matrix: Solid | % Moisture: 18.0 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171610.D
Dilution: 1.0 | Initial Weight/Volume: 6.18 g
Date Analyzed: 08/14/2007 0251 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		73		7.9	7.9

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	95	50 - 150
Trifluorotoluene (Surr)	96	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	104	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP19-080307-100

Lab Sample ID: 580-6792-46 | Date Sampled: 08/03/2007 1725
Client Matrix: Solid | % Moisture: 38.3 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-21763 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-21722 | Lab File ID: CS171611.D
Dilution: 1.0 | Initial Weight/Volume: 3.86 g
Date Analyzed: 08/14/2007 0312 | Final Weight/Volume: 400 mL
Date Prepared: 08/13/2007 1154 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Gasoline		ND		17	17

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	95	50 - 150
Trifluorotoluene (Surr)	90	50 - 150
Ethylbenzene-d10	116	50 - 150
Fluorobenzene (Surr)	104	50 - 150
Toluene-d8 (Surr)	115	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP17-080307-040

Lab Sample ID: 580-6792-8
Client Matrix: Solid
% Moisture: 80.0
Date Sampled: 08/03/2007 1125
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 0538
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB9990.D
Initial Weight/Volume: 10.6266 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.47	0.47
PCB-1221		ND		0.47	0.47
PCB-1232		ND		0.47	0.47
PCB-1242		ND		0.47	0.47
PCB-1248		ND		0.47	0.47
PCB-1254		ND		0.47	0.47
PCB-1260		ND	*	0.47	0.47

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	145	45 - 155
DCB Decachlorobiphenyl	149	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP17-080307-100

Lab Sample ID: 580-6792-11 | Date Sampled: 08/03/2007 1140
Client Matrix: Solid | % Moisture: 72.9 | Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-21827 | Instrument ID: SEA034
Preparation: 3550B | Prep Batch: 580-21601 | Lab File ID: PCB9991.D
Dilution: 5.0 | Initial Weight/Volume: 10.6134 g
Date Analyzed: 08/14/2007 0601 | Final Weight/Volume: 20 mL
Date Prepared: 08/09/2007 1144 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.35	0.35
PCB-1221		ND		0.35	0.35
PCB-1232		ND		0.35	0.35
PCB-1242		ND		0.35	0.35
PCB-1248		ND		0.35	0.35
PCB-1254		ND		0.35	0.35
PCB-1260		ND	*	0.35	0.35

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	112	45 - 155
DCB Decachlorobiphenyl	123	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP18-080307-020

Lab Sample ID: 580-6792-13
Client Matrix: Solid
% Moisture: 33.7
Date Sampled: 08/03/2007 1200
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 0625
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB9992.D
Initial Weight/Volume: 10.8515 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.14	0.14
PCB-1221		ND		0.14	0.14
PCB-1232		ND		0.14	0.14
PCB-1242		ND		0.14	0.14
PCB-1248		ND		0.14	0.14
PCB-1254		ND		0.14	0.14
PCB-1260		ND	*	0.14	0.14

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	74	45 - 155
DCB Decachlorobiphenyl	64	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP18-080307-100

Lab Sample ID: 580-6792-17
Client Matrix: Solid
% Moisture: 67.4
Date Sampled: 08/03/2007 1220
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 0649
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB9993.D
Initial Weight/Volume: 10.1748 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.30	0.30
PCB-1221		ND		0.30	0.30
PCB-1232		ND		0.30	0.30
PCB-1242		ND		0.30	0.30
PCB-1248		ND		0.30	0.30
PCB-1254		ND		0.30	0.30
PCB-1260		ND	*	0.30	0.30

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	136	45 - 155
DCB Decachlorobiphenyl	120	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP20-080307-020

Lab Sample ID: 580-6792-19
Client Matrix: Solid
% Moisture: 21.0
Date Sampled: 08/03/2007 1245
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 0712
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB9994.D
Initial Weight/Volume: 11.1891 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.11	0.11
PCB-1221		ND		0.11	0.11
PCB-1232		ND		0.11	0.11
PCB-1242		ND		0.11	0.11
PCB-1248		ND		0.11	0.11
PCB-1254		ND		0.11	0.11
PCB-1260		ND	*	0.11	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	81	45 - 155
DCB Decachlorobiphenyl	83	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP20-080307-100

Lab Sample ID: 580-6792-23
Client Matrix: Solid
% Moisture: 50.7
Date Sampled: 08/03/2007 1305
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 0736
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB9995.D
Initial Weight/Volume: 10.5572 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.19	0.19
PCB-1221		ND		0.19	0.19
PCB-1232		ND		0.19	0.19
PCB-1242		ND		0.19	0.19
PCB-1248		ND		0.19	0.19
PCB-1254		ND		0.19	0.19
PCB-1260		ND	*	0.19	0.19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	115	45 - 155
DCB Decachlorobiphenyl	120	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP21-080307-060

Lab Sample ID: 580-6792-27
Client Matrix: Solid
% Moisture: 40.5
Date Sampled: 08/03/2007 1340
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 0800
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB9996.D
Initial Weight/Volume: 10.2237 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.16	0.16
PCB-1221		ND		0.16	0.16
PCB-1232		ND		0.16	0.16
PCB-1242		ND		0.16	0.16
PCB-1248		ND		0.16	0.16
PCB-1254		ND		0.16	0.16
PCB-1260		ND	*	0.16	0.16

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	244	X	45 - 155
DCB Decachlorobiphenyl	211	X	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP21-080307-100

Lab Sample ID: 580-6792-29
Client Matrix: Solid
% Moisture: 74.3
Date Sampled: 08/03/2007 1350
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 1518
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB10014.D
Initial Weight/Volume: 10.3376 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.38	0.38
PCB-1221		ND		0.38	0.38
PCB-1232		ND		0.38	0.38
PCB-1242		ND		0.38	0.38
PCB-1248		ND		0.38	0.38
PCB-1254		ND		0.38	0.38
PCB-1260		ND	*	0.38	0.38

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	135	45 - 155
DCB Decachlorobiphenyl	130	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: MW15-080307-040

Lab Sample ID: 580-6792-32
Client Matrix: Solid
% Moisture: 16.8
Date Sampled: 08/03/2007 1505
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 1542
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB10015.D
Initial Weight/Volume: 10.6496 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.11	0.11
PCB-1221		ND		0.11	0.11
PCB-1232		ND		0.11	0.11
PCB-1242		ND		0.11	0.11
PCB-1248		ND		0.11	0.11
PCB-1254		ND		0.11	0.11
PCB-1260		ND	*	0.11	0.11

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	79	45 - 155
DCB Decachlorobiphenyl	77	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: MW15-080307-100

Lab Sample ID: 580-6792-35
Client Matrix: Solid
% Moisture: 71.2
Date Sampled: 08/03/2007 1520
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 1606
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB10016.D
Initial Weight/Volume: 10.2543 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.34	0.34
PCB-1221		ND		0.34	0.34
PCB-1232		ND		0.34	0.34
PCB-1242		ND		0.34	0.34
PCB-1248		ND		0.34	0.34
PCB-1254		ND		0.34	0.34
PCB-1260		ND	*	0.34	0.34

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	259	X	45 - 155
DCB Decachlorobiphenyl	256	X	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP22-080307-040

Lab Sample ID: 580-6792-38
Client Matrix: Solid
% Moisture: 22.3
Date Sampled: 08/03/2007 1615
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 1629
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB10017.D
Initial Weight/Volume: 10.6452 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.12	0.12
PCB-1221		ND		0.12	0.12
PCB-1232		ND		0.12	0.12
PCB-1242		ND		0.12	0.12
PCB-1248		ND		0.12	0.12
PCB-1254		ND		0.12	0.12
PCB-1260		ND	*	0.12	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	92	45 - 155
DCB Decachlorobiphenyl	85	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP22-080307-100

Lab Sample ID: 580-6792-41
Client Matrix: Solid
% Moisture: 27.9
Date Sampled: 08/03/2007 1630
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 1653
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB10018.D
Initial Weight/Volume: 10.9738 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.13	0.13
PCB-1221		ND		0.13	0.13
PCB-1232		ND		0.13	0.13
PCB-1242		ND		0.13	0.13
PCB-1248		ND		0.13	0.13
PCB-1254		ND		0.13	0.13
PCB-1260		ND	*	0.13	0.13

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	106	45 - 155
DCB Decachlorobiphenyl	121	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP19-080307-060

Lab Sample ID: 580-6792-44
Client Matrix: Solid
% Moisture: 18.0
Date Sampled: 08/03/2007 1715
Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 08/14/2007 1804
Date Prepared: 08/09/2007 1144
Analysis Batch: 580-21827
Prep Batch: 580-21601
Instrument ID: SEA034
Lab File ID: PCB10021.D
Initial Weight/Volume: 10.5456 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.12	0.12
PCB-1221		ND		0.12	0.12
PCB-1232		ND		0.12	0.12
PCB-1242		ND		0.12	0.12
PCB-1248		ND		0.12	0.12
PCB-1254		ND		0.12	0.12
PCB-1260		ND	*	0.12	0.12

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	87	45 - 155
DCB Decachlorobiphenyl	99	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP19-080307-100

Lab Sample ID: 580-6792-46 | Date Sampled: 08/03/2007 1725
Client Matrix: Solid | % Moisture: 38.3 | Date Received: 08/06/2007 1430

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-21846 | Instrument ID: Agilent 6890 with ECD
Preparation: 3550B | Prep Batch: 580-21726 | Lab File ID: CCL002674.D
Dilution: 5.0 | Initial Weight/Volume: 10.5071 g
Date Analyzed: 08/14/2007 2049 | Final Weight/Volume: 20 mL
Date Prepared: 08/13/2007 1326 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
PCB-1016		ND		0.15	0.15
PCB-1221		ND		0.15	0.15
PCB-1232		ND		0.15	0.15
PCB-1242		ND		0.15	0.15
PCB-1248		ND		0.15	0.15
PCB-1254		ND		0.15	0.15
PCB-1260		ND		0.15	0.15

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	117	45 - 155
DCB Decachlorobiphenyl	114	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP24-080307-080

Lab Sample ID: 580-6792-2
Client Matrix: Solid
% Moisture: 29.3
Date Sampled: 08/03/2007 0855
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 1643
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30557.D
Initial Weight/Volume: 10.6624 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		170		66	66
#2 Diesel (C10-C24)		81		33	33

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	69	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP25-080307-100

Lab Sample ID: 580-6792-4
Client Matrix: Solid
% Moisture: 12.7
Date Sampled: 08/03/2007 1025
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 1724
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30559.D
Initial Weight/Volume: 10.5190 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		54	54
#2 Diesel (C10-C24)		ND		27	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	79	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: **DP17-080307-040**

Lab Sample ID: 580-6792-8
Client Matrix: Solid
% Moisture: 80.0
Date Sampled: 08/03/2007 1125
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 1744
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30560.D
Initial Weight/Volume: 10.7288 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		230	230
#2 Diesel (C10-C24)		130		120	120

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	73	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP17-080307-100

Lab Sample ID: 580-6792-11
Client Matrix: Solid
% Moisture: 72.9
Date Sampled: 08/03/2007 1140
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 1804
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30561.D
Initial Weight/Volume: 10.5396 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		490		180	180
#2 Diesel (C10-C24)		ND		88	88

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	76	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP18-080307-020

Lab Sample ID: 580-6792-13
Client Matrix: Solid
% Moisture: 33.7
Date Sampled: 08/03/2007 1200
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 1824
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30562.D
Initial Weight/Volume: 10.5301 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		730		72	72
#2 Diesel (C10-C24)		580		36	36

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	73	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP18-080307-100

Lab Sample ID: 580-6792-17
Client Matrix: Solid
% Moisture: 67.4
Date Sampled: 08/03/2007 1220
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 1850
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30563.D
Initial Weight/Volume: 10.7274 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		4600		140	140
#2 Diesel (C10-C24)		960		71	71

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	71	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP20-080307-020

Lab Sample ID: 580-6792-19
Client Matrix: Solid
% Moisture: 21.0
Date Sampled: 08/03/2007 1245
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 1916
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30564.D
Initial Weight/Volume: 10.7452 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		59	59
#2 Diesel (C10-C24)		ND		29	29

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	83	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP20-080307-100

Lab Sample ID: 580-6792-23
Client Matrix: Solid
% Moisture: 50.7
Date Sampled: 08/03/2007 1305
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 1942
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30565.D
Initial Weight/Volume: 10.4732 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		97	97
#2 Diesel (C10-C24)		600		48	48

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	69	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: **DP21-080307-060**

Lab Sample ID: 580-6792-27
Client Matrix: Solid
% Moisture: 40.5
Date Sampled: 08/03/2007 1340
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 2007
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30566.D
Initial Weight/Volume: 10.6716 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		650		79	79
#2 Diesel (C10-C24)		87		39	39

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	87	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP21-080307-100

Lab Sample ID: 580-6792-29
Client Matrix: Solid
% Moisture: 74.3
Date Sampled: 08/03/2007 1350
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 2034
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30567.D
Initial Weight/Volume: 10.2302 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		230		190	190
#2 Diesel (C10-C24)		110		95	95

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	63	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: MW15-080307-040

Lab Sample ID: 580-6792-32
Client Matrix: Solid
% Moisture: 16.8
Date Sampled: 08/03/2007 1505
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 2100
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30568.D
Initial Weight/Volume: 10.2532 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		59	59
#2 Diesel (C10-C24)		ND		29	29

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	83	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: MW15-080307-100

Lab Sample ID: 580-6792-35 | Date Sampled: 08/03/2007 1520
Client Matrix: Solid | % Moisture: 71.2 | Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-21902 | Instrument ID: SEA013
Preparation: 3550B | Prep Batch: 580-21628 | Lab File ID: FA30569.D
Dilution: 1.0 | Initial Weight/Volume: 10.8160 g
Date Analyzed: 08/15/2007 2125 | Final Weight/Volume: 10 mL
Date Prepared: 08/09/2007 1538 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		450		160	160
#2 Diesel (C10-C24)		300		80	80

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	75	50 - 150

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP22-080307-040

Lab Sample ID: 580-6792-38 | Date Sampled: 08/03/2007 1615
Client Matrix: Solid | % Moisture: 22.3 | Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx | Analysis Batch: 580-21902 | Instrument ID: SEA013
Preparation: 3550B | Prep Batch: 580-21628 | Lab File ID: FA30570.D
Dilution: 1.0 | Initial Weight/Volume: 10.2962 g
Date Analyzed: 08/15/2007 2151 | Final Weight/Volume: 10 mL
Date Prepared: 08/09/2007 1538 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		63	63
#2 Diesel (C10-C24)		ND		31	31

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	64	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP22-080307-100

Lab Sample ID: 580-6792-41
Client Matrix: Solid
% Moisture: 27.9
Date Sampled: 08/03/2007 1630
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 2212
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30571.D
Initial Weight/Volume: 10.5601 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		66	66
#2 Diesel (C10-C24)		ND		33	33

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	61	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP19-080307-060

Lab Sample ID: 580-6792-44
Client Matrix: Solid
% Moisture: 18.0
Date Sampled: 08/03/2007 1715
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 2232
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30572.D
Initial Weight/Volume: 10.3509 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		59	59
#2 Diesel (C10-C24)		370		29	29

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	102	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP19-080307-100

Lab Sample ID: 580-6792-46
Client Matrix: Solid
% Moisture: 38.3
Date Sampled: 08/03/2007 1725
Date Received: 08/06/2007 1430

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 2253
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30573.D
Initial Weight/Volume: 10.6362 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		89		76	76
#2 Diesel (C10-C24)		67		38	38

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	57	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP17-080307-040

Lab Sample ID:	580-6792-8		Date Sampled: 08/03/2007 1125
Client Matrix:	Solid	% Moisture: 80.0	Date Received: 08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21799	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21743	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0499 g
Date Analyzed:	08/14/2007 1205		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 1521		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		14	14
Barium		36		2.4	2.4
Cadmium		ND		2.4	2.4
Chromium		8.4		6.2	6.2
Lead		17		7.1	7.1
Selenium		ND		24	24
Silver		ND		4.8	4.8

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21826	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21724	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5032 g
Date Analyzed:	08/14/2007 1951		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 1322		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.099	0.099

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP17-080307-100

Lab Sample ID:	580-6792-11	Date Sampled:	08/03/2007 1140
Client Matrix:	Solid % Moisture: 72.9	Date Received:	08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21799	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21743	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0342 g
Date Analyzed:	08/14/2007 1209		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 1521		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		84		11	11
Barium		33		1.8	1.8
Cadmium		ND		1.8	1.8
Chromium		27		4.6	4.6
Lead		110		5.4	5.4
Selenium		ND		18	18
Silver		ND		3.6	3.6

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21826	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21724	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5224 g
Date Analyzed:	08/14/2007 1956		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 1322		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.071	0.071

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP18-080307-020

Lab Sample ID: 580-6792-13
Client Matrix: Solid
% Moisture: 33.7
Date Sampled: 08/03/2007 1200
Date Received: 08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/14/2007 1223
Date Prepared: 08/13/2007 1521
Analysis Batch: 580-21799
Prep Batch: 580-21743
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0438 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		4.3	4.3
Barium		54		0.72	0.72
Cadmium		ND		0.72	0.72
Chromium		16		1.9	1.9
Lead		4.5		2.2	2.2
Selenium		ND		7.2	7.2
Silver		ND		1.4	1.4

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/14/2007 2001
Date Prepared: 08/13/2007 1322
Analysis Batch: 580-21826
Prep Batch: 580-21724
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5179 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.029	0.029

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP18-080307-100

Lab Sample ID:	580-6792-17	Date Sampled:	08/03/2007 1220
Client Matrix:	Solid % Moisture: 67.4	Date Received:	08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21799		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-21743		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0504 g
Date Analyzed:	08/14/2007 1227			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1521				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		8.8	8.8
Barium		14		1.5	1.5
Cadmium		ND		1.5	1.5
Chromium		11		3.8	3.8
Lead		8.0		4.4	4.4
Selenium		ND		15	15
Silver		ND		2.9	2.9

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21826		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-21724		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5056 g
Date Analyzed:	08/14/2007 2006			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1322				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.064		0.061	0.061

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP20-080307-020

Lab Sample ID: 580-6792-19
Client Matrix: Solid
% Moisture: 21.0
Date Sampled: 08/03/2007 1245
Date Received: 08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/14/2007 1231
Date Prepared: 08/13/2007 1521
Analysis Batch: 580-21799
Prep Batch: 580-21743
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0542 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.6	3.6
Barium		30		0.60	0.60
Cadmium		ND		0.60	0.60
Chromium		20		1.6	1.6
Lead		ND		1.8	1.8
Selenium		ND		6.0	6.0
Silver		ND		1.2	1.2

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/14/2007 2010
Date Prepared: 08/13/2007 1322
Analysis Batch: 580-21826
Prep Batch: 580-21724
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5097 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.025	0.025

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP20-080307-100

Lab Sample ID: 580-6792-23
Client Matrix: Solid
% Moisture: 50.7
Date Sampled: 08/03/2007 1305
Date Received: 08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/14/2007 1235
Date Prepared: 08/13/2007 1521
Analysis Batch: 580-21799
Prep Batch: 580-21743
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0530 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		5.8	5.8
Barium		31		0.96	0.96
Cadmium		ND		0.96	0.96
Chromium		17		2.5	2.5
Lead		140		2.9	2.9
Selenium		ND		9.6	9.6
Silver		ND		1.9	1.9

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/14/2007 2015
Date Prepared: 08/13/2007 1322
Analysis Batch: 580-21826
Prep Batch: 580-21724
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5365 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.038	0.038

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP21-080307-060

Lab Sample ID:	580-6792-27	Date Sampled:	08/03/2007 1340
Client Matrix:	Solid % Moisture: 40.5	Date Received:	08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21799	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21743	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0518 g
Date Analyzed:	08/14/2007 1239		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 1521		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		72		4.8	4.8
Barium		66		0.80	0.80
Cadmium		ND		0.80	0.80
Chromium		26		2.1	2.1
Lead		30		2.4	2.4
Selenium		ND		8.0	8.0
Silver		ND		1.6	1.6

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21826	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21724	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5480 g
Date Analyzed:	08/14/2007 2020		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 1322		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.22		0.031	0.031

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP21-080307-100

Lab Sample ID:	580-6792-29	Date Sampled:	08/03/2007 1350
Client Matrix:	Solid % Moisture: 74.3	Date Received:	08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21799		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-21743		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0289 g
Date Analyzed:	08/14/2007 1243			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1521				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		11	11
Barium		23		1.9	1.9
Cadmium		ND		1.9	1.9
Chromium		6.3		4.9	4.9
Lead		ND		5.7	5.7
Selenium		ND		19	19
Silver		ND		3.8	3.8

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21826		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-21724		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5046 g
Date Analyzed:	08/14/2007 2025			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1322				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.077	0.077

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: MW15-080307-040

Lab Sample ID:	580-6792-32	Date Sampled:	08/03/2007 1505
Client Matrix:	Solid % Moisture: 16.8	Date Received:	08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21799		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-21743		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0301 g
Date Analyzed:	08/14/2007 1245			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1521				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		3.6		3.5	3.5
Barium		24		0.58	0.58
Cadmium		ND		0.58	0.58
Chromium		19		1.5	1.5
Lead		ND		1.7	1.7
Selenium		ND		5.8	5.8
Silver		ND		1.2	1.2

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21826		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-21724		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5270 g
Date Analyzed:	08/14/2007 2030			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1322				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.023	0.023

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: MW15-080307-100

Lab Sample ID: 580-6792-35
Client Matrix: Solid
% Moisture: 71.2
Date Sampled: 08/03/2007 1520
Date Received: 08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/14/2007 1249
Date Prepared: 08/13/2007 1521
Analysis Batch: 580-21799
Prep Batch: 580-21743
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0589 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		9.8	9.8
Barium		4.7		1.6	1.6
Cadmium		ND		1.6	1.6
Chromium		7.7		4.3	4.3
Lead		12		4.9	4.9
Selenium		ND		16	16
Silver		ND		3.3	3.3

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/14/2007 2034
Date Prepared: 08/13/2007 1322
Analysis Batch: 580-21826
Prep Batch: 580-21724
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5109 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.11		0.068	0.068

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP22-080307-040

Lab Sample ID:	580-6792-38	Date Sampled:	08/03/2007 1615
Client Matrix:	Solid % Moisture: 22.3	Date Received:	08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21799		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-21743		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0199 g
Date Analyzed:	08/14/2007 1252			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1521				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.8	3.8
Barium		43		0.63	0.63
Cadmium		ND		0.63	0.63
Chromium		25		1.6	1.6
Lead		2.2		1.9	1.9
Selenium		ND		6.3	6.3
Silver		ND		1.3	1.3

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21826		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-21724		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5336 g
Date Analyzed:	08/14/2007 2053			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1322				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		ND		0.024	0.024

Client: GeoEngineers Inc

Job Number: 580-6792-1

Client Sample ID: DP22-080307-100

Lab Sample ID: 580-6792-41
Client Matrix: Solid
% Moisture: 27.9
Date Sampled: 08/03/2007 1630
Date Received: 08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/14/2007 1304
Date Prepared: 08/13/2007 1521
Analysis Batch: 580-21799
Prep Batch: 580-21743
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0605 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.9	3.9
Barium		63		0.65	0.65
Cadmium		ND		0.65	0.65
Chromium		25		1.7	1.7
Lead		11		2.0	2.0
Selenium		ND		6.5	6.5
Silver		ND		1.3	1.3

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/14/2007 2058
Date Prepared: 08/13/2007 1322
Analysis Batch: 580-21826
Prep Batch: 580-21724
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5197 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.042		0.027	0.027

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP19-080307-060

Lab Sample ID:	580-6792-44	Date Sampled:	08/03/2007 1715
Client Matrix:	Solid % Moisture: 18.0	Date Received:	08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21799	Instrument ID: SEA027
Preparation:	3050B	Prep Batch: 580-21743	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0446 g
Date Analyzed:	08/14/2007 1307		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 1521		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		3.5	3.5
Barium		36		0.58	0.58
Cadmium		ND		0.58	0.58
Chromium		21		1.5	1.5
Lead		3.0		1.8	1.8
Selenium		ND		5.8	5.8
Silver		ND		1.2	1.2

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21826	Instrument ID: SEA029
Preparation:	7471A	Prep Batch: 580-21724	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5232 g
Date Analyzed:	08/14/2007 2103		Final Weight/Volume: 50 mL
Date Prepared:	08/13/2007 1322		

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.031		0.023	0.023

Client: GeoEngineers Inc | Job Number: 580-6792-1

Client Sample ID: DP19-080307-100

Lab Sample ID:	580-6792-46	Date Sampled:	08/03/2007 1725
Client Matrix:	Solid % Moisture: 38.3	Date Received:	08/06/2007 1430

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method:	6010B	Analysis Batch: 580-21799		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-21743		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0639 g
Date Analyzed:	08/14/2007 1310			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1521				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Arsenic		ND		4.6	4.6
Barium		12		0.76	0.76
Cadmium		0.94		0.76	0.76
Chromium		23		2.0	2.0
Lead		10		2.3	2.3
Selenium		ND		7.6	7.6
Silver		ND		1.5	1.5

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 580-21826		Instrument ID:	SEA029
Preparation:	7471A	Prep Batch: 580-21724		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.5197 g
Date Analyzed:	08/14/2007 2107			Final Weight/Volume:	50 mL
Date Prepared:	08/13/2007 1322				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Mercury		0.065		0.031	0.031

Client: GeoEngineers Inc

Job Number: 580-6792-1

Method Blank - Batch: 580-21722

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-21722/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1426
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008347.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		5.6	40
Chloromethane	ND		7.3	40
Vinyl chloride	ND		5.2	16
Bromomethane	ND		28	200
Chloroethane	ND		29	200
Trichlorofluoromethane	ND		3.8	40
1,1-Dichloroethene	ND		5.3	16
Methylene Chloride	ND		6.1	40
trans-1,2-Dichloroethene	ND		4.3	40
1,1-Dichloroethane	ND		9.5	40
2,2-Dichloropropane	ND		4.7	40
cis-1,2-Dichloroethene	ND		6.0	40
Chlorobromomethane	ND		4.8	40
Chloroform	ND		3.8	40
1,1,1-Trichloroethane	ND		3.9	16
Carbon tetrachloride	ND		3.0	16
1,1-Dichloropropene	ND		3.1	40
Benzene	ND		2.8	8.0
1,2-Dichloroethane	ND		8.1	40
Trichloroethene	ND		3.0	16
1,2-Dichloropropane	ND		2.5	8.0
Dibromomethane	ND		7.3	40
Dichlorobromomethane	ND		2.8	40
cis-1,3-Dichloropropene	ND		2.8	40
Toluene	ND		7.4	40
trans-1,3-Dichloropropene	ND		2.8	40
1,1,2-Trichloroethane	ND		3.6	40
Tetrachloroethene	ND		7.3	25
1,3-Dichloropropane	ND		4.2	16
Chlorodibromomethane	ND		2.5	40
Ethylene Dibromide	ND		6.6	40
Chlorobenzene	ND		12	40
Ethylbenzene	ND		7.2	40
1,1,1,2-Tetrachloroethane	ND		3.8	40
1,1,2,2-Tetrachloroethane	ND		2.4	8.0
m-Xylene & p-Xylene	ND		15	40
o-Xylene	ND		7.2	40
Styrene	ND		3.2	40
Bromoform	ND		2.8	40
Isopropylbenzene	ND		6.1	40
Bromobenzene	ND		3.6	40

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Method Blank - Batch: 580-21722

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-21722/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1426
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008347.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	MDL	RL
N-Propylbenzene	ND		6.9	40
1,2,3-Trichloropropane	ND		7.1	40
2-Chlorotoluene	ND		5.8	40
1,3,5-Trimethylbenzene	ND		6.0	40
4-Chlorotoluene	ND		3.5	40
tert-Butylbenzene	ND		3.4	40
1,2,4-Trimethylbenzene	ND		6.9	40
sec-Butylbenzene	ND		1.6	40
1,3-Dichlorobenzene	ND		4.1	40
4-Isopropyltoluene	ND		2.8	40
1,4-Dichlorobenzene	ND		2.0	40
n-Butylbenzene	ND		2.4	40
1,2-Dichlorobenzene	ND		3.4	40
1,2-Dibromo-3-Chloropropane	ND		8.8	40
1,2,4-Trichlorobenzene	ND		3.9	40
1,2,3-Trichlorobenzene	ND		4.8	40
Hexachlorobutadiene	ND		6.6	40
Naphthalene	ND		2.6	40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	92	75 - 125
Toluene-d8 (Surr)	99	85 - 115
Ethylbenzene-d10	91	75 - 125
4-Bromofluorobenzene (Surr)	91	85 - 120
Trifluorotoluene (Surr)	101	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21722

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-21722/4-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1449
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008348.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-21722/5-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1511
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008349.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dichlorodifluoromethane	90	89	35 - 135	1	20		
Chloromethane	75	77	50 - 130	3	20		
Vinyl chloride	82	82	60 - 125	0	20		
Bromomethane	69	64	30 - 160	7	20	J	J
Chloroethane	27	25	40 - 155	11	20	J *	J *
Trichlorofluoromethane	110	112	25 - 185	2	20		
1,1-Dichloroethene	85	90	65 - 135	6	26		
Methylene Chloride	79	79	55 - 140	0	20		
trans-1,2-Dichloroethene	90	95	65 - 135	6	20		
1,1-Dichloroethane	91	97	75 - 125	7	20		
2,2-Dichloropropane	95	103	65 - 135	8	20		
cis-1,2-Dichloroethene	82	85	65 - 125	4	20		
Chlorobromomethane	121	125	70 - 125	4	20		
Chloroform	81	83	70 - 125	2	20		
1,1,1-Trichloroethane	79	82	70 - 135	3	20		
Carbon tetrachloride	63	68	65 - 135	7	20	*	
1,1-Dichloropropene	87	93	70 - 135	7	20		
Benzene	93	96	75 - 125	3	22		
1,2-Dichloroethane	81	84	70 - 135	3	20		
Trichloroethene	100	101	75 - 125	1	28		
1,2-Dichloropropane	91	97	70 - 120	6	20		
Dibromomethane	77	80	75 - 130	4	20		
Dichlorobromomethane	46	48	70 - 130	4	20	*	*
cis-1,3-Dichloropropene	56	59	70 - 125	5	20	*	*
Toluene	90	96	70 - 125	6	21		
trans-1,3-Dichloropropene	51	53	65 - 125	4	20	*	*
1,1,2-Trichloroethane	79	76	60 - 125	4	20		
Tetrachloroethene	102	100	65 - 140	3	20		
1,3-Dichloropropane	79	82	75 - 125	3	20		
Chlorodibromomethane	44	45	65 - 130	3	20	*	*
Ethylene Dibromide	65	71	70 - 125	9	20	*	
Chlorobenzene	84	88	75 - 125	5	24		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21722

Method: 8260B
Preparation: 5035

LCS Lab Sample ID: LCS 580-21722/4-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1449
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008348.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

LCSD Lab Sample ID: LCSD 580-21722/5-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1511
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722
Units: ug/Kg

Instrument ID: SEA043
Lab File ID: VB0008349.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethylbenzene	84	89	75 - 125	6	20		
1,1,1,2-Tetrachloroethane	51	54	75 - 125	5	20	*	*
1,1,2,2-Tetrachloroethane	65	67	55 - 130	2	20		
m-Xylene & p-Xylene	86	90	80 - 125	5	20		
o-Xylene	87	91	75 - 125	4	20		
Styrene	82	85	75 - 125	4	20		
Bromoform	46	45	55 - 135	1	20	*	*
Isopropylbenzene	86	87	75 - 130	1	20		
Bromobenzene	84	84	65 - 120	1	20		
N-Propylbenzene	88	89	65 - 135	1	20		
1,2,3-Trichloropropane	75	78	65 - 130	3	20		
2-Chlorotoluene	88	90	70 - 130	3	20		
1,3,5-Trimethylbenzene	89	90	65 - 135	1	20		
4-Chlorotoluene	88	89	75 - 125	2	20		
tert-Butylbenzene	84	86	65 - 130	2	20		
1,2,4-Trimethylbenzene	84	86	65 - 135	2	20		
sec-Butylbenzene	84	88	65 - 130	5	20		
1,3-Dichlorobenzene	85	88	70 - 125	4	20		
4-Isopropyltoluene	87	89	75 - 135	1	20		
1,4-Dichlorobenzene	89	91	70 - 125	3	20		
n-Butylbenzene	88	88	65 - 140	1	20		
1,2-Dichlorobenzene	89	91	75 - 120	2	20		
1,2-Dibromo-3-Chloropropane	38	36	40 - 135	5	20	*	*
1,2,4-Trichlorobenzene	82	86	65 - 130	5	20		
1,2,3-Trichlorobenzene	80	78	60 - 135	2	20		
Hexachlorobutadiene	81	88	55 - 140	8	20		
Naphthalene	80	82	40 - 125	3	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	98	92	75 - 125
Toluene-d8 (Surr)	99	100	85 - 115
Ethylbenzene-d10	97	97	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	97	94	85 - 120
Trifluorotoluene (Surr)	100	104	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21722

Method: 8260B
Preparation: 5035

MS Lab Sample ID: 580-6792-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1533
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722

Instrument ID: SEA043
Lab File ID: VB0008350.D
Initial Weight/Volume: 2.79 g
Final Weight/Volume: 400 mL

MSD Lab Sample ID: 580-6792-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1556
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722

Instrument ID: SEA043
Lab File ID: VB0008351.D
Initial Weight/Volume: 2.79 g
Final Weight/Volume: 400 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Dichlorodifluoromethane	109	127	35 - 135	15	20		
Chloromethane	88	95	50 - 130	8	20		
Vinyl chloride	89	101	60 - 125	13	20		
Bromomethane	68	66	30 - 160	3	20	J	J
Chloroethane	30	39	40 - 155	26	20	J F	J F
Trichlorofluoromethane	116	134	25 - 185	14	20		
1,1-Dichloroethene	102	123	65 - 135	19	26		
Methylene Chloride	84	102	55 - 140	19	20		
trans-1,2-Dichloroethene	105	122	65 - 135	15	20		
1,1-Dichloroethane	102	119	75 - 125	15	20		
2,2-Dichloropropane	114	126	65 - 135	9	20		
cis-1,2-Dichloroethene	91	108	65 - 125	18	20		
Chlorobromomethane	129	156	70 - 125	19	20	F	F
Chloroform	87	105	70 - 125	19	20		
1,1,1-Trichloroethane	95	107	70 - 135	12	20		
Carbon tetrachloride	78	86	65 - 135	11	20		
1,1-Dichloropropene	104	116	70 - 135	11	20		
Benzene	105	116	75 - 125	10	22		
1,2-Dichloroethane	89	105	70 - 135	17	20		
Trichloroethene	114	124	75 - 125	9	28		
1,2-Dichloropropane	108	121	70 - 120	12	20		F
Dibromomethane	86	102	75 - 130	17	20		
Dichlorobromomethane	53	63	70 - 130	18	20	F	F
cis-1,3-Dichloropropene	65	75	70 - 125	15	20	F	
Toluene	99	116	70 - 125	16	21		
trans-1,3-Dichloropropene	60	68	65 - 125	14	20	F	
1,1,2-Trichloroethane	81	94	60 - 125	15	20		
Tetrachloroethene	105	125	65 - 140	18	20		
1,3-Dichloropropane	88	102	75 - 125	14	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21722

Method: 8260B
Preparation: 5035

MS Lab Sample ID: 580-6792-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1533
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722

Instrument ID: SEA043
Lab File ID: VB0008350.D
Initial Weight/Volume: 2.79 g
Final Weight/Volume: 400 mL

MSD Lab Sample ID: 580-6792-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1556
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21828
Prep Batch: 580-21722

Instrument ID: SEA043
Lab File ID: VB0008351.D
Initial Weight/Volume: 2.79 g
Final Weight/Volume: 400 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chlorodibromomethane	49	52	65 - 130	7	20	F	F
Ethylene Dibromide	76	91	70 - 125	17	20		
Chlorobenzene	90	101	75 - 125	11	24		
Ethylbenzene	91	105	75 - 125	15	20		
1,1,1,2-Tetrachloroethane	56	63	75 - 125	11	20	F	F
1,1,2,2-Tetrachloroethane	74	86	55 - 130	15	20		
m-Xylene & p-Xylene	97	108	80 - 125	12	20		
o-Xylene	92	108	75 - 125	16	20		
Styrene	87	103	75 - 125	18	20		
Bromoform	55	58	55 - 135	5	20		
Isopropylbenzene	89	104	75 - 130	15	20		
Bromobenzene	87	98	65 - 120	11	20		
N-Propylbenzene	93	107	65 - 135	14	20		
1,2,3-Trichloropropane	85	93	65 - 130	8	20		
2-Chlorotoluene	91	107	70 - 130	16	20		
1,3,5-Trimethylbenzene	96	112	65 - 135	15	20		
4-Chlorotoluene	92	109	75 - 125	16	20		
tert-Butylbenzene	88	105	65 - 130	18	20		
1,2,4-Trimethylbenzene	92	107	65 - 135	16	20		
sec-Butylbenzene	91	104	65 - 130	13	20		
1,3-Dichlorobenzene	90	104	70 - 125	14	20		
4-Isopropyltoluene	92	108	75 - 135	16	20		
1,4-Dichlorobenzene	93	109	70 - 125	16	20		
n-Butylbenzene	93	105	65 - 140	12	20		
1,2-Dichlorobenzene	95	111	75 - 120	16	20		
1,2-Dibromo-3-Chloropropane	47	50	40 - 135	7	20		
1,2,4-Trichlorobenzene	92	103	65 - 130	11	20		
1,2,3-Trichlorobenzene	85	100	60 - 135	17	20		
Hexachlorobutadiene	97	105	55 - 140	8	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21722

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	580-6792-8	Analysis Batch:	580-21828	Instrument ID:	SEA043
Client Matrix:	Solid	Prep Batch:	580-21722	Lab File ID:	VB0008350.D
Dilution:	1.0			Initial Weight/Volume:	2.79 g
Date Analyzed:	08/14/2007 1533			Final Weight/Volume:	400 mL
Date Prepared:	08/13/2007 1154				

MSD Lab Sample ID:	580-6792-8	Analysis Batch:	580-21828	Instrument ID:	SEA043
Client Matrix:	Solid	Prep Batch:	580-21722	Lab File ID:	VB0008351.D
Dilution:	1.0			Initial Weight/Volume:	2.79 g
Date Analyzed:	08/14/2007 1556			Final Weight/Volume:	400 mL
Date Prepared:	08/13/2007 1154				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Naphthalene	88	100	40 - 125	13	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	91	92	75 - 125
Toluene-d8 (Surr)	99	99	85 - 115
Ethylbenzene-d10	96	99	75 - 125
4-Bromofluorobenzene (Surr)	97	96	85 - 120
Trifluorotoluene (Surr)	90	90	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Method Blank - Batch: 580-21641

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-21641/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1314
Date Prepared: 08/10/2007 0736

Analysis Batch: 580-21806
Prep Batch: 580-21641
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05377.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		27	100
Bis(2-chloroethyl)ether	ND		30	100
2-Chlorophenol	ND		23	100
1,3-Dichlorobenzene	ND		12	50
1,4-Dichlorobenzene	ND		7.6	50
Benzyl alcohol	ND		30	100
1,2-Dichlorobenzene	ND		17	50
2-Methylphenol	ND		28	100
Bis(2-chloroisopropyl) ether	ND		34	150
3 & 4 Methylphenol	ND		53	200
N-Nitrosodi-n-propylamine	ND		26	100
Hexachloroethane	ND		21	100
Nitrobenzene	ND		15	100
Isophorone	ND		26	100
2-Nitrophenol	ND		23	100
2,4-Dimethylphenol	ND		19	100
Benzoic acid	ND		830	2500
Bis(2-chloroethoxy)methane	ND		25	100
2,4-Dichlorophenol	ND		19	100
1,2,4-Trichlorobenzene	ND		9.9	50
Naphthalene	ND		5.7	20
4-Chloroaniline	ND		27	100
Hexachlorobutadiene	ND		13	50
4-Chloro-3-methylphenol	ND		22	100
2-Methylnaphthalene	ND		3.1	20
Hexachlorocyclopentadiene	ND		25	100
2,4,6-Trichlorophenol	ND		33	150
2,4,5-Trichlorophenol	ND		23	100
2-Chloronaphthalene	ND		1.9	20
2-Nitroaniline	ND		19	100
Dimethyl phthalate	ND		7.7	100
Acenaphthylene	ND		2.3	20
2,6-Dinitrotoluene	ND		19	100
3-Nitroaniline	ND		29	100
Acenaphthene	ND		5.7	20
2,4-Dinitrophenol	ND		210	1000
4-Nitrophenol	ND		260	1000
Dibenzofuran	ND		17	100
2,4-Dinitrotoluene	ND		14	100
Diethyl phthalate	ND		7.2	100
4-Chlorophenyl phenyl ether	ND		16	100

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Method Blank - Batch: 580-21641

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-21641/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1314
Date Prepared: 08/10/2007 0736

Analysis Batch: 580-21806
Prep Batch: 580-21641
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05377.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Fluorene	ND		2.6	20
4-Nitroaniline	ND		19	100
4,6-Dinitro-2-methylphenol	ND		270	1000
N-Nitrosodiphenylamine	ND		15	50
4-Bromophenyl phenyl ether	ND		10	100
Hexachlorobenzene	ND		11	50
Pentachlorophenol	ND		31	100
Phenanthrene	ND		4.0	20
Anthracene	ND		4.3	20
Di-n-butyl phthalate	ND		13	200
Fluoranthene	ND		3.1	20
Pyrene	ND		2.7	20
Butyl benzyl phthalate	ND		29	100
3,3'-Dichlorobenzidine	ND		9.1	200
Benzo[a]anthracene	ND		6.5	25
Chrysene	ND		7.5	25
Bis(2-ethylhexyl) phthalate	ND		240	1500
Di-n-octyl phthalate	ND		33	200
Benzo[a]pyrene	ND		8.5	30
Indeno[1,2,3-cd]pyrene	ND		12	40
Dibenz(a,h)anthracene	ND		12	40
Benzo[g,h,i]perylene	ND		7.3	25
Carbazole	ND		33	150
1-Methylnaphthalene	ND		8.7	30
Benzo[b]fluoranthene	ND		5.4	20
Benzo[k]fluoranthene	ND		6.9	25

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	69	36 - 145
Phenol-d5	68	38 - 149
Nitrobenzene-d5	99	38 - 141
2-Fluorobiphenyl	92	42 - 140
2,4,6-Tribromophenol	81	28 - 143
Terphenyl-d14	105	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21641

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21641/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1341
Date Prepared: 08/10/2007 0736

Analysis Batch: 580-21806
Prep Batch: 580-21641
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05378.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-21641/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1408
Date Prepared: 08/10/2007 0736

Analysis Batch: 580-21806
Prep Batch: 580-21641
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05379.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	96	102	66 - 126	6	26		
Bis(2-chloroethyl)ether	80	81	57 - 122	0	60		
2-Chlorophenol	107	108	65 - 125	1	27		
1,3-Dichlorobenzene	94	91	64 - 124	3	60		
1,4-Dichlorobenzene	90	102	62 - 132	12	32		
Benzyl alcohol	108	114	42 - 147	5	60		
1,2-Dichlorobenzene	106	112	68 - 118	6	60		
2-Methylphenol	86	108	56 - 121	22	25		
Bis(2-chloroisopropyl) ether	101	109	44 - 140	8	60		
3 & 4 Methylphenol	94	98	61 - 126	4	27		
N-Nitrosodi-n-propylamine	85	110	52 - 127	26	28		
Hexachloroethane	116	126	56 - 131	9	60		
Nitrobenzene	110	111	59 - 134	1	60		
Isophorone	110	114	53 - 118	3	60		
2-Nitrophenol	101	97	58 - 128	3	60		
2,4-Dimethylphenol	106	109	58 - 133	3	60		
Benzoic acid	47	43	10 - 130	9	60	J	J
Bis(2-chloroethoxy)methane	98	100	63 - 128	2	60		
2,4-Dichlorophenol	99	100	59 - 124	1	60		
1,2,4-Trichlorobenzene	106	108	63 - 128	1	28		
Naphthalene	104	105	64 - 129	0	26		
4-Chloroaniline	95	99	20 - 181	5	60		
Hexachlorobutadiene	117	117	59 - 134	1	60		
4-Chloro-3-methylphenol	97	98	58 - 128	1	27		
2-Methylnaphthalene	111	113	65 - 125	2	27		
Hexachlorocyclopentadiene	109	109	30 - 132	0	60		
2,4,6-Trichlorophenol	97	97	66 - 131	0	60		
2,4,5-Trichlorophenol	109	111	64 - 124	2	60		
2-Chloronaphthalene	107	104	69 - 129	3	25		
2-Nitroaniline	98	96	58 - 133	3	60		
Dimethyl phthalate	111	110	65 - 125	1	60		
Acenaphthylene	108	106	69 - 129	2	28		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21641

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21641/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1341
Date Prepared: 08/10/2007 0736

Analysis Batch: 580-21806
Prep Batch: 580-21641
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05378.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-21641/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1408
Date Prepared: 08/10/2007 0736

Analysis Batch: 580-21806
Prep Batch: 580-21641
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05379.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	115	112	65 - 125	3	60		
3-Nitroaniline	98	106	80 - 165	8	60		
Acenaphthene	109	108	65 - 130	1	27		
2,4-Dinitrophenol	85	84	53 - 168	0	60		
4-Nitrophenol	109	113	47 - 172	4	33		
Dibenzofuran	102	103	70 - 125	1	60		
2,4-Dinitrotoluene	111	108	57 - 122	3	31		
Diethyl phthalate	114	111	64 - 129	3	26		
4-Chlorophenyl phenyl ether	107	103	65 - 130	3	60		
Fluorene	107	104	68 - 128	3	31		
4-Nitroaniline	93	101	70 - 150	8	60		
4,6-Dinitro-2-methylphenol	100	97	38 - 143	3	60		
N-Nitrosodiphenylamine	105	101	88 - 153	4	60		
4-Bromophenyl phenyl ether	112	106	64 - 134	6	60		
Hexachlorobenzene	114	108	61 - 136	6	60		
Pentachlorophenol	88	88	29 - 124	0	68		
Phenanthrene	108	103	65 - 125	5	28		
Anthracene	109	108	73 - 123	1	27		
Di-n-butyl phthalate	117	112	69 - 124	4	60		
Fluoranthene	108	104	61 - 121	3	36		
Pyrene	108	101	54 - 134	7	31		
Butyl benzyl phthalate	118	111	65 - 140	6	60		
3,3'-Dichlorobenzidine	116	118	73 - 163	2	60		
Benzo[a]anthracene	109	105	64 - 124	4	27		
Chrysene	115	112	71 - 126	3	26		
Bis(2-ethylhexyl) phthalate	130	114	64 - 144	13	60	J	J
Di-n-octyl phthalate	120	112	58 - 148	6	31		
Benzo[a]pyrene	117	118	68 - 128	1	30		
Indeno[1,2,3-cd]pyrene	130	130	59 - 139	0	29		
Dibenz(a,h)anthracene	132	132	57 - 142	0	30		
Benzo[g,h,i]perylene	123	121	57 - 142	2	28		
Carbazole	102	102	88 - 158	0	60		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21641

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21641/2-A	Analysis Batch: 580-21806	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21641	Lab File ID: HP05378.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/13/2007 1341		Final Weight/Volume: 10 mL
Date Prepared:	08/10/2007 0736		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-21641/3-A	Analysis Batch: 580-21806	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21641	Lab File ID: HP05379.D
Dilution:	1.0	Units: ug/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/13/2007 1408		Final Weight/Volume: 10 mL
Date Prepared:	08/10/2007 0736		Injection Volume:

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1-Methylnaphthalene	110	110	48 - 148	0	30		
Benzo[b]fluoranthene	114	109	66 - 136	5	31		
Benzo[k]fluoranthene	119	117	63 - 143	2	31		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	79	81	36 - 145
Phenol-d5	82	38	38 - 149
Nitrobenzene-d5	127	131	38 - 141
2-Fluorobiphenyl	94	96	42 - 140
2,4,6-Tribromophenol	99	101	28 - 143
Terphenyl-d14	97	97	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21641

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-6792-32	Analysis Batch:	580-21806	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21641	Lab File ID:	HP05393.D
Dilution:	1.0			Initial Weight/Volume:	10.2866 g
Date Analyzed:	08/13/2007 2032			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0736			Injection Volume:	

MSD Lab Sample ID:	580-6792-32	Analysis Batch:	580-21806	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21641	Lab File ID:	HP05394.D
Dilution:	1.0			Initial Weight/Volume:	10.2464 g
Date Analyzed:	08/13/2007 2100			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0736			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Phenol	87	90	66 - 126	4	26		
Bis(2-chloroethyl)ether	74	73	57 - 122	1	60		
2-Chlorophenol	98	100	65 - 125	2	27		
1,3-Dichlorobenzene	61	82	64 - 124	30	60	F	
1,4-Dichlorobenzene	68	81	62 - 132	18	32		
Benzyl alcohol	91	90	42 - 147	0	60		
1,2-Dichlorobenzene	89	96	68 - 118	9	60		
2-Methylphenol	81	85	56 - 121	6	25		
Bis(2-chloroisopropyl) ether	94	97	44 - 140	3	60		
3 & 4 Methylphenol	77	80	61 - 126	4	27		
N-Nitrosodi-n-propylamine	94	97	52 - 127	3	28		
Hexachloroethane	87	103	56 - 131	17	60		
Nitrobenzene	89	102	59 - 134	14	60		
Isophorone	102	97	53 - 118	5	60		
2-Nitrophenol	95	95	58 - 128	1	60		
2,4-Dimethylphenol	98	92	58 - 133	6	60		
Benzoic acid	11	11	10 - 130	NC	60		
Bis(2-chloroethoxy)methane	89	89	63 - 128	0	60		
2,4-Dichlorophenol	80	75	59 - 124	7	60		
1,2,4-Trichlorobenzene	93	96	63 - 128	4	28		
Naphthalene	93	95	64 - 129	2	26		
4-Chloroaniline	78	71	20 - 181	9	60		
Hexachlorobutadiene	97	110	59 - 134	12	60		
4-Chloro-3-methylphenol	82	72	58 - 128	13	27		
2-Methylnaphthalene	104	102	65 - 125	1	27		
Hexachlorocyclopentadiene	58	57	30 - 132	1	60		
2,4,6-Trichlorophenol	93	89	66 - 131	5	60		
2,4,5-Trichlorophenol	114	99	64 - 124	14	60		
2-Chloronaphthalene	99	96	69 - 129	2	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21641

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-6792-32	Analysis Batch: 580-21806	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21641	Lab File ID: HP05393.D
Dilution:	1.0		Initial Weight/Volume: 10.2866 g
Date Analyzed:	08/13/2007 2032		Final Weight/Volume: 10 mL
Date Prepared:	08/10/2007 0736		Injection Volume:

MSD Lab Sample ID:	580-6792-32	Analysis Batch: 580-21806	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-21641	Lab File ID: HP05394.D
Dilution:	1.0		Initial Weight/Volume: 10.2464 g
Date Analyzed:	08/13/2007 2100		Final Weight/Volume: 10 mL
Date Prepared:	08/10/2007 0736		Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2-Nitroaniline	102	102	58 - 133	0	60		
Dimethyl phthalate	107	101	65 - 125	5	60		
Acenaphthylene	103	100	69 - 129	2	28		
2,6-Dinitrotoluene	107	107	65 - 125	0	60		
3-Nitroaniline	106	100	80 - 165	6	60		
Acenaphthene	106	100	65 - 130	5	27		
2,4-Dinitrophenol	40	35	53 - 168	11	60	F	F
4-Nitrophenol	104	103	47 - 172	0	33		
Dibenzofuran	98	97	70 - 125	1	60		
2,4-Dinitrotoluene	106	104	57 - 122	2	31		
Diethyl phthalate	108	106	64 - 129	1	26		
4-Chlorophenyl phenyl ether	100	98	65 - 130	1	60		
Fluorene	104	101	68 - 128	2	31		
4-Nitroaniline	107	107	70 - 150	0	60		
4,6-Dinitro-2-methylphenol	65	65	38 - 143	0	60		
N-Nitrosodiphenylamine	101	99	88 - 153	1	60		
4-Bromophenyl phenyl ether	101	98	64 - 134	3	60		
Hexachlorobenzene	100	100	61 - 136	0	60		
Pentachlorophenol	93	93	29 - 124	0	68		
Phenanthrene	101	99	65 - 125	1	28		
Anthracene	104	106	73 - 123	2	27		
Di-n-butyl phthalate	114	109	69 - 124	4	60		
Fluoranthene	107	107	61 - 121	0	36		
Pyrene	106	107	54 - 134	1	31		
Butyl benzyl phthalate	122	113	65 - 140	8	60		
3,3'-Dichlorobenzidine	120	116	73 - 163	3	60		
Benzo[a]anthracene	101	97	64 - 124	3	27		
Chrysene	105	101	71 - 126	4	26		
Bis(2-ethylhexyl) phthalate	154	145	64 - 144	NC	60	F	F

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21641

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-6792-32	Analysis Batch:	580-21806	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21641	Lab File ID:	HP05393.D
Dilution:	1.0			Initial Weight/Volume:	10.2866 g
Date Analyzed:	08/13/2007 2032			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0736			Injection Volume:	

MSD Lab Sample ID:	580-6792-32	Analysis Batch:	580-21806	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21641	Lab File ID:	HP05394.D
Dilution:	1.0			Initial Weight/Volume:	10.2464 g
Date Analyzed:	08/13/2007 2100			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0736			Injection Volume:	

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Di-n-octyl phthalate	128	120	58 - 148	6	31		
Benzo[a]pyrene	111	108	68 - 128	3	30		
Indeno[1,2,3-cd]pyrene	114	114	59 - 139	0	29		
Dibenz(a,h)anthracene	116	115	57 - 142	1	30		
Benzo[g,h,i]perylene	105	104	57 - 142	1	28		
Carbazole	102	105	88 - 158	3	60		
1-Methylnaphthalene	96	100	48 - 148	5	30		
Benzo[b]fluoranthene	107	106	66 - 136	1	31		
Benzo[k]fluoranthene	102	99	63 - 143	2	31		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	77	76	36 - 145
Phenol-d5	83	78	38 - 149
Nitrobenzene-d5	124	114	38 - 141
2-Fluorobiphenyl	91	81	42 - 140
2,4,6-Tribromophenol	97	95	28 - 143
Terphenyl-d14	100	104	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Method Blank - Batch: 580-21722

Method: NWTPH-Gx
Preparation: 5035

Lab Sample ID: MB 580-21722/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1735
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21763
Prep Batch: 580-21722
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS171584.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
Gasoline	ND		4.0	4.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	97	50 - 150
Trifluorotoluene (Surr)	103	50 - 150
Ethylbenzene-d10	115	50 - 150
Fluorobenzene (Surr)	103	50 - 150
Toluene-d8 (Surr)	114	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21722

Method: NWTPH-Gx
Preparation: 5035

LCS Lab Sample ID: LCS 580-21722/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1756
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21763
Prep Batch: 580-21722
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS171585.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-21722/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2007 1818
Date Prepared: 08/13/2007 1154

Analysis Batch: 580-21763
Prep Batch: 580-21722
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS171586.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	90	98	68 - 120	8	10		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	98	99	50 - 150
Trifluorotoluene (Surr)	107	109	50 - 150
Ethylbenzene-d10	115	116	50 - 150
Fluorobenzene (Surr)	108	108	50 - 150
Toluene-d8 (Surr)	110	111	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21722

Method: NWTPH-Gx
Preparation: 5035

MS Lab Sample ID:	580-6792-2	Analysis Batch: 580-21763	Instrument ID: SEA003
Client Matrix:	Solid	Prep Batch: 580-21722	Lab File ID: CS171596.D
Dilution:	1.0		Initial Weight/Volume: 5.75 g
Date Analyzed:	08/13/2007 2152		Final Weight/Volume: 400 mL
Date Prepared:	08/13/2007 1154		Injection Volume:
			Column ID: PRIMARY

MSD Lab Sample ID:	580-6792-2	Analysis Batch: 580-21763	Instrument ID: SEA003
Client Matrix:	Solid	Prep Batch: 580-21722	Lab File ID: CS171597.D
Dilution:	1.0		Initial Weight/Volume: 5.75 g
Date Analyzed:	08/13/2007 2213		Final Weight/Volume: 400 mL
Date Prepared:	08/13/2007 1154		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Gasoline	102	99	50 - 150	1	35		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	118	112	50 - 150
Trifluorotoluene (Surr)	97	96	50 - 150
Ethylbenzene-d10	116	116	50 - 150
Fluorobenzene (Surr)	108	109	50 - 150
Toluene-d8 (Surr)	109	110	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Method Blank - Batch: 580-21601

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-21601/1-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/14/2007 0427
Date Prepared: 08/09/2007 1144

Analysis Batch: 580-21827
Prep Batch: 580-21601
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB9987.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
PCB-1016	ND		0.10	0.10
PCB-1221	ND		0.10	0.10
PCB-1232	ND		0.10	0.10
PCB-1242	ND		0.10	0.10
PCB-1248	ND		0.10	0.10
PCB-1254	ND		0.10	0.10
PCB-1260	ND		0.10	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	89	45 - 155
DCB Decachlorobiphenyl	97	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21601

Method: 8082
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21601/2-A	Analysis Batch: 580-21827	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21601	Lab File ID: PCB9988.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/14/2007 0450		Final Weight/Volume: 20 mL
Date Prepared:	08/09/2007 1144		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-21601/3-A	Analysis Batch: 580-21827	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21601	Lab File ID: PCB9989.D
Dilution:	5.0	Units: mg/Kg	Initial Weight/Volume: 10 g
Date Analyzed:	08/14/2007 0514		Final Weight/Volume: 20 mL
Date Prepared:	08/09/2007 1144		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	81	82	57 - 128	5	8		
PCB-1260	94	96	65 - 132	9	8		*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	92	91	45 - 155
DCB Decachlorobiphenyl	98	101	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21601

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	580-6792-41	Analysis Batch: 580-21827	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21601	Lab File ID: PCB10019.D
Dilution:	5.0		Initial Weight/Volume: 10.6609 g
Date Analyzed:	08/14/2007 1717		Final Weight/Volume: 20 mL
Date Prepared:	08/09/2007 1144		Injection Volume:
			Column ID: PRIMARY
MSD Lab Sample ID:	580-6792-41	Analysis Batch: 580-21827	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-21601	Lab File ID: PCB10020.D
Dilution:	5.0		Initial Weight/Volume: 10.5982 g
Date Analyzed:	08/14/2007 1741		Final Weight/Volume: 20 mL
Date Prepared:	08/09/2007 1144		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	96	89	57 - 128	15	8		F
PCB-1260	130	126	65 - 132	8	8		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	111	100	45 - 155
DCB Decachlorobiphenyl	121	114	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Method Blank - Batch: 580-21726

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-21726/1-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/14/2007 1948
Date Prepared: 08/13/2007 1326

Analysis Batch: 580-21846
Prep Batch: 580-21726
Units: mg/Kg

Instrument ID: Agilent 6890 with ECD
Lab File ID: CCL002671.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL	RL
PCB-1016	ND		0.10	0.10
PCB-1221	ND		0.10	0.10
PCB-1232	ND		0.10	0.10
PCB-1242	ND		0.10	0.10
PCB-1248	ND		0.10	0.10
PCB-1254	ND		0.10	0.10
PCB-1260	ND		0.10	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	80	45 - 155
DCB Decachlorobiphenyl	72	50 - 150

Method Blank - Batch: 580-21726

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-21726/1-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/14/2007 1948
Date Prepared: 08/13/2007 1326

Analysis Batch: 580-21846
Prep Batch: 580-21726
Units: mg/Kg

Instrument ID: Agilent 6890 with ECD
Lab File ID: CCL002671.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: SECONDARY

Analyte	Result	Qual	RL	RL
PCB-1016	ND		0.10	0.10
PCB-1221	ND		0.10	0.10
PCB-1232	ND		0.10	0.10
PCB-1242	ND		0.10	0.10
PCB-1248	ND		0.10	0.10
PCB-1254	ND		0.10	0.10
PCB-1260	ND		0.10	0.10

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	83	45 - 155
DCB Decachlorobiphenyl	79	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21726

Method: 8082
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21726/2-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/14/2007 2008
Date Prepared: 08/13/2007 1326

Analysis Batch: 580-21846
Prep Batch: 580-21726
Units: mg/Kg

Instrument ID: Agilent 6890 with ECD
Lab File ID: CCL002672.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-21726/3-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/14/2007 2029
Date Prepared: 08/13/2007 1326

Analysis Batch: 580-21846
Prep Batch: 580-21726
Units: mg/Kg

Instrument ID: Agilent 6890 with ECD
Lab File ID: CCL002673.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	81	86	57 - 128	6	8		
PCB-1260	81	86	65 - 132	6	8		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	83	86	45 - 155
DCB Decachlorobiphenyl	76	78	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21726

Method: 8082
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21726/2-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/14/2007 2008
Date Prepared: 08/13/2007 1326

Analysis Batch: 580-21846
Prep Batch: 580-21726
Units: mg/Kg

Instrument ID: Agilent 6890 with ECD
Lab File ID: CCL002672.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: SECONDARY

LCSD Lab Sample ID: LCSD 580-21726/3-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/14/2007 2029
Date Prepared: 08/13/2007 1326

Analysis Batch: 580-21846
Prep Batch: 580-21726
Units: mg/Kg

Instrument ID: Agilent 6890 with ECD
Lab File ID: CCL002673.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 20 mL
Injection Volume:
Column ID: SECONDARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	81	82	57 - 128	2	8		
PCB-1260	92	94	65 - 132	2	8		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	85	85	45 - 155
DCB Decachlorobiphenyl	83	81	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Method Blank - Batch: 580-21628

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-21628/1-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/15/2007 1531
Date Prepared: 08/09/2007 1538

Analysis Batch: 580-21902
Prep Batch: 580-21628
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA30554.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Motor Oil (>C24-C36)	ND		50	50
#2 Diesel (C10-C24)	ND		25	25

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	90	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21628

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21628/2-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/15/2007 1551
Date Prepared: 08/09/2007 1538

Analysis Batch: 580-21902
Prep Batch: 580-21628
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA30555.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-21628/3-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/15/2007 1617
Date Prepared: 08/09/2007 1538

Analysis Batch: 580-21902
Prep Batch: 580-21628
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA30556.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Motor Oil (>C24-C36)	107	110	70 - 125	2	17		
#2 Diesel (C10-C24)	100	103	64 - 127	4	16		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	91	90	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Method Blank - Batch: 580-21743

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-21743/25-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1110
Date Prepared: 08/13/2007 1521

Analysis Batch: 580-21799
Prep Batch: 580-21743
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Arsenic	ND		3.0	3.0
Barium	ND		0.50	0.50
Cadmium	ND		0.50	0.50
Chromium	ND		1.3	1.3
Lead	ND		1.5	1.5
Selenium	ND		5.0	5.0
Silver	ND		1.0	1.0

LCS-Standard Reference Material - Batch: 580-21743

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCSSRM 580-21743/28-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1212
Date Prepared: 08/13/2007 1521

Analysis Batch: 580-21799
Prep Batch: 580-21743
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 0.5047 g
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	88.8	91			
Barium	427	440			
Cadmium	63.0	65			
Chromium	97.9	96			
Lead	88.9	90			
Selenium	155	150			
Silver	81.6	84			

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21743

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-21743/26-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1134
Date Prepared: 08/13/2007 1521

Analysis Batch: 580-21799
Prep Batch: 580-21743
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-21743/27-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 1136
Date Prepared: 08/13/2007 1521

Analysis Batch: 580-21799
Prep Batch: 580-21743
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	103	102	80 - 120	1	35		
Barium	106	104	80 - 120	2	35		
Cadmium	104	102	80 - 120	1	35		
Chromium	105	104	80 - 120	2	35		
Lead	103	102	80 - 120	1	35		
Selenium	97	96	80 - 120	1	35		
Silver	100	98	80 - 120	2	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6792-1

Method Blank - Batch: 580-21724

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 580-21724/25-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2007 2112
Date Prepared: 08/13/2007 1322

Analysis Batch: 580-21826
Prep Batch: 580-21724
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Mercury	ND		0.020	0.020

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-6792-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	F	RPD of the MS and MSD exceeds the control limits
GC/MS Semi VOA		
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate exceeds the control limits
GC Semi VOA		
	*	RPD of the LCS and LCSD exceeds the control limits
	F	RPD of the MS and MSD exceeds the control limits
	X	Surrogate exceeds the control limits

Chain of Custody Record

STL Seattle
5755 8th Street E.
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SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GeoEngineers	Kevin Broom	8/3	22437
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 4
1101 S. Fawcett	253-383-9470	6792	
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Tacoma / WA / 98402			
Project Name and Location (State)	**Carrier/Waybill Number**		
Port of Olympia Phase II			
Contract/Purchase Order/Quote No.			
0615-034-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	Zn Ac/NaOH	MeOH	Analysis: VOCs 8260B	NWTPH-Dx	NWTPH-Gx	BTEX 8021B	PCB's 8082	cPAHs 8270C SIM	RCRA metals (TAL) 6010B/7471A	PCBs 8082	Hold	Hold	Special Instructions/ Conditions of Receipt
DP24-080307-000	8/3	850					2					1										X		
" -080		855					2					1		X	X	X			X					
" -120		900					2					1										X		
DP25-080307-100		1025					1					0			X				X					
" 120		1050					1					0										X		
DP17-080307-000		1115					1					1										X		
" 020		1120					2					1										X		
" 040		1125					2					1		X	X	X	X	X	X	X				
" 060		1130					1					1										X		
" 080		1135					1					1										X		
" 100		1140					2					1		X	X	X	X	X	X	X				
DP18-080307-000		1155					1					1										X		

Page 256 of 160

Cooler	Possible Hazard Identification	Sample Disposal	
☒ Yes ☐ No Cooler Temp:_____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	8/6/07		1. Received By	8-6-07	2:30
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

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Client	Project Manager	Date	Chain of Custody Number
GeoEngineers	Kevin Broom	8/3	22438
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 4**
1101 S. Fawcett	253-383-4940	6792	
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Tacoma / WA / 98402			
Project Name and Location (State)	**Carrier/Waybill Number**		
Port of Olympia Phase II			
Contract/Purchase Order/Quote No.			
0615-034-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	meth	Analysis: Voc's 8260B	NWTPH-Dx	NWTPH-Gx	RCRA Armed Gold EPA	SVOC's 8270C	cPAH's 8270C	PCBs				Hold	Hold 4oz Jar	Special Instructions/ Conditions of Receipt
DP18-080307-020		1200					2						X	X	X	X	X	X	X	X					X	
" 040		1205					2						1											X		No MeOH in Vial
" 060		1210					1						1											X		
" 080		1215					1						1											X		
" 100		1220					1						1	X	X	X	X	X	X	X						
DP20-080307-020		1240					1						1												X	
" 020		1245					2						1	X	X	X	X	X	X	X				X		
" 040		1250					1						1												X	No 4oz Acid
" 060		1255					1						1												X	No 4oz Acid
" 080		1300					2						1												X	
" 100		1305					2						1	X	X	X	X	X	X	X				X		
DP21-080307-020		1325					1						1												X	

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Cooler: ☒ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Disposal By Lab ☐ Return To Client ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By	8/6/07		1. Received By	8-6-07	2:30
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

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Client	Project Manager	Date	Chain of Custody Number
GeoEngineers	Leslin Broom	8/3	22439
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page**
1101 S. Fawcett	253-383-4940	6792	3 of 4
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Tacoma / WA / 98402			
Project Name and Location (State)	**Carrier/Waybill Number**		
Port of Olympia Phase II			
Contract/Purchase Order/Quote No.			
0615-084-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	HEM	Analysis: VOCs 8260B	NWTPH-Gx	NWTPH-Dx 3511A	RCRA 8 metals (6010B 7471A)	SVOCs 8270C	cPAH 8270C	PCBs (8082)			Hold 40z/802	Hold 40z/802	Special Instructions/ Conditions of Receipt
DP21-080307-020		1330				X	1					1											X		
" 040		1335				X	1					1											X		
" 060		1340				X	1					1		X	X	X	X	X	X	X					
" 080		1345				X	2					1											X		
" 100		1350				X	1					1		X	X	X	X	X	X	X					
MW15-080307-000		1455					1					1											X		
" 020		1500					1					1											X		
" 040		1505					1					1	X	X	X	X	X	X	X	X					
" 060		1510					1					1											X		
" 080		1515					2					1											X		
" 100		1520					2					1	X	X	X	X	X	X	X	X				X	
DP22-080307-000		1605					1					1											X		

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Cooler	Possible Hazard Identification	Sample Disposal	(A fee may be assessed if samples are retained longer than 1 month)
☒ Yes ☐ No Cooler Temp:_____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	

Turn-Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	8/6/07		1. Received By	8-6-07	2:30
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

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SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GeoEngineers	Kein Broom	8/3	22440
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 4 of 4
1101 S. Fawcett	253-383-4940	6792	
City / State / Zip Code	Site Contact	Lab Contact	
Tacoma / WA / 98402			
Project Name and Location (State)	Carrier/Waybill Number		
Port of Olympia Phase II			
Contract/Purchase Order/Quote No.			
0215-031-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: No. 8260	NWTPH-Dx	NWTPH-Gx	BTEX by Arnendis 8021B/5030A	SVOCs 8270C	cPAH-8270C	RCRA 8082					Hold	Hold/Hz
DP22-082303-000	8/3	1610				X	1						1											X	
" 040		1615				X	1						1	X	X	X	X	X	X	X					
" 060		1620				X	1						1											X	
" 080		1625				X	1						1											X	
" 100		1630				X	2						1	X	X	X	X	X	X	X					X
DP19-080309-000		1700				X	1						1											X	
" 020		1705				X	1						1											X	X
" 060		1715				X	1						1	X	X	X	X	X	X	X					
" 080		1720				X	2						1											X	X
" 100		1725				X	1						1	X	X	X	X	X	X	X					

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Special Instructions/ Conditions of Receipt

Cooler: [X] Yes [ ] No Cooler Temp: ____

Possible Hazard Identification: [ ] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [ ] Disposal By Lab [ ] Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): [ ] 24 Hours [ ] 48 Hours [ ] 5 Days [X] 10 Days [ ] 15 Days [ ] Other ____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	8/6/07		1. Received By	8-6-07	2:30
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: *WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy*

STL8274-580 (12/02)

LOGIN SAMPLE RECEIPT CHECK LIST

Client: GeoEngineers Inc

Job Number: 580-6792-1

Login Number: 6792

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	NA	
Samples were received on ice.	NA	
Cooler Temperature is acceptable.	NA	
Cooler Temperature is recorded.	NA	
COC is present.	NA	
COC is filled out in ink and legible.	NA	
COC is filled out with all pertinent information.	NA	
There are no discrepancies between the sample IDs on the containers and the COC.	NA	
Samples are received within Holding Time.	NA	
Sample containers have legible labels.	NA	
Containers are not broken or leaking.	NA	
Sample collection date/times are provided.	NA	
Appropriate sample containers are used.	NA	
Sample bottles are completely filled.	NA	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	NA	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	NA	
Multiphasic samples are not present.	NA	
Samples do not require splitting or compositing.	NA	

ANALYTICAL REPORT

Job Number: 580-6792-2

Job Description: 0615-034-02

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
10/12/2007

cc: Tonya Kauhi

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TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com

Comments
NWTPH-Gx followup analysis requested by client.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method NWTPH-Gx: The method blank has a hit above the MDL but below half the reporting limit. The result was J flagged on all the appropriate forms. No further corrective action taken.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-6792-2

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-6792-3	**DP24-080307-100**					
Gasoline		4.4	J H B	26	mg/Kg	NWTPH-Gx

METHOD SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6792-2

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Petroleum Products	TAL TAC	NWTPH NWTPH-Gx	
Closed System Purge & Trap/Methanol	TAL TAC		SW846 5035

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6792-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-6792-3	DP24-080307-100	Solid	08/03/2007 0900	08/06/2007 1430

Client: GeoEngineers Inc | Job Number: 580-6792-2

Client Sample ID: DP24-080307-100

Lab Sample ID: 580-6792-3 | Date Sampled: 08/03/2007 0900
Client Matrix: Solid | % Moisture: 84.9 | Date Received: 08/06/2007 1430

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx | Analysis Batch: 580-24341 | Instrument ID: SEA003
Preparation: 5035-Medium | Prep Batch: 580-24234 | Lab File ID: CS172868.D
Dilution: 1.0 | Initial Weight/Volume: 10.143 g
Date Analyzed: 10/10/2007 2210 | Final Weight/Volume: 400 mL
Date Prepared: 10/09/2007 1256 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline		4.4	J H B	1.7	26

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	101	50 - 150
Trifluorotoluene (Surr)	52	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	94	50 - 150
Toluene-d8 (Surr)	109	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6792-2

Method Blank - Batch: 580-24234

Method: NWTPH-Gx
Preparation: 5035

Lab Sample ID: MB 580-24234/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2007 1543
Date Prepared: 10/09/2007 1256

Analysis Batch: 580-24341
Prep Batch: 580-24234
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS172850.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Gasoline	0.57	J	0.26	4.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	101	50 - 150
Trifluorotoluene (Surr)	106	50 - 150
Ethylbenzene-d10	114	50 - 150
Fluorobenzene (Surr)	96	50 - 150
Toluene-d8 (Surr)	110	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-24234

Method: NWTPH-Gx
Preparation: 5035

LCS Lab Sample ID: LCS 580-24234/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2007 1604
Date Prepared: 10/09/2007 1256

Analysis Batch: 580-24341
Prep Batch: 580-24234
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS172851.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-24234/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2007 1626
Date Prepared: 10/09/2007 1256

Analysis Batch: 580-24341
Prep Batch: 580-24234
Units: mg/Kg

Instrument ID: SEA003
Lab File ID: CS172852.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	98	100	68 - 120	1	10		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	103	104	50 - 150
Trifluorotoluene (Surr)	110	111	50 - 150
Ethylbenzene-d10	114	114	50 - 150
Fluorobenzene (Surr)	102	102	50 - 150
Toluene-d8 (Surr)	106	106	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-6792-2

Lab Section	Qualifier	Description
GC VOA		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	H	Sample was prepped or analyzed beyond the specified holding time

Login Sample Receipt Check List

Client: GeoEngineers Inc

Job Number: 580-6792-2

Login Number: 6792
List Source: TestAmerica Tacoma
Creator: Presley, Kim
List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	N/A	
Samples are received within Holding Time.	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 580-6811-1

Job Description: 0615-034-02

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
08/21/2007

cc: Tonya Kauhi

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ACCREDITED IN ACCORDANCE WITH nelac

METHOD SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6811-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)	TAL TAC	SW846 8270C	
Ultrasonic Extraction (Low Level)	TAL TAC		SW846 3550B
Semi-Volatile Petroleum Products by NWTPH-Dx	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Silica Gel Cleanup	TAL TAC		SW846 3630C

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

NWTPH =

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-6811-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-6811-1	MW14-080707-070	Solid	08/07/2007 1405	08/08/2007 1228
580-6811-2	MW14-080707-080	Solid	08/07/2007 1415	08/08/2007 1228

Client: GeoEngineers Inc | Job Number: 580-6811-1

Client Sample ID: **MW14-080707-070**

Lab Sample ID:	580-6811-1			Date Sampled:	08/07/2007 1405
Client Matrix:	Solid	% Moisture:	39.9	Date Received:	08/08/2007 1228

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method:	8270C	Analysis Batch: 580-21744		Instrument ID:	SEA023
Preparation:	3550B	Prep Batch: 580-21650		Lab File ID:	HP05369.D
Dilution:	1.0			Initial Weight/Volume:	10.7488 g
Date Analyzed:	08/10/2007 2142			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0926			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		5.5	J	2.6	7.7
Chrysene		12		0.62	7.7
Benzo[a]pyrene		4.7	J	0.62	7.7
Indeno[1,2,3-cd]pyrene		6.3	J	0.39	7.7
Dibenz(a,h)anthracene		1.8	J	0.34	7.7
Benzo[b]fluoranthene		5.9	J	0.39	7.7
Benzo[k]fluoranthene		4.0	J	0.43	7.7

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	83	38 - 141
2-Fluorobiphenyl	71	42 - 140
Terphenyl-d14	98	42 - 151

Client: GeoEngineers Inc

Job Number: 580-6811-1

Client Sample ID: MW14-080707-080

Lab Sample ID: 580-6811-2
Client Matrix: Solid
% Moisture: 15.5
Date Sampled: 08/07/2007 1415
Date Received: 08/08/2007 1228

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/10/2007 2210
Date Prepared: 08/10/2007 0926
Analysis Batch: 580-21744
Prep Batch: 580-21650
Instrument ID: SEA023
Lab File ID: HP05370.D
Initial Weight/Volume: 10.6378 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		ND		1.9	5.6
Chrysene		ND		0.45	5.6
Benzo[a]pyrene		ND		0.45	5.6
Indeno[1,2,3-cd]pyrene		ND		0.28	5.6
Dibenz(a,h)anthracene		ND		0.24	5.6
Benzo[b]fluoranthene		ND		0.28	5.6
Benzo[k]fluoranthene		ND		0.31	5.6

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	90	38 - 141
2-Fluorobiphenyl	77	42 - 140
Terphenyl-d14	106	42 - 151

Client: GeoEngineers Inc

Job Number: 580-6811-1

Client Sample ID: MW14-080707-070

Lab Sample ID: 580-6811-1
Client Matrix: Solid
% Moisture: 39.9
Date Sampled: 08/07/2007 1405
Date Received: 08/08/2007 1228

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 2313
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30574.D
Initial Weight/Volume: 10.7707 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		1100		77	77
#2 Diesel (C10-C24)		290		39	39

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	92	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6811-1

Client Sample ID: MW14-080707-080

Lab Sample ID: 580-6811-2
Client Matrix: Solid
% Moisture: 15.5
Date Sampled: 08/07/2007 1415
Date Received: 08/08/2007 1228

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH-Dx

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 08/15/2007 2333
Date Prepared: 08/09/2007 1538
Analysis Batch: 580-21902
Prep Batch: 580-21628
Instrument ID: SEA013
Lab File ID: FA30575.D
Initial Weight/Volume: 10.9699 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL	RL
Motor Oil (>C24-C36)		ND		54	54
#2 Diesel (C10-C24)		ND		27	27

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	89	50 - 150

Client: GeoEngineers Inc

Job Number: 580-6811-1

Method Blank - Batch: 580-21650

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-21650/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/10/2007 2019
Date Prepared: 08/10/2007 0926

Analysis Batch: 580-21744
Prep Batch: 580-21650
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP05366.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Benzo[a]anthracene	ND		1.7	5.0
Chrysene	ND		0.40	5.0
Benzo[a]pyrene	ND		0.40	5.0
Indeno[1,2,3-cd]pyrene	ND		0.25	5.0
Dibenz(a,h)anthracene	ND		0.22	5.0
Benzo[b]fluoranthene	ND		0.25	5.0
Benzo[k]fluoranthene	ND		0.28	5.0

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	84	38 - 141
2-Fluorobiphenyl	72	42 - 140
Terphenyl-d14	93	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6811-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21650

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-21650/2-A	Analysis Batch:	580-21744	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21650	Lab File ID:	HP05367.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	08/10/2007 2047			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0926			Injection Volume:	

LCSD Lab Sample ID:	LCSD 580-21650/3-A	Analysis Batch:	580-21744	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21650	Lab File ID:	HP05368.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	08/10/2007 2115			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0926			Injection Volume:	

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzo[a]anthracene	73	75	64 - 124	4	27		
Chrysene	83	86	71 - 126	4	26		
Benzo[a]pyrene	81	82	68 - 128	2	30		
Indeno[1,2,3-cd]pyrene	88	88	59 - 139	0	29		
Dibenz(a,h)anthracene	95	95	57 - 142	1	30		
Benzo[b]fluoranthene	66	68	66 - 136	3	31		
Benzo[k]fluoranthene	80	80	63 - 143	1	31		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	93	94	38 - 141
2-Fluorobiphenyl	73	74	42 - 140
Terphenyl-d14	101	98	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6811-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-21650

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-6811-2	Analysis Batch:	580-21744	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21650	Lab File ID:	HP05371.D
Dilution:	1.0			Initial Weight/Volume:	10.4277 g
Date Analyzed:	08/10/2007 2238			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0926			Injection Volume:	

MSD Lab Sample ID:	580-6811-2	Analysis Batch:	580-21744	Instrument ID:	SEA023
Client Matrix:	Solid	Prep Batch:	580-21650	Lab File ID:	HP05372.D
Dilution:	1.0			Initial Weight/Volume:	10.7733 g
Date Analyzed:	08/10/2007 2305			Final Weight/Volume:	10 mL
Date Prepared:	08/10/2007 0926			Injection Volume:	

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzo[a]anthracene	74	76	64 - 124	2	27		
Chrysene	84	86	71 - 126	1	26		
Benzo[a]pyrene	81	84	68 - 128	0	30		
Indeno[1,2,3-cd]pyrene	83	87	59 - 139	1	29		
Dibenz(a,h)anthracene	89	95	57 - 142	3	30		
Benzo[b]fluoranthene	65	65	66 - 136	3	31	F	F
Benzo[k]fluoranthene	79	80	63 - 143	2	31		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Nitrobenzene-d5	95	94	38 - 141
2-Fluorobiphenyl	74	73	42 - 140
Terphenyl-d14	96	101	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-6811-1

Method Blank - Batch: 580-21628

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-21628/1-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/15/2007 1531
Date Prepared: 08/09/2007 1538

Analysis Batch: 580-21902
Prep Batch: 580-21628
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA30554.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL	RL
Motor Oil (>C24-C36)	ND		50	50
#2 Diesel (C10-C24)	ND		25	25

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	90	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-21628

Method: NWTPH-Dx
Preparation: 3550B

LCS Lab Sample ID: LCS 580-21628/2-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/15/2007 1551
Date Prepared: 08/09/2007 1538

Analysis Batch: 580-21902
Prep Batch: 580-21628
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA30555.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-21628/3-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/15/2007 1617
Date Prepared: 08/09/2007 1538

Analysis Batch: 580-21902
Prep Batch: 580-21628
Units: mg/Kg

Instrument ID: SEA013
Lab File ID: FA30556.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Motor Oil (>C24-C36)	107	110	70 - 125	2	17		
#2 Diesel (C10-C24)	100	103	64 - 127	4	16		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	91	90	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc Job Number: 580-6811-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

6811

SEVERN TRENT STL®

Client	Project Manager	Date	Chain of Custody Number
GeoEngineers	Kevin Broom	8/7/07	22420
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1101 Fawcett ST STE 200	253.383.4940		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Tacoma WA 98335			
Project Name and Location (State)	**Carrier/Waybill Number**		
Port of Olympia			
Contract/Purchase Order/Quote No.			
0615-034-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: NW TPH-Dx	8270 PAH - SIM	Special Instructions/ Conditions of Receipt
MW14-080707-070	8/7/07	1405				X	X						X	X	
MW14-080707-080	↓	1415				X	X						X	X	

Page 13 of 14

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other _____ (Standard)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By	8/7/07	1800	1. Received By	8-8-07	10:15
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

LOGIN SAMPLE RECEIPT CHECK LIST

Client: GeoEngineers Inc

Job Number: 580-6811-1

Login Number: 6811

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	NA	Lab Courier.
Cooler Temperature is recorded.	NA	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

ANALYTICAL REPORT

Job Number: 580-7686-1

Job Description: 0615-034-01

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Kevin M Broom



Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
11/15/2007

cc: Tonya Kauhi

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SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-7686-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-7686-1	TP4-100407	Solid	10/04/2007 1015	10/05/2007 1115
580-7686-2	TP3-100407	Solid	10/04/2007 1035	10/05/2007 1115
580-7686-3	TP2-100407	Solid	10/04/2007 1100	10/05/2007 1115
580-7686-4	TP1-100407	Solid	10/04/2007 1120	10/05/2007 1115
580-7686-5	TP1-100407A	Solid	10/04/2007 1120	10/05/2007 1115

TestAmerica
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November 9, 2007

TestAmerica Project Number: G7J100332
PO/Contract: 580-7686

Heather Curbow
TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424

Dear Ms. Curbow,

This report contains the analytical results for the samples received under chain of custody by TestAmerica on October 10, 2007. These samples are associated with your 580-7686 project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4362.

Sincerely,

for
Linda Laver
Project Manager

Table of Contents

TestAmerica West Sacramento Project Number G7J100332

Case Narrative

Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

SOLID, 8290, Dioxins/Furans
Samples: 1, 2, 3, 4, 5
- Sample Data Sheets
- Method Blank Report
- Laboratory QC Reports

General Chemistry - Various Methods
Samples: 1, 2, 3, 4, 5
- Sample Data Sheets
- Method Blank Report
- Laboratory QC Reports

Case Narrative

TestAmerica West Sacramento Project Number G7J100332

SOLID, 8290, Dioxins/Furans
Sample(s): 1, 2, 3, 4, 5
Please note that the result for 2, 3, 7, 8-TCDF is reported from the confirmation analysis that occurred on October 22, 2007.

Sample(s): 1, 2
The concentration of OCDD in G7J100332-1, -2 and the concentration of 1,2,3,4,6,7,8-HpCDD in sample G7J100332-1 have exceeded the upper quantitation level of the initial calibration curve, but the peaks did not saturate the instrument detector. Historical data indicates that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported with the 'E" qualifier.

Sample(s): 4, 5
The internal standard recovery of 13C-OCDD is above the method recommended goal of 135% in the samples. The high recoveries can be attributed to the high native concentration of OCDD.

SOLID, 9060M, TOC, Single analysis
Sample(s): 2
The sample measurement times were manually extended for several replicates during Total Organic Carbon analysis for the associated samples. The software had stopped the integration period prematurely as a result of a slower than normal combustion.

Sample(s): 5
The sample was reanalyzed after the holding time had expired. The sample was initially analyzed within holding time on October 29, 2007, with a Total Organic Carbon result of 34,700 mg/kg. However, the client requested one sample from this lot to be analyzed in triplicate, which was not done. The reanalysis was performed after the 28 day holding time had expired on November 2, 2007, and yielded a triplicate average TOC result of 32,700 mg/kg. The reanalysis on November 2, 2007 was reported.

There were no other anomalies associated with this project.

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ACCREDITED IN ACCORDANCE WITH nelac

TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	New York*	11666
Arizona	AZ0616	Oregon*	CA 200005
Arkansas	04-067-0	Pennsylvania	68-1272
California*	01119CA	South Carolina	87014002
Colorado	NA	Texas	TX 270-2004A
Connecticut	PH-0691	Utah*	QUAN1
Florida*	E87570	Virginia	00178
Georgia	960	Washington	C087
Hawaii	NA	West Virginia	9930C, 334
Kansas*	E10375	Wisconsin	998204680
Louisiana*	01944	NFESC	NA
Michigan	9947	USACE	NA
Nevada	CA44	USDA Foreign Plant	37-82605
New Jersey*	CA005	USDA Foreign Soil	S-46613

*NELAP accredited. A more detailed parameter list is available upon request. Updated 9/21/07

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary

TestAmerica West Sacramento Project Number G7J100332

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
J8MPL	1	TP4-100407(580-7686-1)	10/4/2007 10:15 AM	10/10/2007 09:15 AM
J8MP5	2	TP3-100407(580-7686-2)	10/4/2007 10:35 AM	10/10/2007 09:15 AM
J8MP6	3	TP2-100407(580-7686-3)	10/4/2007 11:00 AM	10/10/2007 09:15 AM
J8MP7	4	TP1-100407(580-7686-4)	10/4/2007 11:20 AM	10/10/2007 09:15 AM
J8MP8	5	TP1-100407A(580-7686-5)	10/4/2007 11:20 AM	10/10/2007 09:15 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight

G7J100332

TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler	Lab PM: Curbow, Heather	Carrier Tracking No(s)	COC No: 580-1183 1
Client Contact: Shipping/Receiving	Phone	E-Mail: heather.curbow@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Analysis Requested		STL Job #: 580-7686-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/17/2007			Preservation Codes:
City: West Sacramento	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel)	PO # 580-7686			
Email	WO #			Other:
Project Name: 0615-034-01	Project #: 58001821			
Site	SSOW#			

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT 9060 TOC	Dioxin 8290	Total Number of containers	Special Instructions/Note:
			Preservation Code							
TP4-100407 (580-7686-1)	10/4/07	10 15		Solid			X	X	1	
TP3-100407 (580-7686-2)	10/4/07	10 35		Solid			X	X	1	
TP2-100407 (580-7686-3)	10/4/07	11 00		Solid			X	X	1	
TP1-100407 (580-7686-4)	10/4/07	11 20		Solid			X	X	1	
TP1-100407A (580-7686-5)	10/4/07	11 20		Solid			X	X	1	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	10/9/07 1530	TA TACOMA	[signature]	10/10/07 1050	TA-WSAC
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact ☐ Yes ☐ No | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

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LOT RECEIPT CHECKLIST
TestAmerica West Sacramento

CLIENT TAL-Tacoma PM JK LOG # 48172

LOT# (QUANTIMS ID) G7J100332 QUOTE# 45270 LOCATION 022A

		Initials	Date
DATE RECEIVED	10/10/07 TIME RECEIVED 0915	CV	10/10/07

DELIVERED BY
- ☑ FEDEX
- ☐ CA OVERNIGHT
- ☐ CLIENT
- ☐ AIRBORNE
- ☐ GOLDENSTATE
- ☐ DHL
- ☐ UPS
- ☐ BAX GLOBAL
- ☐ GO-GETTERS
- ☐ TAL COURIER
- ☐ VALLEY LOGISTICS
- ☐ MORGAN HILL COURIER
- ☐ OTHER

CUSTODY SEAL STATUS ☑ INTACT ☐ BROKEN ☐ N/A

CUSTODY SEAL #(S) 932715, 932705

SHIPPPING CONTAINER(S) ☑ TAL ☐ CLIENT ☐ N/A

TEMPERTURE RECORD (IN °C) IR 4 ☐ 5 ☑ ☐ OTHER ____

COC #(S) MA

TEMPERATURE BLANK Observed: 0 Corrected: 0

SAMPLE TEMPERATURE

Observed: 2 3 3 Average: 3 Corrected Average: 3

COLLECTOR'S NAME: ☐ Verified from COC ☑ Not on COC

pH MEASURED ☐ YES ☐ ANOMALY ☑ N/A

LABELED BY.....

LABELS CHECKED BY.....

PEER REVIEW ____ ☑ NA

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING
- WETCHEM ☑ N/A
- VOA-ENCORES ☑ N/A

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL ☑ N/A

☑ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES ☐ N/A

☐ CLOUSEAU ☐ TEMPERATURE EXCEEDED (2 °C – 6 °C)*1 ☑ N/A

☐ WET ICE ☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED ☐ PM NOTIFIED

Notes:

*1 Acceptable temperature range for State of Wisconsin samples is≤4°C.

LEAVE NO SPACES BLANK. USE "N/A" IF NOT APPLICABLE.

QA-185 5/05 EM, Page 1

TestAmerica West Sacramento

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Bottle Lot Inventory

Lot ID: G7J100332

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*																				
VOAh*																				
AGB																				
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				
___AGJ																				
500AGJ																				
250AGJ																				
125AGJ																				
___CGJ																				
500CGJ																				
250CGJ																				
125CGJ	1	1	1	1	1															
PJ																				
PJn																				
500PJ																				
500PJn																				
500PJna																				
500PJzn/na																				
250PJ																				
250PJn																				
250PJna																				
250PJzn/na																				
Acetate Tube																				
_____"CT																				
Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid zn = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

QA-185 5/05 EM

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LEAVE NO SPACES BLANK. USE "NA" IF NOT APPLICABLE.

SOLID, 8290, Dioxins/Furans

TestAmerica Tacoma

Client Sample ID: TP4-100407(580-7686-1)

Trace Level Organic Compounds

Lot-Sample #...: G7J100332-001 Work Order #...: J8MPL1AE Matrix.....: SOLID
Date Sampled...: 10/04/07 Date Received..: 10/10/07
Prep Date.....: 10/17/07 Analysis Date..: 10/20/07
Prep Batch #...: 7291490
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	3.8		pg/g	SW846 8290
Total TCDD	110		pg/g	SW846 8290
1,2,3,7,8-PeCDD	15		pg/g	SW846 8290
Total PeCDD	170		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	17		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	130		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	47		pg/g	SW846 8290
Total HxCDD	950		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	4200 E		pg/g	SW846 8290
Total HpCDD	6500		pg/g	SW846 8290
OCDD	20000 E		pg/g	SW846 8290
2,3,7,8-TCDF	13 CON		pg/g	SW846 8290
Total TCDF	150		pg/g	SW846 8290
1,2,3,7,8-PeCDF	15		pg/g	SW846 8290
2,3,4,7,8-PeCDF	24		pg/g	SW846 8290
Total PeCDF	190		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	36		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	26		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	21		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	1.8	pg/g	SW846 8290
Total HxCDF	500		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	440		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	23		pg/g	SW846 8290
Total HpCDF	1500		pg/g	SW846 8290
OCDF	1200		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(40 - 135)
13C-1,2,3,7,8-PeCDD	97	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	113	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	86	(40 - 135)
13C-OCDD	88	(40 - 135)
13C-2,3,7,8-TCDF	82	(40 - 135)
13C-1,2,3,7,8-PeCDF	90	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	110	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	76	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: TP3-100407(580-7686-2)

Trace Level Organic Compounds

Lot-Sample #...: G7J100332-002 Work Order #...: J8MP51AE Matrix.....: SOLID
Date Sampled...: 10/04/07 Date Received..: 10/10/07
Prep Date.....: 10/17/07 Analysis Date..: 10/21/07
Prep Batch #...: 7291490
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	6.6		pg/g	SW846 8290
Total TCDD	120		pg/g	SW846 8290
1,2,3,7,8-PeCDD	16		pg/g	SW846 8290
Total PeCDD	140		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	12		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	52		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	30		pg/g	SW846 8290
Total HxCDD	390		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	1400		pg/g	SW846 8290
Total HpCDD	2600		pg/g	SW846 8290
OCDD	8100 E		pg/g	SW846 8290
2,3,7,8-TCDF	9.6 CON		pg/g	SW846 8290
Total TCDF	130		pg/g	SW846 8290
1,2,3,7,8-PeCDF	11		pg/g	SW846 8290
2,3,4,7,8-PeCDF	13		pg/g	SW846 8290
Total PeCDF	98		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	15		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	11		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	8.4		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	1.1	pg/g	SW846 8290
Total HxCDF	98		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	77		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	5.2 J		pg/g	SW846 8290
Total HpCDF	290		pg/g	SW846 8290
OCDF	320		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	84	(40 - 135)
13C-1,2,3,7,8-PeCDD	93	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	99	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	98	(40 - 135)
13C-OCDD	110	(40 - 135)
13C-2,3,7,8-TCDF	80	(40 - 135)
13C-1,2,3,7,8-PeCDF	86	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	89	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	89	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

E Estimated result Result concentration exceeds the calibration range.

CON Confirmation analysis.

J Estimated result Result is less than the reporting limit.

TestAmerica Tacoma

Client Sample ID: TP2-100407(580-7686-3)

Trace Level Organic Compounds

Lot-Sample #...: G7J100332-003 **Work Order #...:** J8MP61AE **Matrix.....:** SOLID
Date Sampled...: 10/04/07 **Date Received..:** 10/10/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/21/07
Prep Batch #...: 7291490
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	9.3		pg/g	SW846 8290
Total TCDD	750		pg/g	SW846 8290
1,2,3,7,8-PeCDD	53		pg/g	SW846 8290
Total PeCDD	950		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	59		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	420		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	110		pg/g	SW846 8290
Total HxCDD	2200		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	6700 D		pg/g	SW846 8290
Total HpCDD	12000		pg/g	SW846 8290
OCDD	82000 D		pg/g	SW846 8290
2,3,7,8-TCDF	55 CON		pg/g	SW846 8290
Total TCDF	500		pg/g	SW846 8290
1,2,3,7,8-PeCDF	130		pg/g	SW846 8290
2,3,4,7,8-PeCDF	550		pg/g	SW846 8290
Total PeCDF	3300		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	1800		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	330		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	140		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	19		pg/g	SW846 8290
Total HxCDF	8800		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	2600 D		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	270 D		pg/g	SW846 8290
Total HpCDF	9700		pg/g	SW846 8290
OCDF	2900 D		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	77	(40 - 135)
13C-1,2,3,7,8-PeCDD	87	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	88	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	113	(40 - 135)
13C-OCDD	120	(40 - 135)
13C-2,3,7,8-TCDF	75	(40 - 135)
13C-1,2,3,7,8-PeCDF	80	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	84	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	126	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

D Result was obtained from the analysis of a dilution.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: TP1-100407(580-7686-4)

Trace Level Organic Compounds

Lot-Sample #...: G7J100332-004 Work Order #...: J8MP71AE Matrix.....: SOLID
Date Sampled...: 10/04/07 Date Received..: 10/10/07
Prep Date.....: 10/17/07 Analysis Date..: 10/21/07
Prep Batch #...: 7291490
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	24		pg/g	SW846 8290
Total TCDD	510		pg/g	SW846 8290
1,2,3,7,8-PeCDD	69		pg/g	SW846 8290
Total PeCDD	670		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	85		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	380		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	150		pg/g	SW846 8290
Total HxCDD	2000		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	9800 D		pg/g	SW846 8290
Total HpCDD	17000		pg/g	SW846 8290
OCDD	80000 D		pg/g	SW846 8290
2,3,7,8-TCDF	25 CON		pg/g	SW846 8290
Total TCDF	320		pg/g	SW846 8290
1,2,3,7,8-PeCDF	54		pg/g	SW846 8290
2,3,4,7,8-PeCDF	130		pg/g	SW846 8290
Total PeCDF	1100		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	460		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	150		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	90		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	9.1		pg/g	SW846 8290
Total HxCDF	4900		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	3400 D		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	220 D		pg/g	SW846 8290
Total HpCDF	14000		pg/g	SW846 8290
OCDF	12000 D		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	79	(40 - 135)
13C-1,2,3,7,8-PeCDD	86	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	89	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	128	(40 - 135)
13C-OCDD	157 *	(40 - 135)
13C-2,3,7,8-TCDF	77	(40 - 135)
13C-1,2,3,7,8-PeCDF	80	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	82	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	141 *	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

D Result was obtained from the analysis of a dilution.

CON Confirmation analysis.

* Surrogate recovery is outside stated control limits.

TestAmerica Tacoma

Client Sample ID: TP1-100407A(580-7686-5)

Trace Level Organic Compounds

Lot-Sample #...: G7J100332-005 Work Order #...: J8MP81AE Matrix.....: SOLID
Date Sampled...: 10/04/07 Date Received..: 10/10/07
Prep Date.....: 10/17/07 Analysis Date..: 10/21/07
Prep Batch #...: 7291490
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	12		pg/g	SW846 8290
Total TCDD	340		pg/g	SW846 8290
1,2,3,7,8-PeCDD	50		pg/g	SW846 8290
Total PeCDD	520		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	74		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	340		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	130		pg/g	SW846 8290
Total HxCDD	1700		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	8800 D		pg/g	SW846 8290
Total HpCDD	15000		pg/g	SW846 8290
OCDD	66000 D		pg/g	SW846 8290
2,3,7,8-TCDF	22 CON		pg/g	SW846 8290
Total TCDF	280		pg/g	SW846 8290
1,2,3,7,8-PeCDF	48		pg/g	SW846 8290
2,3,4,7,8-PeCDF	130		pg/g	SW846 8290
Total PeCDF	1000		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	460		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	130		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	82		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	8.3		pg/g	SW846 8290
Total HxCDF	4300		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	3100 D		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	210 D		pg/g	SW846 8290
Total HpCDF	12000		pg/g	SW846 8290
OCDF	9300 D		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(40 - 135)
13C-1,2,3,7,8-PeCDD	99	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	104	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	123	(40 - 135)
13C-OCDD	157 *	(40 - 135)
13C-2,3,7,8-TCDF	85	(40 - 135)
13C-1,2,3,7,8-PeCDF	93	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	96	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	131	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

D Result was obtained from the analysis of a dilution.

CON Confirmation analysis.

* Surrogate recovery is outside stated control limits.

QC DATA ASSOCIATION SUMMARY

G7J100332

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326
002	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326
003	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326
004	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326
005	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G7J100332 **Work Order #...:** J89L71AA **Matrix.....:** SOLID
MB Lot-Sample #: G7J180000-490

Prep Date.....: 10/17/07
Analysis Date..: 10/20/07 **Prep Batch #...:** 7291490
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.20	pg/g	SW846 8290
Total TCDD	ND	0.22	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	0.67	pg/g	SW846 8290
Total PeCDD	ND	0.67	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.26	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	0.28	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	0.21	pg/g	SW846 8290
Total HxCDD	ND	0.38	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	0.26	pg/g	SW846 8290
Total HpCDD	ND	0.26	pg/g	SW846 8290
OCDD	ND	0.50	pg/g	SW846 8290
2,3,7,8-TCDF	ND	0.18	pg/g	SW846 8290
Total TCDF	ND	0.18	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	0.24	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.25	pg/g	SW846 8290
Total PeCDF	ND	0.25	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.21	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.20	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	0.21	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.21	pg/g	SW846 8290
Total HxCDF	ND	0.21	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	0.16	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	0.19	pg/g	SW846 8290
Total HpCDF	ND	0.19	pg/g	SW846 8290
OCDF	ND	0.38	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	(40 - 135)
13C-1,2,3,7,8-PeCDD	100	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	102	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	100	(40 - 135)
13C-OCDD	90	(40 - 135)
13C-2,3,7,8-TCDF	86	(40 - 135)
13C-1,2,3,7,8-PeCDF	91	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	98	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	104	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G7J100332 **Work Order #...:** J89L71AC **Matrix.....:** SOLID
LCS Lot-Sample#: G7J180000-490
Prep Date.....: 10/17/07 **Analysis Date..:** 10/20/07
Prep Batch #...: 7291490
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2,3,7,8-TCDD	**20.0**	**18.4**	pg/g	92	SW846 8290
1,2,3,7,8-PeCDD	**100**	**97.2**	pg/g	97	SW846 8290
1,2,3,4,7,8-HxCDD	**100**	**81.5**	pg/g	81	SW846 8290
1,2,3,6,7,8-HxCDD	**100**	**90.7**	pg/g	91	SW846 8290
1,2,3,7,8,9-HxCDD	**100**	**85.0**	pg/g	85	SW846 8290
1,2,3,4,6,7,8-HpCDD	**100**	**89.8**	pg/g	90	SW846 8290
OCDD	**200**	**185**	pg/g	93	SW846 8290
2,3,7,8-TCDF	**20.0**	**19.4**	pg/g	97	SW846 8290
1,2,3,7,8-PeCDF	**100**	**97.2**	pg/g	97	SW846 8290
2,3,4,7,8-PeCDF	**100**	**99.2**	pg/g	99	SW846 8290
1,2,3,4,7,8-HxCDF	**100**	**97.4**	pg/g	97	SW846 8290
1,2,3,6,7,8-HxCDF	**100**	**103**	pg/g	103	SW846 8290
2,3,4,6,7,8-HxCDF	**100**	**98.8**	pg/g	99	SW846 8290
1,2,3,7,8,9-HxCDF	**100**	**95.1**	pg/g	95	SW846 8290
1,2,3,4,6,7,8-HpCDF	**100**	**97.0**	pg/g	97	SW846 8290
1,2,3,4,7,8,9-HpCDF	**100**	**101**	pg/g	101	SW846 8290
OCDF	**200**	**200**	pg/g	100	SW846 8290

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	(40 - 135)
13C-1,2,3,7,8-PeCDD	72	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	84	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	75	(40 - 135)
13C-OCDD	65	(40 - 135)
13C-2,3,7,8-TCDF	68	(40 - 135)
13C-1,2,3,7,8-PeCDF	68	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	78	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	77	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G7J100332 **Work Order #...:** J89L71AC **Matrix.....:** SOLID
LCS Lot-Sample#: G7J180000-490
Prep Date.....: 10/17/07 **Analysis Date..:** 10/20/07
Prep Batch #...: 7291490
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	**92**	**(77 - 133)**	**SW846 8290**
1,2,3,7,8-PeCDD	**97**	**(74 - 145)**	**SW846 8290**
1,2,3,4,7,8-HxCDD	**81**	**(68 - 146)**	**SW846 8290**
1,2,3,6,7,8-HxCDD	**91**	**(79 - 141)**	**SW846 8290**
1,2,3,7,8,9-HxCDD	**85**	**(68 - 139)**	**SW846 8290**
1,2,3,4,6,7,8-HpCDD	**90**	**(74 - 147)**	**SW846 8290**
OCDD	**93**	**(75 - 153)**	**SW846 8290**
2,3,7,8-TCDF	**97**	**(80 - 146)**	**SW846 8290**
1,2,3,7,8-PeCDF	**97**	**(84 - 143)**	**SW846 8290**
2,3,4,7,8-PeCDF	**99**	**(76 - 157)**	**SW846 8290**
1,2,3,4,7,8-HxCDF	**97**	**(78 - 141)**	**SW846 8290**
1,2,3,6,7,8-HxCDF	**103**	**(78 - 144)**	**SW846 8290**
2,3,4,6,7,8-HxCDF	**99**	**(73 - 157)**	**SW846 8290**
1,2,3,7,8,9-HxCDF	**95**	**(70 - 144)**	**SW846 8290**
1,2,3,4,6,7,8-HpCDF	**97**	**(79 - 143)**	**SW846 8290**
1,2,3,4,7,8,9-HpCDF	**101**	**(79 - 150)**	**SW846 8290**
OCDF	**100**	**(70 - 158)**	**SW846 8290**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	(40 - 135)
13C-1,2,3,7,8-PeCDD	72	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	84	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	75	(40 - 135)
13C-OCDD	65	(40 - 135)
13C-2,3,7,8-TCDF	68	(40 - 135)
13C-1,2,3,7,8-PeCDF	68	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	78	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	77	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

General Chemistry - Various Methods

TestAmerica Tacoma

Client Sample ID: TP4-100407(580-7686-1)

General Chemistry

Lot-Sample #...: G7J100332-001 Work Order #...: J8MPL Matrix.....: SOLID
Date Sampled...: 10/04/07 Date Received..: 10/10/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	48.6	0.10	%	ASTM D 2216-90	10/11-10/12/07	7284542
	Dilution Factor: 1					
Total Organic Carbon	90200 Q	2000	mg/kg	SW846 9060 (Modif	10/23-10/29/07	7297348
	Dilution Factor: 2					

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

TestAmerica Tacoma

Client Sample ID: TP3-100407(580-7686-2)

General Chemistry

Lot-Sample #...: G7J100332-002 Work Order #...: J8MP5 Matrix.....: SOLID
Date Sampled...: 10/04/07 Date Received..: 10/10/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	22.7	0.10	%	ASTM D 2216-90	10/11-10/12/07	7284542
	Dilution Factor: 1					
Total Organic Carbon	51900	1000	mg/kg	SW846 9060 (Modif	10/23-10/29/07	7297348
	Dilution Factor: 1					

TestAmerica Tacoma

Client Sample ID: TP2-100407(580-7686-3)

General Chemistry

Lot-Sample #...: G7J100332-003 Work Order #...: J8MP6 Matrix.....: SOLID
Date Sampled...: 10/04/07 Date Received..: 10/10/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	9.6	0.10	%	ASTM D 2216-90	10/11-10/12/07	7284542
		Dilution Factor: 1				
Total Organic Carbon	10700	1000	mg/kg	SW846 9060 (Modif	10/23-10/29/07	7297348
		Dilution Factor: 1				

TestAmerica Tacoma

Client Sample ID: TP1-100407(580-7686-4)

General Chemistry

Lot-Sample #...: G7J100332-004 Work Order #...: J8MP7 Matrix.....: SOLID
Date Sampled...: 10/04/07 Date Received..: 10/10/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	18.6	0.10	%	ASTM D 2216-90	10/11-10/12/07	7284542
		Dilution Factor: 1				
Total Organic Carbon	34900	1000	mg/kg	SW846 9060 (Modif	10/23-10/29/07	7297348
		Dilution Factor: 1				

TestAmerica Tacoma

Client Sample ID: TP1-100407A(580-7686-5)

General Chemistry

Lot-Sample #...: G7J100332-005 Work Order #...: J8MP8 Matrix.....: SOLID
Date Sampled...: 10/04/07 Date Received..: 10/10/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	11.9	0.10	%	ASTM D 2216-90	10/11-10/12/07	7284542
		Dilution Factor: 1				
Total Organic Carbon	32700	1000	mg/kg	SW846 9060 (Modif	10/23-11/02/07	7297348
		Dilution Factor: 1				

QC DATA ASSOCIATION SUMMARY

G7J100332

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326
002	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326
003	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326
004	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326
005	SOLID	SW846 8290		7291490	
	SOLID	SW846 9060 (Modif		7297348	7297187
	SOLID	ASTM D 2216-90		7284542	7284326

METHOD BLANK REPORT

General Chemistry

Client Lot #...: G7J100332 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		Work Order #: J9PK21AA		MB Lot-Sample #:	G7J240000-348	
	ND	1000	mg/kg	SW846 9060 (Modif	10/23-10/29/07	7297348
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: G7J100332 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon			Work Order #: J9PK21AC		LCS Lot-Sample#: G7J240000-348		
	8900	10700	mg/kg	120	SW846 9060 (Modif	10/23-10/29/07	7297348
			Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: G7J100332 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		Work Order #: J9PK21AC	LCS Lot-Sample#: G7J240000-348		
	120	(75 - 125)	SW846 9060 (Modif	10/23-10/29/07	7297348
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: G7J100332 **Matrix.....:** SOLID
Date Sampled...: 10/09/07 **Date Received..:** 10/11/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon			WO#: J8P091G8-MS/J8P091G9-MSD		MS Lot-Sample #: F7J110226-008				
	10100	22800	30800	mg/kg	91		SW846 9060 (M	10/23-10/31/07	7297348
	10100	24400	33100	mg/kg	94	7.2	SW846 9060 (M	10/23-10/31/07	7297348

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: G7J100332 **Matrix.....:** SOLID
Date Sampled...: 10/09/07 **Date Received..:** 10/11/07

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	WO#: J8P091G8-MS/J8P091G9-MSD					MS Lot-Sample #: F7J110226-008	
	91	(75 - 125)			SW846 9060 (Modif	10/23-10/31/07	7297348
	94	(75 - 125)	7.2	(0-25)	SW846 9060 (Modif	10/23-10/31/07	7297348
	Dilution Factor: 1						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: G7J100332 **Work Order #...:** J8J4Q-SMP J8J4Q-DUP **Matrix.....:** SOLID

Date Sampled...: 10/04/07 **Date Received..:** 10/09/07

% Moisture.....: 14

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #: G7J090312-009		
	13.9	16.3	%	16	(0-20)	ASTM D 2216-90	10/11-10/12/07	7284542

Dilution Factor: 1

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL®

Client: GeoEngineers	Project Manager: Kevin Broom	Date: 10/4/07	Chain of Custody Number: 31798
Address: 1101 S. Fawcett STE 200	Telephone Number (Area Code)/Fax Number: 253.383.4940	Lab Number: 76986	Page 1 of 1
City: Tacoma / State: WA / Zip Code: 98401	Site Contact	Lab Contact	
Project Name and Location (State): Port of Olympia	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.: 0615-034-01			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Dioxin/Furan 8290	TOC 9060	Special Instructions/ Conditions of Receipt
TP4-100407	10/4/07	1015				X							X	X	
TP3-100407		1035				X							X	X	
TP2-100407		1100				X							X	X	
TP1-100407		1120				X							X	X	
TP1-100407A		1120				X							X	X	

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Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time
1. Relinquished By	10/4/07	1300
2. Relinquished By		
3. Relinquished By		

	Date	Time
1. Received By	10-5-07	11:15
2. Received By		
3. Received By		

Comments

DISTRIBUTION: *WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy*

STL8274-580 (12/02)

Login Sample Receipt Check List

Client: GeoEngineers Inc

Job Number: 580-7686-1

Login Number: 7686
List Source: TestAmerica Tacoma
Creator: Presley, Kim
List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 580-11548-1

SDG Number: Lott Admin Phase II

Job Description: WA DOE Project - Soil Event 1

For:
Brown and Caldwell
606 Columbia Street NW
Suite 217
Olympia, WA 98501

Attention: Joshua L Johnson



Approved for release.
Heather Curbow
Project Manager I
10/31/2008 4:24 PM

Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
10/31/2008

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 5035: Due to percent moisture values greater than 10%, the final volumes for all associated samples were corrected for the solvent/water dilution effect.

Corrected FV = ((g of samples * % moisture/100) + ml of MeOH) * 40 (dilution factor)

No analytical or quality issues were noted.

GC/MS Semi VOA
No analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Subcontract Sister
Samples were sent to Sister lab Sacramento for Dioxin analysis. The results are included here in this report.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-1	**DP17-2**				
Naphthalene		11	5.1	ug/Kg	8270C
2-Methylnaphthalene		19	5.1	ug/Kg	8270C
1-Methylnaphthalene		14	5.1	ug/Kg	8270C
Benzo[a]anthracene		13	5.1	ug/Kg	8270C
Chrysene		31	5.1	ug/Kg	8270C
Benzo[b]fluoranthene		18	5.1	ug/Kg	8270C
Benzo[k]fluoranthene		5.4	5.1	ug/Kg	8270C
Benzo[a]pyrene		17	5.1	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		14	5.1	ug/Kg	8270C
#2 Diesel (C10-C24)		79	27	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		490	53	mg/Kg	NWTPH-Dx
Lead		4.3	1.6	mg/Kg	6010B
Chromium		14	1.4	mg/Kg	6010B
580-11548-2	**DP17-7**				
Naphthalene		330	16	ug/Kg	8270C
2-Methylnaphthalene		48	16	ug/Kg	8270C
1-Methylnaphthalene		22	16	ug/Kg	8270C
Benzo[a]anthracene		44	16	ug/Kg	8270C
Chrysene		41	16	ug/Kg	8270C
Benzo[b]fluoranthene		45	16	ug/Kg	8270C
Benzo[a]pyrene		35	16	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		22	16	ug/Kg	8270C
#2 Diesel (C10-C24)		200	84	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		630	170	mg/Kg	NWTPH-Dx
580-11548-3	**DP17-10**				
Benzo[a]anthracene		22	16	ug/Kg	8270C
#2 Diesel (C10-C24)		680	82	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		5800	160	mg/Kg	NWTPH-Dx
Lead		8.2	5.0	mg/Kg	6010B
Chromium		7.0	4.3	mg/Kg	6010B
Mercury		0.061	0.058	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-4	**DP17-12**				
2-Methylnaphthalene		9.8	6.1	ug/Kg	8270C
1-Methylnaphthalene		6.6	6.1	ug/Kg	8270C
Chrysene		55	6.1	ug/Kg	8270C
Benzo[b]fluoranthene		13	6.1	ug/Kg	8270C
Benzo[a]pyrene		9.1	6.1	ug/Kg	8270C
#2 Diesel (C10-C24)		320	29	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		2200	58	mg/Kg	NWTPH-Dx
Arsenic		3.8	3.7	mg/Kg	6010B
Lead		5.1	1.8	mg/Kg	6010B
Chromium		23	1.6	mg/Kg	6010B
580-11548-5	**DP18-2**				
Motor Oil (>C24-C36)		73	49	mg/Kg	NWTPH-Dx
Arsenic		3.9	3.0	mg/Kg	6010B
Lead		2.3	1.5	mg/Kg	6010B
Chromium		16	1.3	mg/Kg	6010B
580-11548-6	**DP18-7**				
Arsenic		4.8	3.7	mg/Kg	6010B
Chromium		28	1.6	mg/Kg	6010B
580-11548-7	**DP18-10**				
#2 Diesel (C10-C24)		52	33	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		320	65	mg/Kg	NWTPH-Dx
Arsenic		5.0	3.9	mg/Kg	6010B
Lead		2.8	1.9	mg/Kg	6010B
Chromium		34	1.7	mg/Kg	6010B
Mercury		0.037	0.024	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-8	**DP18-12**				
Naphthalene		56	17	ug/Kg	8270C
Benzo[a]anthracene		34	17	ug/Kg	8270C
Chrysene		36	17	ug/Kg	8270C
Benzo[b]fluoranthene		47	17	ug/Kg	8270C
Benzo[a]pyrene		33	17	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		20	17	ug/Kg	8270C
#2 Diesel (C10-C24)		280	86	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		2000	170	mg/Kg	NWTPH-Dx
Lead		30	5.3	mg/Kg	6010B
Chromium		11	4.6	mg/Kg	6010B
Mercury		0.077	0.069	mg/Kg	7471A
580-11548-9	**DP19-2**				
Naphthalene		25	5.5	ug/Kg	8270C
#2 Diesel (C10-C24)		79	28	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		360	56	mg/Kg	NWTPH-Dx
Lead		4.5	1.7	mg/Kg	6010B
Chromium		21	1.4	mg/Kg	6010B
580-11548-10	**DP19-7**				
Motor Oil (>C24-C36)		75	66	mg/Kg	NWTPH-Dx
Arsenic		4.0	4.0	mg/Kg	6010B
Lead		3.1	2.0	mg/Kg	6010B
Chromium		29	1.7	mg/Kg	6010B
580-11548-11	**DP19-10**				
Lead		4.0	2.1	mg/Kg	6010B
Chromium		49	1.8	mg/Kg	6010B
580-11548-12	**DP19-12**				
#2 Diesel (C10-C24)		35	30	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		94	60	mg/Kg	NWTPH-Dx
Lead		3.6	1.8	mg/Kg	6010B
Chromium		28	1.6	mg/Kg	6010B
580-11548-13	**DP25-2**				
Arsenic		20	3.2	mg/Kg	6010B
Chromium		20	1.4	mg/Kg	6010B

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-14	**DP25-7**				
Arsenic		4.1	3.8	mg/Kg	6010B
Lead		2.7	1.9	mg/Kg	6010B
Chromium		33	1.6	mg/Kg	6010B
Mercury		0.038	0.023	mg/Kg	7471A
580-11548-15	**DP25-10**				
Benzo[a]anthracene		66	8.6	ug/Kg	8270C
Chrysene		82	8.6	ug/Kg	8270C
Benzo[b]fluoranthene		110	8.6	ug/Kg	8270C
Benzo[k]fluoranthene		110	8.6	ug/Kg	8270C
Benzo[a]pyrene		71	8.6	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		45	8.6	ug/Kg	8270C
#2 Diesel (C10-C24)		260	44	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		1900	88	mg/Kg	NWTPH-Dx
Arsenic		13	5.1	mg/Kg	6010B
Lead		13	2.5	mg/Kg	6010B
Chromium		33	2.2	mg/Kg	6010B
Mercury		0.079	0.032	mg/Kg	7471A
580-11548-16	**DP25-12**				
Benzo[a]anthracene		17	12	ug/Kg	8270C
Benzo[b]fluoranthene		18	12	ug/Kg	8270C
Benzo[a]pyrene		17	12	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		16	12	ug/Kg	8270C
#2 Diesel (C10-C24)		390	57	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		3900	110	mg/Kg	NWTPH-Dx
580-11548-17	**DP26-2**				
Benzo[a]anthracene		23	5.3	ug/Kg	8270C
Chrysene		26	5.3	ug/Kg	8270C
Benzo[b]fluoranthene		31	5.3	ug/Kg	8270C
Benzo[k]fluoranthene		8.0	5.3	ug/Kg	8270C
Benzo[a]pyrene		21	5.3	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		13	5.3	ug/Kg	8270C
Motor Oil (>C24-C36)		82	51	mg/Kg	NWTPH-Dx
Arsenic		13	3.0	mg/Kg	6010B
Lead		16	1.5	mg/Kg	6010B
Chromium		24	1.3	mg/Kg	6010B
Mercury		0.027	0.019	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-18	**DP26-7**				
Benzo[a]anthracene		14	7.4	ug/Kg	8270C
Chrysene		10	7.4	ug/Kg	8270C
Benzo[b]fluoranthene		12	7.4	ug/Kg	8270C
Benzo[a]pyrene		12	7.4	ug/Kg	8270C
#2 Diesel (C10-C24)		57	36	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		370	72	mg/Kg	NWTPH-Dx
Arsenic		6.4	4.3	mg/Kg	6010B
Lead		14	2.2	mg/Kg	6010B
Chromium		31	1.9	mg/Kg	6010B
580-11548-19	**DP26-10**				
Naphthalene		39	9.4	ug/Kg	8270C
Benzo[a]anthracene		13	9.4	ug/Kg	8270C
Chrysene		36	9.4	ug/Kg	8270C
Benzo[b]fluoranthene		14	9.4	ug/Kg	8270C
#2 Diesel (C10-C24)		430	48	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		2900	95	mg/Kg	NWTPH-Dx
Lead		7.6	2.8	mg/Kg	6010B
Chromium		9.2	2.4	mg/Kg	6010B
580-11548-20	**DP26-12**				
Naphthalene		94	13	ug/Kg	8270C
Benzo[a]anthracene		16	13	ug/Kg	8270C
Benzo[b]fluoranthene		15	13	ug/Kg	8270C
Benzo[k]fluoranthene		15	13	ug/Kg	8270C
#2 Diesel (C10-C24)		310	66	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		3300	130	mg/Kg	NWTPH-Dx
Lead		8.2	3.8	mg/Kg	6010B
Chromium		6.1	3.3	mg/Kg	6010B

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-21	**DP27-2**				
Naphthalene		19	5.3	ug/Kg	8270C
2-Methylnaphthalene		36	5.3	ug/Kg	8270C
1-Methylnaphthalene		33	5.3	ug/Kg	8270C
Benzo[a]anthracene		250	5.3	ug/Kg	8270C
Chrysene		250	5.3	ug/Kg	8270C
Benzo[b]fluoranthene		190	5.3	ug/Kg	8270C
Benzo[k]fluoranthene		78	5.3	ug/Kg	8270C
Benzo[a]pyrene		210	5.3	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		91	5.3	ug/Kg	8270C
Dibenz(a,h)anthracene		9.1	5.3	ug/Kg	8270C
Motor Oil (>C24-C36)		64	50	mg/Kg	NWTPH-Dx
Chromium		19	1.3	mg/Kg	6010B
580-11548-22	**DP27-7**				
Chromium		25	1.5	mg/Kg	6010B
580-11548-23	**DP27-10**				
Motor Oil (>C24-C36)		69	62	mg/Kg	NWTPH-Dx
Chromium		24	1.7	mg/Kg	6010B
580-11548-24	**DP27-12**				
Benzo[a]anthracene		9.8	7.3	ug/Kg	8270C
Benzo[b]fluoranthene		7.7	7.3	ug/Kg	8270C
Benzo[a]pyrene		8.1	7.3	ug/Kg	8270C
Lead		3.1	2.2	mg/Kg	6010B
Chromium		37	1.9	mg/Kg	6010B
Mercury		0.21	0.029	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-25	**DP28-2**				
2-Methylnaphthalene		13	5.1	ug/Kg	8270C
1-Methylnaphthalene		8.9	5.1	ug/Kg	8270C
Benzo[a]anthracene		18	5.1	ug/Kg	8270C
Chrysene		170	5.1	ug/Kg	8270C
Benzo[b]fluoranthene		50	5.1	ug/Kg	8270C
Benzo[a]pyrene		24	5.1	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		17	5.1	ug/Kg	8270C
Dibenz(a,h)anthracene		11	5.1	ug/Kg	8270C
#2 Diesel (C10-C24)		5400	2600	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		26000	5200	mg/Kg	NWTPH-Dx
Lead		2.0	1.6	mg/Kg	6010B
Chromium		18	1.4	mg/Kg	6010B
580-11548-26	**DP28-7**				
Lead		3.3	1.9	mg/Kg	6010B
Chromium		34	1.6	mg/Kg	6010B
580-11548-27	**DP28-10**				
Naphthalene		84	20	ug/Kg	8270C
Benzo[a]anthracene		32	20	ug/Kg	8270C
Chrysene		24	20	ug/Kg	8270C
Benzo[b]fluoranthene		37	20	ug/Kg	8270C
Benzo[a]pyrene		29	20	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		29	20	ug/Kg	8270C
#2 Diesel (C10-C24)		820	99	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		6700	200	mg/Kg	NWTPH-Dx
Lead		11	6.0	mg/Kg	6010B
Mercury		0.12	0.081	mg/Kg	7471A
580-11548-28	**DP28-12**				
Motor Oil (>C24-C36)		330	250	mg/Kg	NWTPH-Dx

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-29	**DP29-2**				
Naphthalene		20	5.3	ug/Kg	8270C
2-Methylnaphthalene		11	5.3	ug/Kg	8270C
1-Methylnaphthalene		7.2	5.3	ug/Kg	8270C
Benzo[a]anthracene		27	5.3	ug/Kg	8270C
Chrysene		23	5.3	ug/Kg	8270C
Benzo[b]fluoranthene		27	5.3	ug/Kg	8270C
Benzo[k]fluoranthene		9.8	5.3	ug/Kg	8270C
Benzo[a]pyrene		25	5.3	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		17	5.3	ug/Kg	8270C
Motor Oil (>C24-C36)		83	52	mg/Kg	NWTPH-Dx
Lead		10	1.5	mg/Kg	6010B
Chromium		25	1.3	mg/Kg	6010B
Mercury		0.030	0.019	mg/Kg	7471A
580-11548-30	**DP29-7**				
Naphthalene		140	18	ug/Kg	8270C
Benzo[a]anthracene		74	18	ug/Kg	8270C
Chrysene		74	18	ug/Kg	8270C
Benzo[b]fluoranthene		90	18	ug/Kg	8270C
Benzo[k]fluoranthene		30	18	ug/Kg	8270C
Benzo[a]pyrene		66	18	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		32	18	ug/Kg	8270C
#2 Diesel (C10-C24)		88	87	mg/Kg	NWTPH-Dx
Lead		94	5.3	mg/Kg	6010B
Chromium		10	4.6	mg/Kg	6010B
580-11548-31	**DP29-10**				
#2 Diesel (C10-C24)		160	52	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		130	100	mg/Kg	NWTPH-Dx
Lead		21	3.0	mg/Kg	6010B
Chromium		35	2.6	mg/Kg	6010B
580-11548-34	**TP01-4**				
Benzo[a]anthracene		9.1	6.8	ug/Kg	8270C
Benzo[b]fluoranthene		13	6.8	ug/Kg	8270C
Benzo[a]pyrene		11	6.8	ug/Kg	8270C
#2 Diesel (C10-C24)		38	33	mg/Kg	NWTPH-Dx
Motor Oil (>C24-C36)		310	67	mg/Kg	NWTPH-Dx
Arsenic		7.1	4.0	mg/Kg	6010B
Lead		17	2.0	mg/Kg	6010B
Chromium		25	1.7	mg/Kg	6010B

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-35	**TP02-2**				
Benzo[a]anthracene		7.6	5.9	ug/Kg	8270C
Benzo[b]fluoranthene		10	5.9	ug/Kg	8270C
Benzo[a]pyrene		6.8	5.9	ug/Kg	8270C
Lead		3.3	1.8	mg/Kg	6010B
Chromium		38	1.6	mg/Kg	6010B
Mercury		0.034	0.022	mg/Kg	7471A
580-11548-36	**TP02-4**				
Chromium		20	1.3	mg/Kg	6010B
Mercury		0.025	0.020	mg/Kg	7471A
580-11548-37	**TP03-2**				
Toluene		100	80	ug/Kg	8260B
Arsenic		5.0	4.1	mg/Kg	6010B
Chromium		27	1.8	mg/Kg	6010B
580-11548-38	**TP03-4**				
Chromium		31	1.6	mg/Kg	6010B
580-11548-39	**DUP 1**				
Chromium		23	1.5	mg/Kg	6010B
580-11548-40	**DUP 2**				
2-Methylnaphthalene		9.1	6.3	ug/Kg	8270C
Benzo[a]anthracene		90	6.3	ug/Kg	8270C
Chrysene		99	6.3	ug/Kg	8270C
Benzo[b]fluoranthene		78	6.3	ug/Kg	8270C
Benzo[k]fluoranthene		27	6.3	ug/Kg	8270C
Benzo[a]pyrene		79	6.3	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		41	6.3	ug/Kg	8270C
Dibenz(a,h)anthracene		9.2	6.3	ug/Kg	8270C
Arsenic		4.5	3.7	mg/Kg	6010B
Lead		2.8	1.8	mg/Kg	6010B
Chromium		33	1.6	mg/Kg	6010B
Mercury		0.046	0.025	mg/Kg	7471A

EXECUTIVE SUMMARY - Detections

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-11548-41	**DUP 3**				
Benzo[a]anthracene		10	8.8	ug/Kg	8270C
Benzo[b]fluoranthene		12	8.8	ug/Kg	8270C
Benzo[k]fluoranthene		12	8.8	ug/Kg	8270C
Motor Oil (>C24-C36)		340	87	mg/Kg	NWTPH-Dx
Lead		7.9	2.7	mg/Kg	6010B
Chromium		29	2.3	mg/Kg	6010B
Mercury		0.049	0.031	mg/Kg	7471A
580-11548-42	**DUP 4**				
Arsenic		3.6	3.5	mg/Kg	6010B
Chromium		25	1.5	mg/Kg	6010B

METHOD SUMMARY

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds (GC/MS)	TAL TAC	SW846 8260B	
Closed System Purge and Trap	TAL TAC		SW846 5035
Semivolatile Organic Compounds (GC/MS SIM)	TAL TAC	SW846 8270C	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL TAC	SW846 8082	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Metals (ICP)	TAL TAC	SW846 6010B	
Preparation, Metals	TAL TAC		SW846 3050B
Chromium, Hexavalent	TAL TAC		SW846 7195
Mercury (CVAA)	TAL TAC	SW846 7471A	
Preparation, Mercury	TAL TAC		SW846 7471A
EPA 1613B Dioxin	TAL WSC	EPA 1613B	

Lab References:

TAL TAC = TestAmerica Tacoma

TAL WSC = TestAmerica West Sacramento

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-11548-1	DP17-2	Solid	10/09/2008 1315	10/10/2008 0940
580-11548-2	DP17-7	Solid	10/09/2008 1315	10/10/2008 0940
580-11548-3	DP17-10	Solid	10/09/2008 1315	10/10/2008 0940
580-11548-4	DP17-12	Solid	10/09/2008 1315	10/10/2008 0940
580-11548-5	DP18-2	Solid	10/09/2008 1430	10/10/2008 0940
580-11548-6	DP18-7	Solid	10/09/2008 1430	10/10/2008 0940
580-11548-7	DP18-10	Solid	10/09/2008 1430	10/10/2008 0940
580-11548-8	DP18-12	Solid	10/09/2008 1430	10/10/2008 0940
580-11548-9	DP19-2	Solid	10/09/2008 1530	10/10/2008 0940
580-11548-10	DP19-7	Solid	10/09/2008 1530	10/10/2008 0940
580-11548-11	DP19-10	Solid	10/09/2008 1530	10/10/2008 0940
580-11548-12	DP19-12	Solid	10/09/2008 1530	10/10/2008 0940
580-11548-13	DP25-2	Solid	10/09/2008 1410	10/10/2008 0940
580-11548-14	DP25-7	Solid	10/09/2008 1410	10/10/2008 0940
580-11548-15	DP25-10	Solid	10/09/2008 1410	10/10/2008 0940
580-11548-16	DP25-12	Solid	10/09/2008 1410	10/10/2008 0940
580-11548-17	DP26-2	Solid	10/09/2008 1045	10/10/2008 0940
580-11548-18	DP26-7	Solid	10/09/2008 1045	10/10/2008 0940
580-11548-19	DP26-10	Solid	10/09/2008 1045	10/10/2008 0940
580-11548-20	DP26-12	Solid	10/09/2008 1045	10/10/2008 0940
580-11548-21	DP27-2	Solid	10/09/2008 1015	10/10/2008 0940
580-11548-22	DP27-7	Solid	10/09/2008 1015	10/10/2008 0940
580-11548-23	DP27-10	Solid	10/09/2008 1015	10/10/2008 0940
580-11548-24	DP27-12	Solid	10/09/2008 1015	10/10/2008 0940
580-11548-25	DP28-2	Solid	10/09/2008 1130	10/10/2008 0940
580-11548-26	DP28-7	Solid	10/09/2008 1130	10/10/2008 0940
580-11548-27	DP28-10	Solid	10/09/2008 1130	10/10/2008 0940
580-11548-28	DP28-12	Solid	10/09/2008 1130	10/10/2008 0940
580-11548-29	DP29-2	Solid	10/09/2008 1200	10/10/2008 0940
580-11548-30	DP29-7	Solid	10/09/2008 1200	10/10/2008 0940
580-11548-31	DP29-10	Solid	10/09/2008 1200	10/10/2008 0940
580-11548-33	TP01-2	Solid	10/09/2008 1030	10/10/2008 0940
580-11548-34	TP01-4	Solid	10/09/2008 1030	10/10/2008 0940
580-11548-35	TP02-2	Solid	10/09/2008 1130	10/10/2008 0940
580-11548-36	TP02-4	Solid	10/09/2008 1130	10/10/2008 0940
580-11548-37	TP03-2	Solid	10/09/2008 1215	10/10/2008 0940
580-11548-38	TP03-4	Solid	10/09/2008 1215	10/10/2008 0940
580-11548-39	DUP 1	Solid	10/09/2008 1215	10/10/2008 0940
580-11548-40	DUP 2	Solid	10/09/2008 1215	10/10/2008 0940
580-11548-41	DUP 3	Solid	10/09/2008 1215	10/10/2008 0940
580-11548-42	DUP 4	Solid	10/09/2008 1215	10/10/2008 0940

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-2

Lab Sample ID: 580-11548-1
Client Matrix: Solid
% Moisture: 8.0
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/20/2008 2114
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016591.D
Initial Weight/Volume: 10.39 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		8.4
Toluene		ND		42
Ethylbenzene		ND		42
m-Xylene & p-Xylene		ND		42
o-Xylene		ND		42

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	99	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	104	85 - 120
Trifluorotoluene (Surr)	105	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-7

Lab Sample ID: 580-11548-2
Client Matrix: Solid
% Moisture: 70.8
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/20/2008 2219
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016594.D
Initial Weight/Volume: 11.84 g
Final Weight/Volume: 736 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		43
Toluene		ND		210
Ethylbenzene		ND		210
m-Xylene & p-Xylene		ND		210
o-Xylene		ND		210

Surrogate	%Rec		Acceptance Limits
Fluorobenzene (Surr)	99		75 - 125
Toluene-d8 (Surr)	103		85 - 115
Ethylbenzene-d10	102		75 - 125
4-Bromofluorobenzene (Surr)	104		85 - 120
Trifluorotoluene (Surr)	136	X I	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-10

Lab Sample ID: 580-11548-3
Client Matrix: Solid

% Moisture: 70.3

Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/20/2008 2241
Date Prepared: 10/14/2008 1550

Analysis Batch: 580-37283
Prep Batch: 580-37049

Instrument ID: SEA041
Lab File ID: Ar0016595.D
Initial Weight/Volume: 4.79 g
Final Weight/Volume: 534 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		75
Toluene		ND		370
Ethylbenzene		ND		370
m-Xylene & p-Xylene		ND		370
o-Xylene		ND		370

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	105	85 - 120
Trifluorotoluene (Surr)	106	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-12

Lab Sample ID: 580-11548-4
Client Matrix: Solid
% Moisture: 19.4
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/23/2008 1306
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37386
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016705.D
Initial Weight/Volume: 11.17 g
Final Weight/Volume: 485 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		11
Toluene		ND		54
Ethylbenzene		ND		54
m-Xylene & p-Xylene		ND		54
o-Xylene		ND		54

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	99	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	100	75 - 125
4-Bromofluorobenzene (Surr)	100	85 - 120
Trifluorotoluene (Surr)	92	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-2

Lab Sample ID: 580-11548-5
Client Matrix: Solid

% Moisture: 3.0

Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/20/2008 2324
Date Prepared: 10/14/2008 1550

Analysis Batch: 580-37283
Prep Batch: 580-37049

Instrument ID: SEA041
Lab File ID: Ar0016597.D
Initial Weight/Volume: 8.50 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		9.7
Toluene		ND		49
Ethylbenzene		ND		49
m-Xylene & p-Xylene		ND		49
o-Xylene		ND		49

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	103	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-7

Lab Sample ID: 580-11548-6
Client Matrix: Solid
% Moisture: 23.2
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/20/2008 2345
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016598.D
Initial Weight/Volume: 8.51 g
Final Weight/Volume: 478 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		15
Toluene		ND		73
Ethylbenzene		ND		73
m-Xylene & p-Xylene		ND		73
o-Xylene		ND		73

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	95	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-10

Lab Sample ID: 580-11548-7
Client Matrix: Solid
% Moisture: 27.2
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0007
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016599.D
Initial Weight/Volume: 11.94 g
Final Weight/Volume: 529 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		12
Toluene		ND		61
Ethylbenzene		ND		61
m-Xylene & p-Xylene		ND		61
o-Xylene		ND		61

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	104	85 - 120
Trifluorotoluene (Surr)	110	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-12

Lab Sample ID: 580-11548-8
Client Matrix: Solid

% Moisture: 71.8

Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0028
Date Prepared: 10/14/2008 1550

Analysis Batch: 580-37283
Prep Batch: 580-37049

Instrument ID: SEA041
Lab File ID: Ar0016600.D
Initial Weight/Volume: 5.24 g
Final Weight/Volume: 551 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		75
Toluene		ND		370
Ethylbenzene		ND		370
m-Xylene & p-Xylene		ND		370
o-Xylene		ND		370

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	106	85 - 120
Trifluorotoluene (Surr)	106	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-2

Lab Sample ID: 580-11548-9
Client Matrix: Solid

% Moisture: 14.7

Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0050
Date Prepared: 10/14/2008 1550

Analysis Batch: 580-37283
Prep Batch: 580-37049

Instrument ID: SEA041
Lab File ID: Ar0016601.D
Initial Weight/Volume: 10.87 g
Final Weight/Volume: 465 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		10
Toluene		ND		50
Ethylbenzene		ND		50
m-Xylene & p-Xylene		ND		50
o-Xylene		ND		50

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	107	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-7

Lab Sample ID: 580-11548-10
Client Matrix: Solid
% Moisture: 26.7
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0111
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016602.D
Initial Weight/Volume: 13.03 g
Final Weight/Volume: 541 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		11
Toluene		ND		57
Ethylbenzene		ND		57
m-Xylene & p-Xylene		ND		57
o-Xylene		ND		57

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	104	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	104	85 - 120
Trifluorotoluene (Surr)	101	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-10

Lab Sample ID: 580-11548-11
Client Matrix: Solid

% Moisture: 28.3

Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0133
Date Prepared: 10/14/2008 1550

Analysis Batch: 580-37283
Prep Batch: 580-37049

Instrument ID: SEA041
Lab File ID: Ar0016603.D
Initial Weight/Volume: 10.52 g
Final Weight/Volume: 518 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		14
Toluene		ND		69
Ethylbenzene		ND		69
m-Xylene & p-Xylene		ND		69
o-Xylene		ND		69

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	106	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-12

Lab Sample ID: 580-11548-12
Client Matrix: Solid
% Moisture: 21.1
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0154
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016604.D
Initial Weight/Volume: 10.87 g
Final Weight/Volume: 491 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		11
Toluene		ND		57
Ethylbenzene		ND		57
m-Xylene & p-Xylene		ND		57
o-Xylene		ND		57

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	104	85 - 120
Trifluorotoluene (Surr)	93	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-2

Lab Sample ID: 580-11548-13
Client Matrix: Solid
% Moisture: 7.0
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0216
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016605.D
Initial Weight/Volume: 9.93 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		8.7
Toluene		ND		43
Ethylbenzene		ND		43
m-Xylene & p-Xylene		ND		43
o-Xylene		ND		43

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	104	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	87	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-7

Lab Sample ID: 580-11548-14
Client Matrix: Solid
% Moisture: 23.9
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0237
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016606.D
Initial Weight/Volume: 9.99 g
Final Weight/Volume: 496 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		13
Toluene		ND		65
Ethylbenzene		ND		65
m-Xylene & p-Xylene		ND		65
o-Xylene		ND		65

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	93	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-10

Lab Sample ID: 580-11548-15
Client Matrix: Solid
% Moisture: 45.5
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0259
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016607.D
Initial Weight/Volume: 8.82 g
Final Weight/Volume: 559 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		23
Toluene		ND		120
Ethylbenzene		ND		120
m-Xylene & p-Xylene		ND		120
o-Xylene		ND		120

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	95	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-12

Lab Sample ID: 580-11548-16
Client Matrix: Solid
% Moisture: 58.9
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0320
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016608.D
Initial Weight/Volume: 6.90 g
Final Weight/Volume: 563 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		40
Toluene		ND		200
Ethylbenzene		ND		200
m-Xylene & p-Xylene		ND		200
o-Xylene		ND		200

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	105	85 - 120
Trifluorotoluene (Surr)	85	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-2

Lab Sample ID: 580-11548-17
Client Matrix: Solid
% Moisture: 8.4
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0342
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016609.D
Initial Weight/Volume: 10.11 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		8.6
Toluene		ND		43
Ethylbenzene		ND		43
m-Xylene & p-Xylene		ND		43
o-Xylene		ND		43

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	104	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	104	85 - 120
Trifluorotoluene (Surr)	96	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-7

Lab Sample ID: 580-11548-18
Client Matrix: Solid
% Moisture: 32.9
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0403
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016610.D
Initial Weight/Volume: 10.83 g
Final Weight/Volume: 543 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		15
Toluene		ND		75
Ethylbenzene		ND		75
m-Xylene & p-Xylene		ND		75
o-Xylene		ND		75

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	125	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-10

Lab Sample ID: 580-11548-19
Client Matrix: Solid
% Moisture: 48.5
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0425
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016611.D
Initial Weight/Volume: 5.34 g
Final Weight/Volume: 505 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		37
Toluene		ND		180
Ethylbenzene		ND		180
m-Xylene & p-Xylene		ND		180
o-Xylene		ND		180

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	87	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-12

Lab Sample ID: 580-11548-20
Client Matrix: Solid
% Moisture: 63.7
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 0446
Date Prepared: 10/14/2008 1550
Analysis Batch: 580-37283
Prep Batch: 580-37049
Instrument ID: SEA041
Lab File ID: Ar0016612.D
Initial Weight/Volume: 6.46 g
Final Weight/Volume: 563 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		48
Toluene		ND		240
Ethylbenzene		ND		240
m-Xylene & p-Xylene		ND		240
o-Xylene		ND		240

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	102	85 - 120
Trifluorotoluene (Surr)	91	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-2

Lab Sample ID: 580-11548-21
Client Matrix: Solid
% Moisture: 5.0
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1446
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016627.D
Initial Weight/Volume: 10.15 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		8.3
Toluene		ND		41
Ethylbenzene		ND		41
m-Xylene & p-Xylene		ND		41
o-Xylene		ND		41

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	97	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-7

Lab Sample ID: 580-11548-22
Client Matrix: Solid
% Moisture: 18.6
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1550
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016630.D
Initial Weight/Volume: 11.54 g
Final Weight/Volume: 488 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		10
Toluene		ND		52
Ethylbenzene		ND		52
m-Xylene & p-Xylene		ND		52
o-Xylene		ND		52

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	102	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	102	85 - 120
Trifluorotoluene (Surr)	108	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-10

Lab Sample ID: 580-11548-23
Client Matrix: Solid
% Moisture: 23.7
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1612
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016631.D
Initial Weight/Volume: 11.39 g
Final Weight/Volume: 509 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		12
Toluene		ND		59
Ethylbenzene		ND		59
m-Xylene & p-Xylene		ND		59
o-Xylene		ND		59

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	102	85 - 120
Trifluorotoluene (Surr)	101	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-12

Lab Sample ID: 580-11548-24
Client Matrix: Solid
% Moisture: 32.0
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1634
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016632.D
Initial Weight/Volume: 9.97 g
Final Weight/Volume: 528 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		16
Toluene		ND		78
Ethylbenzene		ND		78
m-Xylene & p-Xylene		ND		78
o-Xylene		ND		78

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	102	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-2

Lab Sample ID: 580-11548-25
Client Matrix: Solid
% Moisture: 6.7
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1655
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016633.D
Initial Weight/Volume: 10.04 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		8.5
Toluene		ND		43
Ethylbenzene		ND		43
m-Xylene & p-Xylene		ND		43
o-Xylene		ND		43

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	102	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	102	85 - 120
Trifluorotoluene (Surr)	99	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-7

Lab Sample ID: 580-11548-26
Client Matrix: Solid
% Moisture: 22.1
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1717
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050

Instrument ID: SEA041
Lab File ID: Ar0016634.D
Initial Weight/Volume: 10.54 g
Final Weight/Volume: 493 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		12
Toluene		ND		60
Ethylbenzene		ND		60
m-Xylene & p-Xylene		ND		60
o-Xylene		ND		60

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	106	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-10

Lab Sample ID: 580-11548-27
Client Matrix: Solid

% Moisture: 76.1

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1738
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050

Instrument ID: SEA041
Lab File ID: Ar0016635.D
Initial Weight/Volume: 5.52 g
Final Weight/Volume: 568 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		86
Toluene		ND		430
Ethylbenzene		ND		430
m-Xylene & p-Xylene		ND		430
o-Xylene		ND		430

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	109	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-12

Lab Sample ID: 580-11548-28
Client Matrix: Solid

% Moisture: 80.6

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1800
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050

Instrument ID: SEA041
Lab File ID: Ar0016636.D
Initial Weight/Volume: 5.91 g
Final Weight/Volume: 591 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		100
Toluene		ND		520
Ethylbenzene		ND		520
m-Xylene & p-Xylene		ND		520
o-Xylene		ND		520

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	102	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-2

Lab Sample ID: 580-11548-29
Client Matrix: Solid
% Moisture: 8.6
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1821
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016637.D
Initial Weight/Volume: 10.81 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		8.1
Toluene		ND		40
Ethylbenzene		ND		40
m-Xylene & p-Xylene		ND		40
o-Xylene		ND		40

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	97	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-7

Lab Sample ID: 580-11548-30
Client Matrix: Solid
% Moisture: 72.7
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1845
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016638.D
Initial Weight/Volume: 10.94 g
Final Weight/Volume: 719 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		48
Toluene		ND		240
Ethylbenzene		ND		240
m-Xylene & p-Xylene		ND		240
o-Xylene		ND		240

Surrogate	%Rec		Acceptance Limits
Fluorobenzene (Surr)	98		75 - 125
Toluene-d8 (Surr)	104		85 - 115
Ethylbenzene-d10	103		75 - 125
4-Bromofluorobenzene (Surr)	103		85 - 120
Trifluorotoluene (Surr)	145	X I	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-10

Lab Sample ID: 580-11548-31
Client Matrix: Solid
% Moisture: 52.8
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1907
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050

Instrument ID: SEA041
Lab File ID: Ar0016639.D
Initial Weight/Volume: 7.36 g
Final Weight/Volume: 556 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		32
Toluene		ND		160
Ethylbenzene		ND		160
m-Xylene & p-Xylene		ND		160
o-Xylene		ND		160

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	105	85 - 120
Trifluorotoluene (Surr)	98	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-2

Lab Sample ID: 580-11548-33
Client Matrix: Solid

% Moisture: 73.1

Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1929
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050

Instrument ID: SEA041
Lab File ID: Ar0016640.D
Initial Weight/Volume: 7.21 g
Final Weight/Volume: 611 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		63
Toluene		ND		320
Ethylbenzene		ND		320
m-Xylene & p-Xylene		ND		320
o-Xylene		ND		320

Surrogate	%Rec		Acceptance Limits
Fluorobenzene (Surr)	99		75 - 125
Toluene-d8 (Surr)	104		85 - 115
Ethylbenzene-d10	103		75 - 125
4-Bromofluorobenzene (Surr)	102		85 - 120
Trifluorotoluene (Surr)	43	X I	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-4

Lab Sample ID: 580-11548-34
Client Matrix: Solid

% Moisture: 28.6

Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 1950
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050

Instrument ID: SEA041
Lab File ID: Ar0016641.D
Initial Weight/Volume: 8.74 g
Final Weight/Volume: 501 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		16
Toluene		ND		80
Ethylbenzene		ND		80
m-Xylene & p-Xylene		ND		80
o-Xylene		ND		80

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	102	75 - 125
4-Bromofluorobenzene (Surr)	102	85 - 120
Trifluorotoluene (Surr)	100	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-2

Lab Sample ID: 580-11548-35
Client Matrix: Solid

% Moisture: 19.8

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 2012
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050

Instrument ID: SEA041
Lab File ID: Ar0016642.D
Initial Weight/Volume: 11.16 g
Final Weight/Volume: 489 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		11
Toluene		ND		55
Ethylbenzene		ND		55
m-Xylene & p-Xylene		ND		55
o-Xylene		ND		55

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	104	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	104	85 - 120
Trifluorotoluene (Surr)	115	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-4

Lab Sample ID: 580-11548-36
Client Matrix: Solid
% Moisture: 6.5
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 2033
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016643.D
Initial Weight/Volume: 10.96 g
Final Weight/Volume: 400 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		7.8
Toluene		ND		39
Ethylbenzene		ND		39
m-Xylene & p-Xylene		ND		39
o-Xylene		ND		39

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	96	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	99	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-2

Lab Sample ID: 580-11548-37
Client Matrix: Solid

% Moisture: 30.9

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 2055
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050

Instrument ID: SEA041
Lab File ID: Ar0016644.D
Initial Weight/Volume: 9.38 g
Final Weight/Volume: 516 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		16
Toluene		100		80
Ethylbenzene		ND		80
m-Xylene & p-Xylene		ND		80
o-Xylene		ND		80

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	99	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-4

Lab Sample ID: 580-11548-38
Client Matrix: Solid

% Moisture: 22.4

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 2116
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050

Instrument ID: SEA041
Lab File ID: Ar0016645.D
Initial Weight/Volume: 11.61 g
Final Weight/Volume: 502 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		11
Toluene		ND		56
Ethylbenzene		ND		56
m-Xylene & p-Xylene		ND		56
o-Xylene		ND		56

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	102	85 - 120
Trifluorotoluene (Surr)	110	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 1

Lab Sample ID: 580-11548-39
Client Matrix: Solid
% Moisture: 16.1
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 2138
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016646.D
Initial Weight/Volume: 10.31 g
Final Weight/Volume: 466 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		11
Toluene		ND		54
Ethylbenzene		ND		54
m-Xylene & p-Xylene		ND		54
o-Xylene		ND		54

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	106	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 2

Lab Sample ID: 580-11548-40
Client Matrix: Solid
% Moisture: 22.4
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/21/2008 2157
Date Prepared: 10/14/2008 1614
Analysis Batch: 580-37309
Prep Batch: 580-37050
Instrument ID: SEA041
Lab File ID: Ar0016647.D
Initial Weight/Volume: 12.02 g
Final Weight/Volume: 506 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		11
Toluene		ND		54
Ethylbenzene		ND		54
m-Xylene & p-Xylene		ND		54
o-Xylene		ND		54

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	97	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	103	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	106	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 3

Lab Sample ID: 580-11548-41
Client Matrix: Solid
% Moisture: 44.8
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/13/2008 1928
Date Prepared: 10/13/2008 1402
Analysis Batch: 580-37078
Prep Batch: 580-36974
Instrument ID: SEA041
Lab File ID: Ar0016433.D
Initial Weight/Volume: 13.51 g
Final Weight/Volume: 643 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		17
Toluene		ND		86
Ethylbenzene		ND		86
m-Xylene & p-Xylene		ND		86
o-Xylene		ND		86

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	102	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	101	85 - 120
Trifluorotoluene (Surr)	117	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 4

Lab Sample ID: 580-11548-42
Client Matrix: Solid
% Moisture: 20.9
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5035-Medium
Dilution: 1.0
Date Analyzed: 10/14/2008 1340
Date Prepared: 10/13/2008 1425
Analysis Batch: 580-37059
Prep Batch: 580-36974
Instrument ID: SEA041
Lab File ID: Ar0016455.D
Initial Weight/Volume: 9.60 g
Final Weight/Volume: 481 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		13
Toluene		ND		63
Ethylbenzene		ND		63
m-Xylene & p-Xylene		ND		63
o-Xylene		ND		63

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	99	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	100	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	103	75 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-2

Lab Sample ID: 580-11548-1
Client Matrix: Solid
% Moisture: 8.0
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1458
Date Prepared: 10/20/2008 1333
Analysis Batch: 580-37617
Prep Batch: 580-37242
Instrument ID: SEA040
Lab File ID: ak018372.D
Initial Weight/Volume: 10.6376 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		11		5.1
2-Methylnaphthalene		19		5.1
1-Methylnaphthalene		14		5.1
Benzo[a]anthracene		13		5.1
Chrysene		31		5.1
Benzo[b]fluoranthene		18		5.1
Benzo[k]fluoranthene		5.4		5.1
Benzo[a]pyrene		17		5.1
Indeno[1,2,3-cd]pyrene		14		5.1
Dibenz(a,h)anthracene		ND		5.1

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	91	38 - 141
2-Fluorobiphenyl	107	42 - 140
Terphenyl-d14	107	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-7

Lab Sample ID: 580-11548-2
Client Matrix: Solid

% Moisture: 70.8

Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1601
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018375.D
Initial Weight/Volume: 10.5428 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		330		16
2-Methylnaphthalene		48		16
1-Methylnaphthalene		22		16
Benzo[a]anthracene		44		16
Chrysene		41		16
Benzo[b]fluoranthene		45		16
Benzo[k]fluoranthene		ND		16
Benzo[a]pyrene		35		16
Indeno[1,2,3-cd]pyrene		22		16
Dibenz(a,h)anthracene		ND		16

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	81	38 - 141
2-Fluorobiphenyl	105	42 - 140
Terphenyl-d14	108	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-10

Lab Sample ID: 580-11548-3
Client Matrix: Solid

% Moisture: 70.3

Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1622
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018376.D
Initial Weight/Volume: 10.5458 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		16
2-Methylnaphthalene		ND		16
1-Methylnaphthalene		ND		16
Benzo[a]anthracene		22		16
Chrysene		ND		16
Benzo[b]fluoranthene		ND		16
Benzo[k]fluoranthene		ND		16
Benzo[a]pyrene		ND		16
Indeno[1,2,3-cd]pyrene		ND		16
Dibenz(a,h)anthracene		ND		16

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	88	38 - 141
2-Fluorobiphenyl	109	42 - 140
Terphenyl-d14	97	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-12

Lab Sample ID: 580-11548-4
Client Matrix: Solid

% Moisture: 19.4

Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1643
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018377.D
Initial Weight/Volume: 10.1236 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.1
2-Methylnaphthalene		9.8		6.1
1-Methylnaphthalene		6.6		6.1
Benzo[a]anthracene		ND		6.1
Chrysene		55		6.1
Benzo[b]fluoranthene		13		6.1
Benzo[k]fluoranthene		ND		6.1
Benzo[a]pyrene		9.1		6.1
Indeno[1,2,3-cd]pyrene		ND		6.1
Dibenz(a,h)anthracene		ND		6.1

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	94	38 - 141
2-Fluorobiphenyl	109	42 - 140
Terphenyl-d14	105	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-2

Lab Sample ID: 580-11548-5
Client Matrix: Solid

% Moisture: 3.0

Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1704
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018378.D
Initial Weight/Volume: 10.0048 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.2
2-Methylnaphthalene		ND		5.2
1-Methylnaphthalene		ND		5.2
Benzo[a]anthracene		ND		5.2
Chrysene		ND		5.2
Benzo[b]fluoranthene		ND		5.2
Benzo[k]fluoranthene		ND		5.2
Benzo[a]pyrene		ND		5.2
Indeno[1,2,3-cd]pyrene		ND		5.2
Dibenz(a,h)anthracene		ND		5.2

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	110	42 - 140
Terphenyl-d14	116	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-7

Lab Sample ID: 580-11548-6
Client Matrix: Solid

% Moisture: 23.2

Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1725
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018379.D
Initial Weight/Volume: 10.1225 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.4
2-Methylnaphthalene		ND		6.4
1-Methylnaphthalene		ND		6.4
Benzo[a]anthracene		ND		6.4
Chrysene		ND		6.4
Benzo[b]fluoranthene		ND		6.4
Benzo[k]fluoranthene		ND		6.4
Benzo[a]pyrene		ND		6.4
Indeno[1,2,3-cd]pyrene		ND		6.4
Dibenz(a,h)anthracene		ND		6.4

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	91	38 - 141
2-Fluorobiphenyl	107	42 - 140
Terphenyl-d14	100	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-10

Lab Sample ID: 580-11548-7
Client Matrix: Solid
% Moisture: 27.2
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1746
Date Prepared: 10/20/2008 1333
Analysis Batch: 580-37617
Prep Batch: 580-37242
Instrument ID: SEA040
Lab File ID: ak018380.D
Initial Weight/Volume: 10.6609 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.4
2-Methylnaphthalene		ND		6.4
1-Methylnaphthalene		ND		6.4
Benzo[a]anthracene		ND		6.4
Chrysene		ND		6.4
Benzo[b]fluoranthene		ND		6.4
Benzo[k]fluoranthene		ND		6.4
Benzo[a]pyrene		ND		6.4
Indeno[1,2,3-cd]pyrene		ND		6.4
Dibenz(a,h)anthracene		ND		6.4

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	115	42 - 140
Terphenyl-d14	115	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-12

Lab Sample ID: 580-11548-8
Client Matrix: Solid

% Moisture: 71.8

Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1807
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018381.D
Initial Weight/Volume: 10.2289 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		56		17
2-Methylnaphthalene		ND		17
1-Methylnaphthalene		ND		17
Benzo[a]anthracene		34		17
Chrysene		36		17
Benzo[b]fluoranthene		47		17
Benzo[k]fluoranthene		ND		17
Benzo[a]pyrene		33		17
Indeno[1,2,3-cd]pyrene		20		17
Dibenz(a,h)anthracene		ND		17

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	100	38 - 141
2-Fluorobiphenyl	118	42 - 140
Terphenyl-d14	119	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-2

Lab Sample ID: 580-11548-9
Client Matrix: Solid

% Moisture: 14.7

Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1828
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018382.D
Initial Weight/Volume: 10.7257 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		25		5.5
2-Methylnaphthalene		ND		5.5
1-Methylnaphthalene		ND		5.5
Benzo[a]anthracene		ND		5.5
Chrysene		ND		5.5
Benzo[b]fluoranthene		ND		5.5
Benzo[k]fluoranthene		ND		5.5
Benzo[a]pyrene		ND		5.5
Indeno[1,2,3-cd]pyrene		ND		5.5
Dibenz(a,h)anthracene		ND		5.5

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	118	42 - 140
Terphenyl-d14	105	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-7

Lab Sample ID: 580-11548-10
Client Matrix: Solid
% Moisture: 26.7
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1849
Date Prepared: 10/20/2008 1333
Analysis Batch: 580-37617
Prep Batch: 580-37242
Instrument ID: SEA040
Lab File ID: ak018383.D
Initial Weight/Volume: 10.6159 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.4
2-Methylnaphthalene		ND		6.4
1-Methylnaphthalene		ND		6.4
Benzo[a]anthracene		ND		6.4
Chrysene		ND		6.4
Benzo[b]fluoranthene		ND		6.4
Benzo[k]fluoranthene		ND		6.4
Benzo[a]pyrene		ND		6.4
Indeno[1,2,3-cd]pyrene		ND		6.4
Dibenz(a,h)anthracene		ND		6.4

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	118	42 - 140
Terphenyl-d14	117	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-10

Lab Sample ID: 580-11548-11
Client Matrix: Solid

% Moisture: 28.3

Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1910
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018384.D
Initial Weight/Volume: 10.5295 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.6
2-Methylnaphthalene		ND		6.6
1-Methylnaphthalene		ND		6.6
Benzo[a]anthracene		ND		6.6
Chrysene		ND		6.6
Benzo[b]fluoranthene		ND		6.6
Benzo[k]fluoranthene		ND		6.6
Benzo[a]pyrene		ND		6.6
Indeno[1,2,3-cd]pyrene		ND		6.6
Dibenz(a,h)anthracene		ND		6.6

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	99	38 - 141
2-Fluorobiphenyl	118	42 - 140
Terphenyl-d14	104	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-12

Lab Sample ID: 580-11548-12
Client Matrix: Solid
% Moisture: 21.1
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 1931
Date Prepared: 10/20/2008 1333
Analysis Batch: 580-37617
Prep Batch: 580-37242
Instrument ID: SEA040
Lab File ID: ak018385.D
Initial Weight/Volume: 10.0221 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.3
2-Methylnaphthalene		ND		6.3
1-Methylnaphthalene		ND		6.3
Benzo[a]anthracene		ND		6.3
Chrysene		ND		6.3
Benzo[b]fluoranthene		ND		6.3
Benzo[k]fluoranthene		ND		6.3
Benzo[a]pyrene		ND		6.3
Indeno[1,2,3-cd]pyrene		ND		6.3
Dibenz(a,h)anthracene		ND		6.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	99	38 - 141
2-Fluorobiphenyl	121	42 - 140
Terphenyl-d14	121	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-2

Lab Sample ID: 580-11548-13
Client Matrix: Solid

% Moisture: 7.0

Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1354
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018397.D
Initial Weight/Volume: 10.6170 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.1
2-Methylnaphthalene		ND		5.1
1-Methylnaphthalene		ND		5.1
Benzo[a]anthracene		ND		5.1
Chrysene		ND		5.1
Benzo[b]fluoranthene		ND		5.1
Benzo[k]fluoranthene		ND		5.1
Benzo[a]pyrene		ND		5.1
Indeno[1,2,3-cd]pyrene		ND		5.1
Dibenz(a,h)anthracene		ND		5.1

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	97	38 - 141
2-Fluorobiphenyl	111	42 - 140
Terphenyl-d14	115	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-7

Lab Sample ID: 580-11548-14
Client Matrix: Solid

% Moisture: 23.9

Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 2012
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018387.D
Initial Weight/Volume: 10.6869 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.1
2-Methylnaphthalene		ND		6.1
1-Methylnaphthalene		ND		6.1
Benzo[a]anthracene		ND		6.1
Chrysene		ND		6.1
Benzo[b]fluoranthene		ND		6.1
Benzo[k]fluoranthene		ND		6.1
Benzo[a]pyrene		ND		6.1
Indeno[1,2,3-cd]pyrene		ND		6.1
Dibenz(a,h)anthracene		ND		6.1

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	113	42 - 140
Terphenyl-d14	104	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-10

Lab Sample ID: 580-11548-15
Client Matrix: Solid

% Moisture: 45.5

Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 2033
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018388.D
Initial Weight/Volume: 10.7105 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		8.6
2-Methylnaphthalene		ND		8.6
1-Methylnaphthalene		ND		8.6
Benzo[a]anthracene		66		8.6
Chrysene		82		8.6
Benzo[b]fluoranthene		110		8.6
Benzo[k]fluoranthene		110		8.6
Benzo[a]pyrene		71		8.6
Indeno[1,2,3-cd]pyrene		45		8.6
Dibenz(a,h)anthracene		ND		8.6

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	100	38 - 141
2-Fluorobiphenyl	116	42 - 140
Terphenyl-d14	105	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-12

Lab Sample ID: 580-11548-16
Client Matrix: Solid

% Moisture: 58.9

Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 2054
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018389.D
Initial Weight/Volume: 10.4006 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		12
2-Methylnaphthalene		ND		12
1-Methylnaphthalene		ND		12
Benzo[a]anthracene		17		12
Chrysene		ND		12
Benzo[b]fluoranthene		18		12
Benzo[k]fluoranthene		ND		12
Benzo[a]pyrene		17		12
Indeno[1,2,3-cd]pyrene		16		12
Dibenz(a,h)anthracene		ND		12

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	91	38 - 141
2-Fluorobiphenyl	115	42 - 140
Terphenyl-d14	99	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-2

Lab Sample ID: 580-11548-17
Client Matrix: Solid

% Moisture: 8.4

Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1415
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018398.D
Initial Weight/Volume: 10.3193 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.3
2-Methylnaphthalene		ND		5.3
1-Methylnaphthalene		ND		5.3
Benzo[a]anthracene		23		5.3
Chrysene		26		5.3
Benzo[b]fluoranthene		31		5.3
Benzo[k]fluoranthene		8.0		5.3
Benzo[a]pyrene		21		5.3
Indeno[1,2,3-cd]pyrene		13		5.3
Dibenz(a,h)anthracene		ND		5.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	102	38 - 141
2-Fluorobiphenyl	119	42 - 140
Terphenyl-d14	103	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-7

Lab Sample ID: 580-11548-18
Client Matrix: Solid
% Moisture: 32.9
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1436
Date Prepared: 10/20/2008 1333
Analysis Batch: 580-37617
Prep Batch: 580-37242
Instrument ID: SEA040
Lab File ID: ak018399.D
Initial Weight/Volume: 10.0889 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		7.4
2-Methylnaphthalene		ND		7.4
1-Methylnaphthalene		ND		7.4
Benzo[a]anthracene		14		7.4
Chrysene		10		7.4
Benzo[b]fluoranthene		12		7.4
Benzo[k]fluoranthene		ND		7.4
Benzo[a]pyrene		12		7.4
Indeno[1,2,3-cd]pyrene		ND		7.4
Dibenz(a,h)anthracene		ND		7.4

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	102	38 - 141
2-Fluorobiphenyl	119	42 - 140
Terphenyl-d14	111	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-10

Lab Sample ID: 580-11548-19
Client Matrix: Solid

% Moisture: 48.5

Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1456
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018400.D
Initial Weight/Volume: 10.3513 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		39		9.4
2-Methylnaphthalene		ND		9.4
1-Methylnaphthalene		ND		9.4
Benzo[a]anthracene		13		9.4
Chrysene		36		9.4
Benzo[b]fluoranthene		14		9.4
Benzo[k]fluoranthene		ND		9.4
Benzo[a]pyrene		ND		9.4
Indeno[1,2,3-cd]pyrene		ND		9.4
Dibenz(a,h)anthracene		ND		9.4

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	99	38 - 141
2-Fluorobiphenyl	117	42 - 140
Terphenyl-d14	119	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-12

Lab Sample ID: 580-11548-20
Client Matrix: Solid

% Moisture: 63.7

Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/23/2008 2217
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242

Instrument ID: SEA040
Lab File ID: ak018393.D
Initial Weight/Volume: 10.3421 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		94		13
2-Methylnaphthalene		ND		13
1-Methylnaphthalene		ND		13
Benzo[a]anthracene		16		13
Chrysene		ND		13
Benzo[b]fluoranthene		15		13
Benzo[k]fluoranthene		15		13
Benzo[a]pyrene		ND		13
Indeno[1,2,3-cd]pyrene		ND		13
Dibenz(a,h)anthracene		ND		13

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	89	38 - 141
2-Fluorobiphenyl	109	42 - 140
Terphenyl-d14	106	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-2

Lab Sample ID: 580-11548-21
Client Matrix: Solid
% Moisture: 5.0
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1623
Date Prepared: 10/21/2008 0953
Analysis Batch: 580-37622
Prep Batch: 580-37258
Instrument ID: SEA040
Lab File ID: ak018403.D
Initial Weight/Volume: 10.0145 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		19		5.3
2-Methylnaphthalene		36		5.3
1-Methylnaphthalene		33		5.3
Benzo[a]anthracene		250		5.3
Chrysene		250		5.3
Benzo[b]fluoranthene		190		5.3
Benzo[k]fluoranthene		78		5.3
Benzo[a]pyrene		210		5.3
Indeno[1,2,3-cd]pyrene		91		5.3
Dibenz(a,h)anthracene		9.1		5.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	107	38 - 141
2-Fluorobiphenyl	123	42 - 140
Terphenyl-d14	109	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-7

Lab Sample ID: 580-11548-22
Client Matrix: Solid
% Moisture: 18.6
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1644
Date Prepared: 10/21/2008 0953
Analysis Batch: 580-37622
Prep Batch: 580-37258
Instrument ID: SEA040
Lab File ID: ak018404.D
Initial Weight/Volume: 10.5749 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.8
2-Methylnaphthalene		ND		5.8
1-Methylnaphthalene		ND		5.8
Benzo[a]anthracene		ND		5.8
Chrysene		ND		5.8
Benzo[b]fluoranthene		ND		5.8
Benzo[k]fluoranthene		ND		5.8
Benzo[a]pyrene		ND		5.8
Indeno[1,2,3-cd]pyrene		ND		5.8
Dibenz(a,h)anthracene		ND		5.8

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	104	38 - 141
2-Fluorobiphenyl	120	42 - 140
Terphenyl-d14	120	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-10

Lab Sample ID: 580-11548-23
Client Matrix: Solid

% Moisture: 23.7

Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1705
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018405.D
Initial Weight/Volume: 10.3919 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.3
2-Methylnaphthalene		ND		6.3
1-Methylnaphthalene		ND		6.3
Benzo[a]anthracene		ND		6.3
Chrysene		ND		6.3
Benzo[b]fluoranthene		ND		6.3
Benzo[k]fluoranthene		ND		6.3
Benzo[a]pyrene		ND		6.3
Indeno[1,2,3-cd]pyrene		ND		6.3
Dibenz(a,h)anthracene		ND		6.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	99	38 - 141
2-Fluorobiphenyl	117	42 - 140
Terphenyl-d14	116	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-12

Lab Sample ID: 580-11548-24
Client Matrix: Solid
% Moisture: 32.0
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1726
Date Prepared: 10/21/2008 0953
Analysis Batch: 580-37622
Prep Batch: 580-37258
Instrument ID: SEA040
Lab File ID: ak018406.D
Initial Weight/Volume: 10.0628 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		7.3
2-Methylnaphthalene		ND		7.3
1-Methylnaphthalene		ND		7.3
Benzo[a]anthracene		9.8		7.3
Chrysene		ND		7.3
Benzo[b]fluoranthene		7.7		7.3
Benzo[k]fluoranthene		ND		7.3
Benzo[a]pyrene		8.1		7.3
Indeno[1,2,3-cd]pyrene		ND		7.3
Dibenz(a,h)anthracene		ND		7.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	99	38 - 141
2-Fluorobiphenyl	119	42 - 140
Terphenyl-d14	120	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-2

Lab Sample ID: 580-11548-25
Client Matrix: Solid

% Moisture: 6.7

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1747
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018407.D
Initial Weight/Volume: 10.4582 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.1
2-Methylnaphthalene		13		5.1
1-Methylnaphthalene		8.9		5.1
Benzo[a]anthracene		18		5.1
Chrysene		170		5.1
Benzo[b]fluoranthene		50		5.1
Benzo[k]fluoranthene		ND		5.1
Benzo[a]pyrene		24		5.1
Indeno[1,2,3-cd]pyrene		17		5.1
Dibenz(a,h)anthracene		11		5.1

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	95	38 - 141
2-Fluorobiphenyl	114	42 - 140
Terphenyl-d14	110	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-7

Lab Sample ID: 580-11548-26
Client Matrix: Solid

% Moisture: 22.1

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1136
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018432.D
Initial Weight/Volume: 10.2139 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.3
2-Methylnaphthalene		ND		6.3
1-Methylnaphthalene		ND		6.3
Benzo[a]anthracene		ND		6.3
Chrysene		ND		6.3
Benzo[b]fluoranthene		ND		6.3
Benzo[k]fluoranthene		ND		6.3
Benzo[a]pyrene		ND		6.3
Indeno[1,2,3-cd]pyrene		ND		6.3
Dibenz(a,h)anthracene		ND		6.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	101	38 - 141
2-Fluorobiphenyl	126	42 - 140
Terphenyl-d14	121	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-10

Lab Sample ID: 580-11548-27
Client Matrix: Solid

% Moisture: 76.1

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1910
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018411.D
Initial Weight/Volume: 10.3691 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		84		20
2-Methylnaphthalene		ND		20
1-Methylnaphthalene		ND		20
Benzo[a]anthracene		32		20
Chrysene		24		20
Benzo[b]fluoranthene		37		20
Benzo[k]fluoranthene		ND		20
Benzo[a]pyrene		29		20
Indeno[1,2,3-cd]pyrene		29		20
Dibenz(a,h)anthracene		ND		20

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	93	38 - 141
2-Fluorobiphenyl	121	42 - 140
Terphenyl-d14	114	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-12

Lab Sample ID: 580-11548-28
Client Matrix: Solid

% Moisture: 80.6

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1157
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018433.D
Initial Weight/Volume: 10.5077 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		25
2-Methylnaphthalene		ND		25
1-Methylnaphthalene		ND		25
Benzo[a]anthracene		ND		25
Chrysene		ND		25
Benzo[b]fluoranthene		ND		25
Benzo[k]fluoranthene		ND		25
Benzo[a]pyrene		ND		25
Indeno[1,2,3-cd]pyrene		ND		25
Dibenz(a,h)anthracene		ND		25

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	118	42 - 140
Terphenyl-d14	121	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-2

Lab Sample ID: 580-11548-29
Client Matrix: Solid
% Moisture: 8.6
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1217
Date Prepared: 10/21/2008 0953
Analysis Batch: 580-37622
Prep Batch: 580-37258
Instrument ID: SEA040
Lab File ID: ak018434.D
Initial Weight/Volume: 10.3558 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		20		5.3
2-Methylnaphthalene		11		5.3
1-Methylnaphthalene		7.2		5.3
Benzo[a]anthracene		27		5.3
Chrysene		23		5.3
Benzo[b]fluoranthene		27		5.3
Benzo[k]fluoranthene		9.8		5.3
Benzo[a]pyrene		25		5.3
Indeno[1,2,3-cd]pyrene		17		5.3
Dibenz(a,h)anthracene		ND		5.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	122	42 - 140
Terphenyl-d14	124	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-7

Lab Sample ID: 580-11548-30
Client Matrix: Solid

% Moisture: 72.7

Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 2013
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018414.D
Initial Weight/Volume: 10.3649 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		140		18
2-Methylnaphthalene		ND		18
1-Methylnaphthalene		ND		18
Benzo[a]anthracene		74		18
Chrysene		74		18
Benzo[b]fluoranthene		90		18
Benzo[k]fluoranthene		30		18
Benzo[a]pyrene		66		18
Indeno[1,2,3-cd]pyrene		32		18
Dibenz(a,h)anthracene		ND		18

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	81	38 - 141
2-Fluorobiphenyl	119	42 - 140
Terphenyl-d14	109	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-10

Lab Sample ID: 580-11548-31
Client Matrix: Solid
% Moisture: 52.8
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1238
Date Prepared: 10/21/2008 0953
Analysis Batch: 580-37622
Prep Batch: 580-37258
Instrument ID: SEA040
Lab File ID: ak018435.D
Initial Weight/Volume: 10.4509 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		10
2-Methylnaphthalene		ND		10
1-Methylnaphthalene		ND		10
Benzo[a]anthracene		ND		10
Chrysene		ND		10
Benzo[b]fluoranthene		ND		10
Benzo[k]fluoranthene		ND		10
Benzo[a]pyrene		ND		10
Indeno[1,2,3-cd]pyrene		ND		10
Dibenz(a,h)anthracene		ND		10

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	117	42 - 140
Terphenyl-d14	112	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-2

Lab Sample ID: 580-11548-33
Client Matrix: Solid

% Moisture: 73.1

Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 2055
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018416.D
Initial Weight/Volume: 10.3722 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		18
2-Methylnaphthalene		ND		18
1-Methylnaphthalene		ND		18
Benzo[a]anthracene		ND		18
Chrysene		ND		18
Benzo[b]fluoranthene		ND		18
Benzo[k]fluoranthene		ND		18
Benzo[a]pyrene		ND		18
Indeno[1,2,3-cd]pyrene		ND		18
Dibenz(a,h)anthracene		ND		18

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	88	38 - 141
2-Fluorobiphenyl	118	42 - 140
Terphenyl-d14	109	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-4

Lab Sample ID: 580-11548-34
Client Matrix: Solid

% Moisture: 28.6

Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 2116
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018417.D
Initial Weight/Volume: 10.2689 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.8
2-Methylnaphthalene		ND		6.8
1-Methylnaphthalene		ND		6.8
Benzo[a]anthracene		9.1		6.8
Chrysene		ND		6.8
Benzo[b]fluoranthene		13		6.8
Benzo[k]fluoranthene		ND		6.8
Benzo[a]pyrene		11		6.8
Indeno[1,2,3-cd]pyrene		ND		6.8
Dibenz(a,h)anthracene		ND		6.8

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	101	38 - 141
2-Fluorobiphenyl	125	42 - 140
Terphenyl-d14	118	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-2

Lab Sample ID: 580-11548-35
Client Matrix: Solid

% Moisture: 19.8

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1320
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018437.D
Initial Weight/Volume: 10.5810 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.9
2-Methylnaphthalene		ND		5.9
1-Methylnaphthalene		ND		5.9
Benzo[a]anthracene		7.6		5.9
Chrysene		ND		5.9
Benzo[b]fluoranthene		10		5.9
Benzo[k]fluoranthene		ND		5.9
Benzo[a]pyrene		6.8		5.9
Indeno[1,2,3-cd]pyrene		ND		5.9
Dibenz(a,h)anthracene		ND		5.9

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	99	38 - 141
2-Fluorobiphenyl	123	42 - 140
Terphenyl-d14	126	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-4

Lab Sample ID: 580-11548-36
Client Matrix: Solid

% Moisture: 6.5

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 2157
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018419.D
Initial Weight/Volume: 10.3646 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.2
2-Methylnaphthalene		ND		5.2
1-Methylnaphthalene		ND		5.2
Benzo[a]anthracene		ND		5.2
Chrysene		ND		5.2
Benzo[b]fluoranthene		ND		5.2
Benzo[k]fluoranthene		ND		5.2
Benzo[a]pyrene		ND		5.2
Indeno[1,2,3-cd]pyrene		ND		5.2
Dibenz(a,h)anthracene		ND		5.2

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	94	38 - 141
2-Fluorobiphenyl	121	42 - 140
Terphenyl-d14	117	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-2

Lab Sample ID: 580-11548-37
Client Matrix: Solid

% Moisture: 30.9

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 2218
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018420.D
Initial Weight/Volume: 10.6533 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.8
2-Methylnaphthalene		ND		6.8
1-Methylnaphthalene		ND		6.8
Benzo[a]anthracene		ND		6.8
Chrysene		ND		6.8
Benzo[b]fluoranthene		ND		6.8
Benzo[k]fluoranthene		ND		6.8
Benzo[a]pyrene		ND		6.8
Indeno[1,2,3-cd]pyrene		ND		6.8
Dibenz(a,h)anthracene		ND		6.8

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	97	38 - 141
2-Fluorobiphenyl	120	42 - 140
Terphenyl-d14	114	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-4

Lab Sample ID: 580-11548-38
Client Matrix: Solid

% Moisture: 22.4

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 2239
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018421.D
Initial Weight/Volume: 10.1026 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.4
2-Methylnaphthalene		ND		6.4
1-Methylnaphthalene		ND		6.4
Benzo[a]anthracene		ND		6.4
Chrysene		ND		6.4
Benzo[b]fluoranthene		ND		6.4
Benzo[k]fluoranthene		ND		6.4
Benzo[a]pyrene		ND		6.4
Indeno[1,2,3-cd]pyrene		ND		6.4
Dibenz(a,h)anthracene		ND		6.4

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	97	38 - 141
2-Fluorobiphenyl	121	42 - 140
Terphenyl-d14	112	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 1

Lab Sample ID: 580-11548-39
Client Matrix: Solid

% Moisture: 16.1

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1341
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018438.D
Initial Weight/Volume: 10.5314 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.7
2-Methylnaphthalene		ND		5.7
1-Methylnaphthalene		ND		5.7
Benzo[a]anthracene		ND		5.7
Chrysene		ND		5.7
Benzo[b]fluoranthene		ND		5.7
Benzo[k]fluoranthene		ND		5.7
Benzo[a]pyrene		ND		5.7
Indeno[1,2,3-cd]pyrene		ND		5.7
Dibenz(a,h)anthracene		ND		5.7

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	103	38 - 141
2-Fluorobiphenyl	126	42 - 140
Terphenyl-d14	121	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 2

Lab Sample ID: 580-11548-40
Client Matrix: Solid

% Moisture: 22.4

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1402
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018439.D
Initial Weight/Volume: 10.2250 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.3
2-Methylnaphthalene		9.1		6.3
1-Methylnaphthalene		ND		6.3
Benzo[a]anthracene		90		6.3
Chrysene		99		6.3
Benzo[b]fluoranthene		78		6.3
Benzo[k]fluoranthene		27		6.3
Benzo[a]pyrene		79		6.3
Indeno[1,2,3-cd]pyrene		41		6.3
Dibenz(a,h)anthracene		9.2		6.3

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	100	38 - 141
2-Fluorobiphenyl	120	42 - 140
Terphenyl-d14	112	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 3

Lab Sample ID: 580-11548-41
Client Matrix: Solid

% Moisture: 44.8

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 2341
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258

Instrument ID: SEA040
Lab File ID: ak018424.D
Initial Weight/Volume: 10.2521 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		8.8
2-Methylnaphthalene		ND		8.8
1-Methylnaphthalene		ND		8.8
Benzo[a]anthracene		10		8.8
Chrysene		ND		8.8
Benzo[b]fluoranthene		12		8.8
Benzo[k]fluoranthene		12		8.8
Benzo[a]pyrene		ND		8.8
Indeno[1,2,3-cd]pyrene		ND		8.8
Dibenz(a,h)anthracene		ND		8.8

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	120	42 - 140
Terphenyl-d14	112	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 4

Lab Sample ID: 580-11548-42
Client Matrix: Solid

% Moisture: 20.9

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/30/2008 1105
Date Prepared: 10/22/2008 1305

Analysis Batch: 580-37624
Prep Batch: 580-37325

Instrument ID: SEA040
Lab File ID: ak018460.D
Initial Weight/Volume: 10.4994 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.0
2-Methylnaphthalene		ND		6.0
1-Methylnaphthalene		ND		6.0
Benzo[a]anthracene		ND		6.0
Chrysene		ND		6.0
Benzo[b]fluoranthene		ND		6.0
Benzo[k]fluoranthene		ND		6.0
Benzo[a]pyrene		ND		6.0
Indeno[1,2,3-cd]pyrene		ND		6.0
Dibenz(a,h)anthracene		ND		6.0

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	78	38 - 141
2-Fluorobiphenyl	87	42 - 140
Terphenyl-d14	85	42 - 151

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-2

Lab Sample ID: 580-11548-1
Client Matrix: Solid
% Moisture: 8.0
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0204
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19760.D
Initial Weight/Volume: 10.0578 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.011
PCB-1221		ND		0.011
PCB-1232		ND		0.011
PCB-1242		ND		0.011
PCB-1248		ND		0.011
PCB-1254		ND		0.011
PCB-1260		ND		0.011

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	91	45 - 155
DCB Decachlorobiphenyl	80	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-7

Lab Sample ID: 580-11548-2
Client Matrix: Solid
% Moisture: 70.8
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/25/2008 0012
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19816.D
Initial Weight/Volume: 10.3277 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.033
PCB-1221		ND		0.033
PCB-1232		ND		0.033
PCB-1242		ND		0.033
PCB-1248		ND		0.033
PCB-1254		ND		0.033
PCB-1260		ND		0.033

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	49		45 - 155
DCB Decachlorobiphenyl	37	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-10

Lab Sample ID: 580-11548-3
Client Matrix: Solid

% Moisture: 70.3

Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0251
Date Prepared: 10/21/2008 0807

Analysis Batch: 580-37466
Prep Batch: 580-37248

Instrument ID: SEA034
Lab File ID: PCB19762.D
Initial Weight/Volume: 10.3643 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.032
PCB-1221		ND		0.032
PCB-1232		ND		0.032
PCB-1242		ND		0.032
PCB-1248		ND		0.032
PCB-1254		ND		0.032
PCB-1260		ND		0.032

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	40	X I	45 - 155
DCB Decachlorobiphenyl	26	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-12

Lab Sample ID: 580-11548-4
Client Matrix: Solid
% Moisture: 19.4
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0315
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19763.D
Initial Weight/Volume: 10.3681 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	84	45 - 155
DCB Decachlorobiphenyl	77	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-2

Lab Sample ID: 580-11548-5
Client Matrix: Solid
% Moisture: 3.0
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0339
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19764.D
Initial Weight/Volume: 10.2605 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.010
PCB-1221		ND		0.010
PCB-1232		ND		0.010
PCB-1242		ND		0.010
PCB-1248		ND		0.010
PCB-1254		ND		0.010
PCB-1260		ND		0.010

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	99	45 - 155
DCB Decachlorobiphenyl	78	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-7

Lab Sample ID: 580-11548-6
Client Matrix: Solid
% Moisture: 23.2
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0449
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19767.D
Initial Weight/Volume: 10.7157 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	69		45 - 155
DCB Decachlorobiphenyl	43	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-10

Lab Sample ID: 580-11548-7
Client Matrix: Solid
% Moisture: 27.2
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0537
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19769.D
Initial Weight/Volume: 10.6829 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.013
PCB-1221		ND		0.013
PCB-1232		ND		0.013
PCB-1242		ND		0.013
PCB-1248		ND		0.013
PCB-1254		ND		0.013
PCB-1260		ND		0.013

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	76		45 - 155
DCB Decachlorobiphenyl	56	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-12

Lab Sample ID: 580-11548-8
Client Matrix: Solid

% Moisture: 71.8

Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0601
Date Prepared: 10/21/2008 0807

Analysis Batch: 580-37466
Prep Batch: 580-37248

Instrument ID: SEA034
Lab File ID: PCB19770.D
Initial Weight/Volume: 10.3309 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.034
PCB-1221		ND		0.034
PCB-1232		ND		0.034
PCB-1242		ND		0.034
PCB-1248		ND		0.034
PCB-1254		ND		0.034
PCB-1260		ND		0.034

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	53		45 - 155
DCB Decachlorobiphenyl	23	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-2

Lab Sample ID: 580-11548-9
Client Matrix: Solid
% Moisture: 14.7
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0625
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19771.D
Initial Weight/Volume: 10.6053 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.011
PCB-1221		ND		0.011
PCB-1232		ND		0.011
PCB-1242		ND		0.011
PCB-1248		ND		0.011
PCB-1254		ND		0.011
PCB-1260		ND		0.011

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	100	45 - 155
DCB Decachlorobiphenyl	76	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-7

Lab Sample ID: 580-11548-10
Client Matrix: Solid
% Moisture: 26.7
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0648
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19772.D
Initial Weight/Volume: 10.6090 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.013
PCB-1221		ND		0.013
PCB-1232		ND		0.013
PCB-1242		ND		0.013
PCB-1248		ND		0.013
PCB-1254		ND		0.013
PCB-1260		ND		0.013

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	46		45 - 155
DCB Decachlorobiphenyl	48	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-10

Lab Sample ID: 580-11548-11
Client Matrix: Solid
% Moisture: 28.3
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0712
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19773.D
Initial Weight/Volume: 10.7182 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.013
PCB-1221		ND		0.013
PCB-1232		ND		0.013
PCB-1242		ND		0.013
PCB-1248		ND		0.013
PCB-1254		ND		0.013
PCB-1260		ND		0.013

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	19	X I	45 - 155
DCB Decachlorobiphenyl	24	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-12

Lab Sample ID: 580-11548-12
Client Matrix: Solid
% Moisture: 21.1
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0736
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19774.D
Initial Weight/Volume: 10.1053 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.013
PCB-1221		ND		0.013
PCB-1232		ND		0.013
PCB-1242		ND		0.013
PCB-1248		ND		0.013
PCB-1254		ND		0.013
PCB-1260		ND		0.013

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	83	45 - 155
DCB Decachlorobiphenyl	76	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-2

Lab Sample ID: 580-11548-13
Client Matrix: Solid
% Moisture: 7.0
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0759
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19775.D
Initial Weight/Volume: 10.0030 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.011
PCB-1221		ND		0.011
PCB-1232		ND		0.011
PCB-1242		ND		0.011
PCB-1248		ND		0.011
PCB-1254		ND		0.011
PCB-1260		ND		0.011

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	105	45 - 155
DCB Decachlorobiphenyl	102	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-7

Lab Sample ID: 580-11548-14
Client Matrix: Solid
% Moisture: 23.9
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0823
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19776.D
Initial Weight/Volume: 10.3382 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.013
PCB-1221		ND		0.013
PCB-1232		ND		0.013
PCB-1242		ND		0.013
PCB-1248		ND		0.013
PCB-1254		ND		0.013
PCB-1260		ND		0.013

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	27	X I	45 - 155
DCB Decachlorobiphenyl	17	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-10

Lab Sample ID: 580-11548-15
Client Matrix: Solid

% Moisture: 45.5

Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0847
Date Prepared: 10/21/2008 0807

Analysis Batch: 580-37466
Prep Batch: 580-37248

Instrument ID: SEA034
Lab File ID: PCB19777.D
Initial Weight/Volume: 10.6742 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.017
PCB-1221		ND		0.017
PCB-1232		ND		0.017
PCB-1242		ND		0.017
PCB-1248		ND		0.017
PCB-1254		ND		0.017
PCB-1260		ND		0.017

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	31	X I	45 - 155
DCB Decachlorobiphenyl	30	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-12

Lab Sample ID: 580-11548-16
Client Matrix: Solid
% Moisture: 58.9
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0910
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19778.D
Initial Weight/Volume: 10.0667 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.024
PCB-1221		ND		0.024
PCB-1232		ND		0.024
PCB-1242		ND		0.024
PCB-1248		ND		0.024
PCB-1254		ND		0.024
PCB-1260		ND		0.024

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	54		45 - 155
DCB Decachlorobiphenyl	44	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-2

Lab Sample ID: 580-11548-17
Client Matrix: Solid

% Moisture: 8.4

Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 0957
Date Prepared: 10/21/2008 0807

Analysis Batch: 580-37466
Prep Batch: 580-37248

Instrument ID: SEA034
Lab File ID: PCB19780.D
Initial Weight/Volume: 10.1395 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.011
PCB-1221		ND		0.011
PCB-1232		ND		0.011
PCB-1242		ND		0.011
PCB-1248		ND		0.011
PCB-1254		ND		0.011
PCB-1260		ND		0.011

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	104	45 - 155
DCB Decachlorobiphenyl	92	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-7

Lab Sample ID: 580-11548-18
Client Matrix: Solid
% Moisture: 32.9
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/25/2008 0036
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19817.D
Initial Weight/Volume: 10.1958 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.015
PCB-1221		ND		0.015
PCB-1232		ND		0.015
PCB-1242		ND		0.015
PCB-1248		ND		0.015
PCB-1254		ND		0.015
PCB-1260		ND		0.015

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	68	45 - 155
DCB Decachlorobiphenyl	62	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-10

Lab Sample ID: 580-11548-19
Client Matrix: Solid

% Moisture: 48.5

Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1045
Date Prepared: 10/21/2008 0807

Analysis Batch: 580-37466
Prep Batch: 580-37248

Instrument ID: SEA034
Lab File ID: PCB19782.D
Initial Weight/Volume: 10.7350 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.018
PCB-1221		ND		0.018
PCB-1232		ND		0.018
PCB-1242		ND		0.018
PCB-1248		ND		0.018
PCB-1254		ND		0.018
PCB-1260		ND		0.018

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	49		45 - 155
DCB Decachlorobiphenyl	24	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-12

Lab Sample ID: 580-11548-20
Client Matrix: Solid
% Moisture: 63.7
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/24/2008 1108
Date Prepared: 10/21/2008 0807
Analysis Batch: 580-37466
Prep Batch: 580-37248
Instrument ID: SEA034
Lab File ID: PCB19783.D
Initial Weight/Volume: 10.2351 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.027
PCB-1221		ND		0.027
PCB-1232		ND		0.027
PCB-1242		ND		0.027
PCB-1248		ND		0.027
PCB-1254		ND		0.027
PCB-1260		ND		0.027

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	36	X I	45 - 155
DCB Decachlorobiphenyl	28	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-2

Lab Sample ID: 580-11548-21
Client Matrix: Solid
% Moisture: 5.0
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 1908
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19847.D
Initial Weight/Volume: 10.5044 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.010
PCB-1221		ND		0.010
PCB-1232		ND		0.010
PCB-1242		ND		0.010
PCB-1248		ND		0.010
PCB-1254		ND		0.010
PCB-1260		ND		0.010

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	93	45 - 155
DCB Decachlorobiphenyl	74	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-7

Lab Sample ID: 580-11548-22
Client Matrix: Solid
% Moisture: 18.6
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 1932
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19848.D
Initial Weight/Volume: 10.0309 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	103	45 - 155
DCB Decachlorobiphenyl	78	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-10

Lab Sample ID: 580-11548-23
Client Matrix: Solid
% Moisture: 23.7
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 1955
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19849.D
Initial Weight/Volume: 10.6502 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	59		45 - 155
DCB Decachlorobiphenyl	39	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-12

Lab Sample ID: 580-11548-24
Client Matrix: Solid
% Moisture: 32.0
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2019
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19850.D
Initial Weight/Volume: 10.2962 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.014
PCB-1221		ND		0.014
PCB-1232		ND		0.014
PCB-1242		ND		0.014
PCB-1248		ND		0.014
PCB-1254		ND		0.014
PCB-1260		ND		0.014

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	36	X I	45 - 155
DCB Decachlorobiphenyl	24	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-2

Lab Sample ID: 580-11548-25
Client Matrix: Solid
% Moisture: 6.7
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2043
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19851.D
Initial Weight/Volume: 10.0715 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.011
PCB-1221		ND		0.011
PCB-1232		ND		0.011
PCB-1242		ND		0.011
PCB-1248		ND		0.011
PCB-1254		ND		0.011
PCB-1260		ND		0.011

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	95	45 - 155
DCB Decachlorobiphenyl	97	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-7

Lab Sample ID: 580-11548-26
Client Matrix: Solid
% Moisture: 22.1
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2154
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19854.D
Initial Weight/Volume: 10.6349 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	67		45 - 155
DCB Decachlorobiphenyl	44	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-10

Lab Sample ID: 580-11548-27
Client Matrix: Solid

% Moisture: 76.1

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2241
Date Prepared: 10/21/2008 1151

Analysis Batch: 580-37560
Prep Batch: 580-37274

Instrument ID: SEA034
Lab File ID: PCB19856.D
Initial Weight/Volume: 10.3773 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.040
PCB-1221		ND		0.040
PCB-1232		ND		0.040
PCB-1242		ND		0.040
PCB-1248		ND		0.040
PCB-1254		ND		0.040
PCB-1260		ND		0.040

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	45		45 - 155
DCB Decachlorobiphenyl	25	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-12

Lab Sample ID: 580-11548-28
Client Matrix: Solid
% Moisture: 80.6
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2304
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19857.D
Initial Weight/Volume: 10.6992 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.048
PCB-1221		ND		0.048
PCB-1232		ND		0.048
PCB-1242		ND		0.048
PCB-1248		ND		0.048
PCB-1254		ND		0.048
PCB-1260		ND		0.048

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	30	X I	45 - 155
DCB Decachlorobiphenyl	19	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-2

Lab Sample ID: 580-11548-29
Client Matrix: Solid
% Moisture: 8.6
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2328
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19858.D
Initial Weight/Volume: 10.4304 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.010
PCB-1221		ND		0.010
PCB-1232		ND		0.010
PCB-1242		ND		0.010
PCB-1248		ND		0.010
PCB-1254		ND		0.010
PCB-1260		ND		0.010

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	104	45 - 155
DCB Decachlorobiphenyl	74	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-7

Lab Sample ID: 580-11548-30
Client Matrix: Solid
% Moisture: 72.7
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2352
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19859.D
Initial Weight/Volume: 10.3550 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.035
PCB-1221		ND		0.035
PCB-1232		ND		0.035
PCB-1242		ND		0.035
PCB-1248		ND		0.035
PCB-1254		ND		0.035
PCB-1260		ND		0.035

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	23	X I	45 - 155
DCB Decachlorobiphenyl	21	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-10

Lab Sample ID: 580-11548-31
Client Matrix: Solid
% Moisture: 52.8
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0015
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19860.D
Initial Weight/Volume: 10.5418 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.020
PCB-1221		ND		0.020
PCB-1232		ND		0.020
PCB-1242		ND		0.020
PCB-1248		ND		0.020
PCB-1254		ND		0.020
PCB-1260		ND		0.020

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	35	X I	45 - 155
DCB Decachlorobiphenyl	16	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-2

Lab Sample ID: 580-11548-33
Client Matrix: Solid
% Moisture: 73.1
Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0039
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19861.D
Initial Weight/Volume: 10.3297 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.036
PCB-1221		ND		0.036
PCB-1232		ND		0.036
PCB-1242		ND		0.036
PCB-1248		ND		0.036
PCB-1254		ND		0.036
PCB-1260		ND		0.036

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	24	X I	45 - 155
DCB Decachlorobiphenyl	33	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-4

Lab Sample ID: 580-11548-34
Client Matrix: Solid
% Moisture: 28.6
Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0103
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19862.D
Initial Weight/Volume: 10.6418 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.013
PCB-1221		ND		0.013
PCB-1232		ND		0.013
PCB-1242		ND		0.013
PCB-1248		ND		0.013
PCB-1254		ND		0.013
PCB-1260		ND		0.013

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	76	45 - 155
DCB Decachlorobiphenyl	71	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-2

Lab Sample ID: 580-11548-35
Client Matrix: Solid
% Moisture: 19.8
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0126
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19863.D
Initial Weight/Volume: 10.0427 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	59		45 - 155
DCB Decachlorobiphenyl	46	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-4

Lab Sample ID: 580-11548-36
Client Matrix: Solid
% Moisture: 6.5
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0150
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19864.D
Initial Weight/Volume: 10.6711 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.010
PCB-1221		ND		0.010
PCB-1232		ND		0.010
PCB-1242		ND		0.010
PCB-1248		ND		0.010
PCB-1254		ND		0.010
PCB-1260		ND		0.010

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	103	45 - 155
DCB Decachlorobiphenyl	77	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-2

Lab Sample ID: 580-11548-37
Client Matrix: Solid

% Moisture: 30.9

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0214
Date Prepared: 10/21/2008 1151

Analysis Batch: 580-37560
Prep Batch: 580-37274

Instrument ID: SEA034
Lab File ID: PCB19865.D
Initial Weight/Volume: 10.3000 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.014
PCB-1221		ND		0.014
PCB-1232		ND		0.014
PCB-1242		ND		0.014
PCB-1248		ND		0.014
PCB-1254		ND		0.014
PCB-1260		ND		0.014

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	71		45 - 155
DCB Decachlorobiphenyl	55	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-4

Lab Sample ID: 580-11548-38
Client Matrix: Solid

% Moisture: 22.4

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0301
Date Prepared: 10/21/2008 1151

Analysis Batch: 580-37560
Prep Batch: 580-37274

Instrument ID: SEA034
Lab File ID: PCB19867.D
Initial Weight/Volume: 10.3908 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	53		45 - 155
DCB Decachlorobiphenyl	45	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 1

Lab Sample ID: 580-11548-39
Client Matrix: Solid

% Moisture: 16.1

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0325
Date Prepared: 10/21/2008 1151

Analysis Batch: 580-37560
Prep Batch: 580-37274

Instrument ID: SEA034
Lab File ID: PCB19868.D
Initial Weight/Volume: 10.1297 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	107	45 - 155
DCB Decachlorobiphenyl	72	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 2

Lab Sample ID: 580-11548-40
Client Matrix: Solid
% Moisture: 22.4
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0348
Date Prepared: 10/21/2008 1151
Analysis Batch: 580-37560
Prep Batch: 580-37274
Instrument ID: SEA034
Lab File ID: PCB19869.D
Initial Weight/Volume: 10.1655 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.013
PCB-1221		ND		0.013
PCB-1232		ND		0.013
PCB-1242		ND		0.013
PCB-1248		ND		0.013
PCB-1254		ND		0.013
PCB-1260		ND		0.013

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	95	45 - 155
DCB Decachlorobiphenyl	74	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 3

Lab Sample ID: 580-11548-41
Client Matrix: Solid

% Moisture: 44.8

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 0412
Date Prepared: 10/21/2008 1151

Analysis Batch: 580-37560
Prep Batch: 580-37274

Instrument ID: SEA034
Lab File ID: PCB19870.D
Initial Weight/Volume: 10.3332 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.018
PCB-1221		ND		0.018
PCB-1232		ND		0.018
PCB-1242		ND		0.018
PCB-1248		ND		0.018
PCB-1254		ND		0.018
PCB-1260		ND		0.018

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	57		45 - 155
DCB Decachlorobiphenyl	46	X I	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 4

Lab Sample ID: 580-11548-42
Client Matrix: Solid
% Moisture: 20.9

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/29/2008 1332
Date Prepared: 10/22/2008 1330

Analysis Batch: 580-37623
Prep Batch: 580-37327

Instrument ID: SEA034
Lab File ID: PCB19940.D
Initial Weight/Volume: 10.3119 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	97	45 - 155
DCB Decachlorobiphenyl	75	60 - 125

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-2

Lab Sample ID: 580-11548-1
Client Matrix: Solid
% Moisture: 8.0
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 1557
Date Prepared: 10/15/2008 0824
Analysis Batch: 580-37168
Prep Batch: 580-37061
Instrument ID: 5890-II Dual
Lab File ID: EP25304.D
Initial Weight/Volume: 10.2201 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		79		27
Motor Oil (>C24-C36)		490		53

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	105	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-7

Lab Sample ID: 580-11548-2
Client Matrix: Solid
% Moisture: 70.8
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 1649
Date Prepared: 10/15/2008 0824
Analysis Batch: 580-37168
Prep Batch: 580-37061
Instrument ID: 5890-II Dual
Lab File ID: EP25306.D
Initial Weight/Volume: 10.1569 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		200		84
Motor Oil (>C24-C36)		630		170

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	64	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-10

Lab Sample ID: 580-11548-3
Client Matrix: Solid

% Moisture: 70.3

Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 1715
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061

Instrument ID: 5890-II Dual
Lab File ID: EP25307.D
Initial Weight/Volume: 10.3021 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		680		82
Motor Oil (>C24-C36)		5800		160

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	63	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-12

Lab Sample ID: 580-11548-4
Client Matrix: Solid

% Moisture: 19.4

Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 1741
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061

Instrument ID: 5890-II Dual
Lab File ID: EP25308.D
Initial Weight/Volume: 10.6977 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		320		29
Motor Oil (>C24-C36)		2200		58

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	114	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-2

Lab Sample ID: 580-11548-5
Client Matrix: Solid

% Moisture: 3.0

Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 1808
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061

Instrument ID: 5890-II Dual
Lab File ID: EP25309.D
Initial Weight/Volume: 10.4448 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		25
Motor Oil (>C24-C36)		73		49

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	103	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-7

Lab Sample ID: 580-11548-6
Client Matrix: Solid
% Moisture: 23.2
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 1828
Date Prepared: 10/15/2008 0824
Analysis Batch: 580-37168
Prep Batch: 580-37061
Instrument ID: 5890-II Dual
Lab File ID: EP25310.D
Initial Weight/Volume: 10.5440 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		31
Motor Oil (>C24-C36)		ND		62

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	92	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-10

Lab Sample ID: 580-11548-7
Client Matrix: Solid
% Moisture: 27.2
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 1849
Date Prepared: 10/15/2008 0824
Analysis Batch: 580-37168
Prep Batch: 580-37061
Instrument ID: 5890-II Dual
Lab File ID: EP25311.D
Initial Weight/Volume: 10.5132 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		52		33
Motor Oil (>C24-C36)		320		65

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	120	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-12

Lab Sample ID: 580-11548-8
Client Matrix: Solid

% Moisture: 71.8

Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 1909
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061

Instrument ID: 5890-II Dual
Lab File ID: EP25312.D
Initial Weight/Volume: 10.3367 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		280		86
Motor Oil (>C24-C36)		2000		170

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	59	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-2

Lab Sample ID: 580-11548-9
Client Matrix: Solid

% Moisture: 14.7

Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 1930
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061

Instrument ID: 5890-II Dual
Lab File ID: EP25313.D
Initial Weight/Volume: 10.5027 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		79		28
Motor Oil (>C24-C36)		360		56

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	104	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-7

Lab Sample ID: 580-11548-10
Client Matrix: Solid
% Moisture: 26.7
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 2017
Date Prepared: 10/15/2008 0824
Analysis Batch: 580-37168
Prep Batch: 580-37061
Instrument ID: 5890-II Dual
Lab File ID: EP25315.D
Initial Weight/Volume: 10.3366 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		33
Motor Oil (>C24-C36)		75		66

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	98	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-10

Lab Sample ID: 580-11548-11
Client Matrix: Solid

% Moisture: 28.3

Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 2038
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061

Instrument ID: 5890-II Dual
Lab File ID: EP25316.D
Initial Weight/Volume: 10.4873 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		33
Motor Oil (>C24-C36)		ND		67

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	142	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-12

Lab Sample ID: 580-11548-12
Client Matrix: Solid
% Moisture: 21.1
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 2058
Date Prepared: 10/15/2008 0824
Analysis Batch: 580-37168
Prep Batch: 580-37061
Instrument ID: 5890-II Dual
Lab File ID: EP25317.D
Initial Weight/Volume: 10.4995 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		35		30
Motor Oil (>C24-C36)		94		60

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	112	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-2

Lab Sample ID: 580-11548-13
Client Matrix: Solid
% Moisture: 7.0
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 2119
Date Prepared: 10/15/2008 0824
Analysis Batch: 580-37168
Prep Batch: 580-37061
Instrument ID: 5890-II Dual
Lab File ID: EP25318.D
Initial Weight/Volume: 10.7156 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		25
Motor Oil (>C24-C36)		ND		50

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	106	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-7

Lab Sample ID: 580-11548-14
Client Matrix: Solid

% Moisture: 23.9

Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 2139
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061

Instrument ID: 5890-II Dual
Lab File ID: EP25319.D
Initial Weight/Volume: 10.4429 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		31
Motor Oil (>C24-C36)		ND		63

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	84	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-10

Lab Sample ID: 580-11548-15
Client Matrix: Solid

% Moisture: 45.5

Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/17/2008 2200
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061

Instrument ID: 5890-II Dual
Lab File ID: EP25320.D
Initial Weight/Volume: 10.4096 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		260		44
Motor Oil (>C24-C36)		1900		88

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	72	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-12

Lab Sample ID: 580-11548-16
Client Matrix: Solid
% Moisture: 58.9
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 1807
Date Prepared: 10/20/2008 1029
Analysis Batch: 580-37278
Prep Batch: 580-37219
Instrument ID: 5890-II Dual
Lab File ID: EP25344.D
Initial Weight/Volume: 10.7012 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		390		57
Motor Oil (>C24-C36)		3900		110

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	89	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-2

Lab Sample ID: 580-11548-17
Client Matrix: Solid
% Moisture: 8.4
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 1858
Date Prepared: 10/20/2008 1029
Analysis Batch: 580-37278
Prep Batch: 580-37219
Instrument ID: 5890-II Dual
Lab File ID: EP25346.D
Initial Weight/Volume: 10.7148 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		25
Motor Oil (>C24-C36)		82		51

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	118	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-7

Lab Sample ID: 580-11548-18
Client Matrix: Solid
% Moisture: 32.9
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 1924
Date Prepared: 10/20/2008 1029
Analysis Batch: 580-37278
Prep Batch: 580-37219
Instrument ID: 5890-II Dual
Lab File ID: EP25347.D
Initial Weight/Volume: 10.3398 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		57		36
Motor Oil (>C24-C36)		370		72

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	94	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-10

Lab Sample ID: 580-11548-19
Client Matrix: Solid

% Moisture: 48.5

Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 1949
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25348.D
Initial Weight/Volume: 10.1903 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		430		48
Motor Oil (>C24-C36)		2900		95

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	71	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-12

Lab Sample ID: 580-11548-20
Client Matrix: Solid

% Moisture: 63.7

Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 2009
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25349.D
Initial Weight/Volume: 10.4375 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		310		66
Motor Oil (>C24-C36)		3300		130

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	65	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-2

Lab Sample ID: 580-11548-21
Client Matrix: Solid
% Moisture: 5.0
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 2029
Date Prepared: 10/20/2008 1029
Analysis Batch: 580-37278
Prep Batch: 580-37219
Instrument ID: 5890-II Dual
Lab File ID: EP25350.D
Initial Weight/Volume: 10.4327 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		25
Motor Oil (>C24-C36)		64		50

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	105	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-7

Lab Sample ID: 580-11548-22
Client Matrix: Solid

% Moisture: 18.6

Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 2049
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25351.D
Initial Weight/Volume: 10.6854 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		29
Motor Oil (>C24-C36)		ND		57

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	106	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-10

Lab Sample ID: 580-11548-23
Client Matrix: Solid

% Moisture: 23.7

Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 2109
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25352.D
Initial Weight/Volume: 10.6050 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		31
Motor Oil (>C24-C36)		69		62

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	94	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-12

Lab Sample ID: 580-11548-24
Client Matrix: Solid

% Moisture: 32.0

Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 2129
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25353.D
Initial Weight/Volume: 10.7496 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		34
Motor Oil (>C24-C36)		ND		68

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	87	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-2

Lab Sample ID: 580-11548-25
Client Matrix: Solid
% Moisture: 6.7
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 100
Date Analyzed: 10/21/2008 2149
Date Prepared: 10/20/2008 1029
Analysis Batch: 580-37278
Prep Batch: 580-37219
Instrument ID: 5890-II Dual
Lab File ID: EP25354.D
Initial Weight/Volume: 10.3871 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		5400		2600
Motor Oil (>C24-C36)		26000		5200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	-73	D X	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-7

Lab Sample ID: 580-11548-26
Client Matrix: Solid

% Moisture: 22.1

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/21/2008 2214
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25355.D
Initial Weight/Volume: 10.6538 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		30
Motor Oil (>C24-C36)		ND		60

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	108	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-10

Lab Sample ID: 580-11548-27
Client Matrix: Solid

% Moisture: 76.1

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/29/2008 1240
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37551
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25465.D
Initial Weight/Volume: 10.5732 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		820		99
Motor Oil (>C24-C36)		6700		200

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	66	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-12

Lab Sample ID: 580-11548-28
Client Matrix: Solid

% Moisture: 80.6

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 1902
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37476
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25410.D
Initial Weight/Volume: 10.1605 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		130
Motor Oil (>C24-C36)		330		250

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	52	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-2

Lab Sample ID: 580-11548-29
Client Matrix: Solid

% Moisture: 8.6

Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 1923
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37476
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25411.D
Initial Weight/Volume: 10.4439 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		83		52

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	97	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-7

Lab Sample ID: 580-11548-30
Client Matrix: Solid
% Moisture: 72.7
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 1944
Date Prepared: 10/20/2008 1029
Analysis Batch: 580-37476
Prep Batch: 580-37219
Instrument ID: 5890-II Dual
Lab File ID: EP25412.D
Initial Weight/Volume: 10.4721 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		88		87
Motor Oil (>C24-C36)		ND		170

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	58	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-10

Lab Sample ID: 580-11548-31
Client Matrix: Solid

% Moisture: 52.8

Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2004
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37476
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25413.D
Initial Weight/Volume: 10.1196 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		160		52
Motor Oil (>C24-C36)		130		100

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	62	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-2

Lab Sample ID: 580-11548-33
Client Matrix: Solid

% Moisture: 73.1

Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2025
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37476
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25414.D
Initial Weight/Volume: 10.4778 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		89
Motor Oil (>C24-C36)		ND		180

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	72	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-4

Lab Sample ID: 580-11548-34
Client Matrix: Solid

% Moisture: 28.6

Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2045
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37476
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25415.D
Initial Weight/Volume: 10.4842 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		38		33
Motor Oil (>C24-C36)		310		67

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	105	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-2

Lab Sample ID: 580-11548-35
Client Matrix: Solid

% Moisture: 19.8

Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2106
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37476
Prep Batch: 580-37219

Instrument ID: 5890-II Dual
Lab File ID: EP25416.D
Initial Weight/Volume: 10.4007 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		30
Motor Oil (>C24-C36)		ND		60

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	77	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-4

Lab Sample ID: 580-11548-36
Client Matrix: Solid
% Moisture: 6.5
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/27/2008 2126
Date Prepared: 10/20/2008 1029
Analysis Batch: 580-37476
Prep Batch: 580-37219
Instrument ID: 5890-II Dual
Lab File ID: EP25417.D
Initial Weight/Volume: 10.6727 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		25
Motor Oil (>C24-C36)		ND		50

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	107	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-2

Lab Sample ID: 580-11548-37
Client Matrix: Solid

% Moisture: 30.9

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1005
Date Prepared: 10/22/2008 0943

Analysis Batch: 580-37505
Prep Batch: 580-37307

Instrument ID: 5890-II Dual
Lab File ID: EP25436.D
Initial Weight/Volume: 10.5158 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		34
Motor Oil (>C24-C36)		ND		69

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	88	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-4

Lab Sample ID: 580-11548-38
Client Matrix: Solid

% Moisture: 22.4

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1026
Date Prepared: 10/22/2008 0943

Analysis Batch: 580-37505
Prep Batch: 580-37307

Instrument ID: 5890-II Dual
Lab File ID: EP25437.D
Initial Weight/Volume: 10.0167 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		32
Motor Oil (>C24-C36)		ND		64

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	101	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 1

Lab Sample ID: 580-11548-39
Client Matrix: Solid

% Moisture: 16.1

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1046
Date Prepared: 10/22/2008 0943

Analysis Batch: 580-37505
Prep Batch: 580-37307

Instrument ID: 5890-II Dual
Lab File ID: EP25438.D
Initial Weight/Volume: 10.4559 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		29
Motor Oil (>C24-C36)		ND		57

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	80	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 2

Lab Sample ID: 580-11548-40
Client Matrix: Solid
% Moisture: 22.4
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1127
Date Prepared: 10/22/2008 0943
Analysis Batch: 580-37505
Prep Batch: 580-37307
Instrument ID: 5890-II Dual
Lab File ID: EP25440.D
Initial Weight/Volume: 10.4240 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		31
Motor Oil (>C24-C36)		ND		62

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	111	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 3

Lab Sample ID: 580-11548-41
Client Matrix: Solid

% Moisture: 44.8

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1147
Date Prepared: 10/22/2008 0943

Analysis Batch: 580-37505
Prep Batch: 580-37307

Instrument ID: 5890-II Dual
Lab File ID: EP25441.D
Initial Weight/Volume: 10.4491 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		43
Motor Oil (>C24-C36)		340		87

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	75	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 4

Lab Sample ID: 580-11548-42
Client Matrix: Solid
% Moisture: 20.9
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method: NWTPH-Dx
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 10/28/2008 1207
Date Prepared: 10/22/2008 0943
Analysis Batch: 580-37505
Prep Batch: 580-37307
Instrument ID: 5890-II Dual
Lab File ID: EP25442.D
Initial Weight/Volume: 10.0820 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		31
Motor Oil (>C24-C36)		ND		63

Surrogate	%Rec	Acceptance Limits
o-Terphenyl	103	50 - 150

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-2

Lab Sample ID: 580-11548-1
Client Matrix: Solid
% Moisture: 8.0
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 1930
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0390 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.1
Lead		4.3		1.6
Cadmium		ND		0.52
Chromium		14		1.4

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1422
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0219 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.28

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1323
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5009 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.022

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-7

Lab Sample ID: 580-11548-2
Client Matrix: Solid
% Moisture: 70.8
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 1934
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0067 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		10
Lead		ND		5.1
Cadmium		ND		1.7
Chromium		ND		4.4

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1441
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.2353 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.85

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1326
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5694 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.060

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-10

Lab Sample ID: 580-11548-3
Client Matrix: Solid
% Moisture: 70.3
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 1937
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0053 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		10
Lead		8.2		5.0
Cadmium		ND		1.7
Chromium		7.0		4.3

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1442
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.5093 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.79

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1330
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5826 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.061		0.058

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP17-12

Lab Sample ID: 580-11548-4
Client Matrix: Solid
% Moisture: 19.4
Date Sampled: 10/09/2008 1315
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 1940
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0080 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		3.8		3.7
Lead		5.1		1.8
Cadmium		ND		0.62
Chromium		23		1.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1444
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.4243 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.30

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1333
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5313 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.023

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-2

Lab Sample ID: 580-11548-5
Client Matrix: Solid
% Moisture: 3.0
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 1944
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0288 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		3.9		3.0
Lead		2.3		1.5
Cadmium		ND		0.50
Chromium		16		1.3

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1446
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.4866 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.24

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1337
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5535 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.019

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-7

Lab Sample ID: 580-11548-6
Client Matrix: Solid
% Moisture: 23.2
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 1948
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0575 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		4.8		3.7
Lead		ND		1.8
Cadmium		ND		0.62
Chromium		28		1.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1448
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.3111 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.32

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1341
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5106 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.025

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-10

Lab Sample ID: 580-11548-7
Client Matrix: Solid
% Moisture: 27.2
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 1952
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0594 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		5.0		3.9
Lead		2.8		1.9
Cadmium		ND		0.65
Chromium		34		1.7

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1450
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.3979 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.33

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1351
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5738 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.037		0.024

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP18-12

Lab Sample ID: 580-11548-8
Client Matrix: Solid
% Moisture: 71.8
Date Sampled: 10/09/2008 1430
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 1956
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0128 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		11
Lead		30		5.3
Cadmium		ND		1.8
Chromium		11		4.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1452
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.5065 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.84

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1355
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5163 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.077		0.069

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-2

Lab Sample ID: 580-11548-9
Client Matrix: Solid
% Moisture: 14.7
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2009
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0536 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.3
Lead		4.5		1.7
Cadmium		ND		0.56
Chromium		21		1.4

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1454
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0643 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.30

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1359
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5690 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.021

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-7

Lab Sample ID: 580-11548-10
Client Matrix: Solid
% Moisture: 26.7
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2013
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0175 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		4.0		4.0
Lead		3.1		2.0
Cadmium		ND		0.67
Chromium		29		1.7

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1456
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.2889 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.34

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1402
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5194 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.026

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-10

Lab Sample ID: 580-11548-11
Client Matrix: Solid

% Moisture: 28.3

Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2017
Date Prepared: 10/16/2008 1328

Analysis Batch: 580-37177
Prep Batch: 580-37141

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0118 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		4.1
Lead		4.0		2.1
Cadmium		ND		0.69
Chromium		49		1.8

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1505
Date Prepared: 10/22/2008 0909

Analysis Batch: 580-37360
Prep Batch: 580-37303

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0486 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.36

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1406
Date Prepared: 10/13/2008 1151

Analysis Batch: 580-36992
Prep Batch: 580-36966

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5527 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.025

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP19-12

Lab Sample ID: 580-11548-12
Client Matrix: Solid
% Moisture: 21.1
Date Sampled: 10/09/2008 1530
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2021
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0318 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.7
Lead		3.6		1.8
Cadmium		ND		0.61
Chromium		28		1.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1507
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.5118 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.30

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1410
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5387 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.024

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-2

Lab Sample ID: 580-11548-13
Client Matrix: Solid
% Moisture: 7.0
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 1848
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0057 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		20		3.2
Lead		ND		1.6
Cadmium		ND		0.53
Chromium		20		1.4

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1509
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.2324 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.27

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1413
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5508 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.020

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-7

Lab Sample ID: 580-11548-14
Client Matrix: Solid
% Moisture: 23.9
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2025
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0460 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		4.1		3.8
Lead		2.7		1.9
Cadmium		ND		0.63
Chromium		33		1.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1511
Date Prepared: 10/22/2008 0909
Analysis Batch: 580-37360
Prep Batch: 580-37303
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1642 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.33

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1439
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5819 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.038		0.023

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-10

Lab Sample ID: 580-11548-15
Client Matrix: Solid

% Moisture: 45.5

Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2029
Date Prepared: 10/16/2008 1328

Analysis Batch: 580-37177
Prep Batch: 580-37141

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0791 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		13		5.1
Lead		13		2.5
Cadmium		ND		0.85
Chromium		33		2.2

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1619
Date Prepared: 10/22/2008 0919

Analysis Batch: 580-37361
Prep Batch: 580-37304

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1754 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.46

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1443
Date Prepared: 10/13/2008 1151

Analysis Batch: 580-36992
Prep Batch: 580-36966

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5725 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.079		0.032

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP25-12

Lab Sample ID: 580-11548-16
Client Matrix: Solid
% Moisture: 58.9
Date Sampled: 10/09/2008 1410
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2033
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0203 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		7.2
Lead		ND		3.6
Cadmium		ND		1.2
Chromium		ND		3.1

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1637
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1087 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.62

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1446
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5103 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.048

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-2

Lab Sample ID: 580-11548-17
Client Matrix: Solid
% Moisture: 8.4
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2037
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0792 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		13		3.0
Lead		16		1.5
Cadmium		ND		0.51
Chromium		24		1.3

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1639
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0643 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.28

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1450
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5704 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.027		0.019

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-7

Lab Sample ID: 580-11548-18
Client Matrix: Solid
% Moisture: 32.9
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2043
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0371 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		6.4		4.3
Lead		14		2.2
Cadmium		ND		0.72
Chromium		31		1.9

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1641
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.4664 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.35

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1453
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5568 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.027

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-10

Lab Sample ID: 580-11548-19
Client Matrix: Solid
% Moisture: 48.5
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2057
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0508 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		5.5
Lead		7.6		2.8
Cadmium		ND		0.92
Chromium		9.2		2.4

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1643
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.3934 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.47

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1457
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5544 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.035

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP26-12

Lab Sample ID: 580-11548-20
Client Matrix: Solid
% Moisture: 63.7
Date Sampled: 10/09/2008 1045
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/16/2008 2100
Date Prepared: 10/16/2008 1328
Analysis Batch: 580-37177
Prep Batch: 580-37141
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0787 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		7.7
Lead		8.2		3.8
Cadmium		ND		1.3
Chromium		6.1		3.3

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1645
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.3662 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.67

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1501
Date Prepared: 10/13/2008 1151
Analysis Batch: 580-36992
Prep Batch: 580-36966
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5295 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.052

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-2

Lab Sample ID: 580-11548-21
Client Matrix: Solid
% Moisture: 5.0
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1722
Date Prepared: 10/16/2008 1404
Analysis Batch: 580-37213
Prep Batch: 580-37142
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0456 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.0
Lead		ND		1.5
Cadmium		ND		0.50
Chromium		19		1.3

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1647
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.2603 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.26

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1523
Date Prepared: 10/13/2008 1247
Analysis Batch: 580-36996
Prep Batch: 580-36969
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5727 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.018

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-7

Lab Sample ID: 580-11548-22
Client Matrix: Solid
% Moisture: 18.6
Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1556
Date Prepared: 10/16/2008 1404
Analysis Batch: 580-37213
Prep Batch: 580-37142
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0690 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.4
Lead		ND		1.7
Cadmium		ND		0.57
Chromium		25		1.5

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1649
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.6408 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.28

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1526
Date Prepared: 10/13/2008 1247
Analysis Batch: 580-36996
Prep Batch: 580-36969
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5305 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.023

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-10

Lab Sample ID: 580-11548-23
Client Matrix: Solid

% Moisture: 23.7

Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1637
Date Prepared: 10/16/2008 1404

Analysis Batch: 580-37213
Prep Batch: 580-37142

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0322 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.8
Lead		ND		1.9
Cadmium		ND		0.64
Chromium		24		1.7

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1651
Date Prepared: 10/22/2008 0919

Analysis Batch: 580-37361
Prep Batch: 580-37304

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1732 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.33

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1530
Date Prepared: 10/13/2008 1247

Analysis Batch: 580-36996
Prep Batch: 580-36969

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5103 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.026

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP27-12

Lab Sample ID: 580-11548-24
Client Matrix: Solid

% Moisture: 32.0

Date Sampled: 10/09/2008 1015
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1641
Date Prepared: 10/16/2008 1404

Analysis Batch: 580-37213
Prep Batch: 580-37142

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0142 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		4.3
Lead		3.1		2.2
Cadmium		ND		0.72
Chromium		37		1.9

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1653
Date Prepared: 10/22/2008 0919

Analysis Batch: 580-37361
Prep Batch: 580-37304

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.2417 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.36

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1534
Date Prepared: 10/13/2008 1247

Analysis Batch: 580-36996
Prep Batch: 580-36969

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5055 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.21		0.029

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-2

Lab Sample ID: 580-11548-25
Client Matrix: Solid
% Moisture: 6.7
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1645
Date Prepared: 10/16/2008 1404
Analysis Batch: 580-37213
Prep Batch: 580-37142
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0201 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.2
Lead		2.0		1.6
Cadmium		ND		0.53
Chromium		18		1.4

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1702
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1396 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.27

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1537
Date Prepared: 10/13/2008 1247
Analysis Batch: 580-36996
Prep Batch: 580-36969
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5088 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.021

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-7

Lab Sample ID: 580-11548-26
Client Matrix: Solid
% Moisture: 22.1
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1649
Date Prepared: 10/16/2008 1404
Analysis Batch: 580-37213
Prep Batch: 580-37142
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0189 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.8
Lead		3.3		1.9
Cadmium		ND		0.63
Chromium		34		1.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1704
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1280 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.33

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1541
Date Prepared: 10/13/2008 1247
Analysis Batch: 580-36996
Prep Batch: 580-36969
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5809 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.022

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-10

Lab Sample ID: 580-11548-27
Client Matrix: Solid
% Moisture: 76.1
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1653
Date Prepared: 10/16/2008 1404
Analysis Batch: 580-37213
Prep Batch: 580-37142
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0462 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		12
Lead		11		6.0
Cadmium		ND		2.0
Chromium		ND		5.2

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1706
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.4819 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.99

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1545
Date Prepared: 10/13/2008 1247
Analysis Batch: 580-36996
Prep Batch: 580-36969
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5184 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.12		0.081

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP28-12

Lab Sample ID: 580-11548-28
Client Matrix: Solid
% Moisture: 80.6
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1656
Date Prepared: 10/16/2008 1404
Analysis Batch: 580-37213
Prep Batch: 580-37142
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0547 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		15
Lead		ND		7.3
Cadmium		ND		2.4
Chromium		ND		6.4

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1708
Date Prepared: 10/22/2008 0919
Analysis Batch: 580-37361
Prep Batch: 580-37304
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.2036 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		1.3

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1556
Date Prepared: 10/13/2008 1247
Analysis Batch: 580-36996
Prep Batch: 580-36969
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5607 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.092

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-2

Lab Sample ID: 580-11548-29
Client Matrix: Solid
% Moisture: 8.6
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1659
Date Prepared: 10/16/2008 1404
Analysis Batch: 580-37213
Prep Batch: 580-37142
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0650 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.1
Lead		10		1.5
Cadmium		ND		0.51
Chromium		25		1.3

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1744
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.3495 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.27

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1600
Date Prepared: 10/13/2008 1247
Analysis Batch: 580-36996
Prep Batch: 580-36969
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5617 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.030		0.019

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-7

Lab Sample ID: 580-11548-30
Client Matrix: Solid
% Moisture: 72.7
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1703
Date Prepared: 10/16/2008 1404
Analysis Batch: 580-37213
Prep Batch: 580-37142
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0362 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		11
Lead		94		5.3
Cadmium		ND		1.8
Chromium		10		4.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1803
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0185 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.95

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1617
Date Prepared: 10/13/2008 1247
Analysis Batch: 580-36996
Prep Batch: 580-36969
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5327 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.069

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DP29-10

Lab Sample ID: 580-11548-31
Client Matrix: Solid
% Moisture: 52.8
Date Sampled: 10/09/2008 1200
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1718
Date Prepared: 10/16/2008 1404
Analysis Batch: 580-37213
Prep Batch: 580-37142
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0594 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		6.0
Lead		21		3.0
Cadmium		ND		1.0
Chromium		35		2.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1805
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1397 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.54

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/13/2008 1621
Date Prepared: 10/13/2008 1247
Analysis Batch: 580-36996
Prep Batch: 580-36969
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5693 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.037

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-2

Lab Sample ID: 580-11548-33
Client Matrix: Solid
% Moisture: 73.1
Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1322
Date Prepared: 10/16/2008 1435
Analysis Batch: 580-37187
Prep Batch: 580-37144
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0272 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		11
Lead		ND		5.4
Cadmium		ND		1.8
Chromium		ND		4.7

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1807
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.5799 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.87

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0847
Date Prepared: 10/13/2008 1311
Analysis Batch: 580-37011
Prep Batch: 580-36972
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5256 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.071

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP01-4

Lab Sample ID: 580-11548-34
Client Matrix: Solid
% Moisture: 28.6
Date Sampled: 10/09/2008 1030
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1326
Date Prepared: 10/16/2008 1435
Analysis Batch: 580-37187
Prep Batch: 580-37144
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0471 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		7.1		4.0
Lead		17		2.0
Cadmium		ND		0.67
Chromium		25		1.7

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1809
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.3372 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.34

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0851
Date Prepared: 10/13/2008 1311
Analysis Batch: 580-37011
Prep Batch: 580-36972
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5639 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.025

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-2

Lab Sample ID: 580-11548-35
Client Matrix: Solid
% Moisture: 19.8
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1329
Date Prepared: 10/16/2008 1435
Analysis Batch: 580-37187
Prep Batch: 580-37144
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0124 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.7
Lead		3.3		1.8
Cadmium		ND		0.62
Chromium		38		1.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1811
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.2548 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.31

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0856
Date Prepared: 10/13/2008 1311
Analysis Batch: 580-37011
Prep Batch: 580-36972
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5698 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.034		0.022

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP02-4

Lab Sample ID: 580-11548-36
Client Matrix: Solid
% Moisture: 6.5
Date Sampled: 10/09/2008 1130
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1239
Date Prepared: 10/16/2008 1435
Analysis Batch: 580-37187
Prep Batch: 580-37144
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0344 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.1
Lead		ND		1.6
Cadmium		ND		0.52
Chromium		20		1.3

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1812
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.4083 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.26

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0900
Date Prepared: 10/13/2008 1311
Analysis Batch: 580-37011
Prep Batch: 580-36972
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5408 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.025		0.020

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-2

Lab Sample ID: 580-11548-37
Client Matrix: Solid
% Moisture: 30.9
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1333
Date Prepared: 10/16/2008 1435
Analysis Batch: 580-37187
Prep Batch: 580-37144
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0702 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		5.0		4.1
Lead		ND		2.0
Cadmium		ND		0.68
Chromium		27		1.8

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1814
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1703 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.36

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0932
Date Prepared: 10/13/2008 1311
Analysis Batch: 580-37011
Prep Batch: 580-36972
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5463 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.026

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: TP03-4

Lab Sample ID: 580-11548-38
Client Matrix: Solid

% Moisture: 22.4

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1337
Date Prepared: 10/16/2008 1435

Analysis Batch: 580-37187
Prep Batch: 580-37144

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0300 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.8
Lead		ND		1.9
Cadmium		ND		0.63
Chromium		31		1.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1816
Date Prepared: 10/22/2008 0924

Analysis Batch: 580-37362
Prep Batch: 580-37305

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1446 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.33

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0936
Date Prepared: 10/13/2008 1311

Analysis Batch: 580-37011
Prep Batch: 580-36972

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5038 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.026

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 1

Lab Sample ID: 580-11548-39
Client Matrix: Solid
% Moisture: 16.1
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1341
Date Prepared: 10/16/2008 1435
Analysis Batch: 580-37187
Prep Batch: 580-37144
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0051 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		3.6
Lead		ND		1.8
Cadmium		ND		0.59
Chromium		23		1.5

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1818
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0816 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.30

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0941
Date Prepared: 10/13/2008 1311
Analysis Batch: 580-37011
Prep Batch: 580-36972
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5634 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.021

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 2

Lab Sample ID: 580-11548-40
Client Matrix: Solid

% Moisture: 22.4

Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1345
Date Prepared: 10/16/2008 1435

Analysis Batch: 580-37187
Prep Batch: 580-37144

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0476 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		4.5		3.7
Lead		2.8		1.8
Cadmium		ND		0.62
Chromium		33		1.6

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1827
Date Prepared: 10/22/2008 0924

Analysis Batch: 580-37362
Prep Batch: 580-37305

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.2999 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.32

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0945
Date Prepared: 10/13/2008 1311

Analysis Batch: 580-37011
Prep Batch: 580-36972

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5076 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.046		0.025

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 3

Lab Sample ID: 580-11548-41
Client Matrix: Solid
% Moisture: 44.8
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1349
Date Prepared: 10/16/2008 1435
Analysis Batch: 580-37187
Prep Batch: 580-37144
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0041 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		ND		5.4
Lead		7.9		2.7
Cadmium		ND		0.90
Chromium		29		2.3

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1829
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.5018 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.43

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0950
Date Prepared: 10/13/2008 1311
Analysis Batch: 580-37011
Prep Batch: 580-36972
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5804 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		0.049		0.031

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Client Sample ID: DUP 4

Lab Sample ID: 580-11548-42
Client Matrix: Solid
% Moisture: 20.9
Date Sampled: 10/09/2008 1215
Date Received: 10/10/2008 0940

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/17/2008 1403
Date Prepared: 10/16/2008 1435
Analysis Batch: 580-37187
Prep Batch: 580-37144
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0763 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Arsenic		3.6		3.5
Lead		ND		1.8
Cadmium		ND		0.59
Chromium		25		1.5

Method: 6010B
Preparation: 7195
Dilution: 1.0
Date Analyzed: 10/22/2008 1831
Date Prepared: 10/22/2008 0924
Analysis Batch: 580-37362
Prep Batch: 580-37305
Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.1448 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Hexavalent chromium		ND		0.32

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 10/14/2008 0954
Date Prepared: 10/13/2008 1311
Analysis Batch: 580-37011
Prep Batch: 580-36972
Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5465 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.023

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-36974

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-36974/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/13/2008 1802
Date Prepared: 10/13/2008 1332

Analysis Batch: 580-37078
Prep Batch: 580-36974
Units: ug/Kg

Instrument ID: SEA041
Lab File ID: Ar0016429.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	RL
Benzene	ND		8.0
Toluene	ND		40
Ethylbenzene	ND		40
m-Xylene & p-Xylene	ND		40
o-Xylene	ND		40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	99	75 - 125
Toluene-d8 (Surr)	102	85 - 115
Ethylbenzene-d10	100	75 - 125
4-Bromofluorobenzene (Surr)	101	85 - 120
Trifluorotoluene (Surr)	104	75 - 125

Method Blank - Batch: 580-36974

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-36974/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/14/2008 1235
Date Prepared: 10/13/2008 1332

Analysis Batch: 580-37059
Prep Batch: 580-36974
Units: ug/Kg

Instrument ID: SEA041
Lab File ID: Ar0016452.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	RL
Benzene	ND		8.0
Toluene	ND		40
Ethylbenzene	ND		40
m-Xylene & p-Xylene	ND		40
o-Xylene	ND		40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	102	85 - 115
Ethylbenzene-d10	100	75 - 125
4-Bromofluorobenzene (Surr)	101	85 - 120
Trifluorotoluene (Surr)	106	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Control Spike - Batch: 580-36974

Method: 8260B
Preparation: 5035

Lab Sample ID: LCS 580-36974/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/13/2008 1845
Date Prepared: 10/13/2008 1332

Analysis Batch: 580-37078
Prep Batch: 580-36974
Units: ug/Kg

Instrument ID: SEA041
Lab File ID: Ar0016431.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	800	730	91	75 - 125	
Toluene	800	829	104	70 - 125	
Ethylbenzene	800	810	101	75 - 125	
m-Xylene & p-Xylene	1600	1730	108	80 - 125	
o-Xylene	800	727	91	75 - 125	

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	100	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	100	75 - 125
4-Bromofluorobenzene (Surr)	104	85 - 120
Trifluorotoluene (Surr)	107	75 - 125

Lab Control Spike - Batch: 580-36974

Method: 8260B
Preparation: 5035

Lab Sample ID: LCS 580-36974/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/14/2008 1319
Date Prepared: 10/13/2008 1332

Analysis Batch: 580-37059
Prep Batch: 580-36974
Units: ug/Kg

Instrument ID: SEA041
Lab File ID: Ar0016454.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	800	728	91	75 - 125	
Toluene	800	821	103	70 - 125	
Ethylbenzene	800	813	102	75 - 125	
m-Xylene & p-Xylene	1600	1710	107	80 - 125	
o-Xylene	800	732	91	75 - 125	

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	100	75 - 125
Toluene-d8 (Surr)	102	85 - 115
Ethylbenzene-d10	100	75 - 125
4-Bromofluorobenzene (Surr)	104	85 - 120
Trifluorotoluene (Surr)	104	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37049

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-37049/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/20/2008 2032
Date Prepared: 10/14/2008 1550

Analysis Batch: 580-37283
Prep Batch: 580-37049
Units: ug/Kg

Instrument ID: SEA041
Lab File ID: Ar0016589.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	RL
Benzene	ND		8.0
Toluene	ND		40
Ethylbenzene	ND		40
m-Xylene & p-Xylene	ND		40
o-Xylene	ND		40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	99	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	112	75 - 125

Method Blank - Batch: 580-37049

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-37049/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/23/2008 1201
Date Prepared: 10/14/2008 1550

Analysis Batch: 580-37386
Prep Batch: 580-37049
Units: ug/Kg

Instrument ID: SEA041
Lab File ID: Ar0016702.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	RL
Benzene	ND		8.0
Toluene	ND		40
Ethylbenzene	ND		40
m-Xylene & p-Xylene	ND		40
o-Xylene	ND		40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	100	75 - 125
Toluene-d8 (Surr)	104	85 - 115
Ethylbenzene-d10	100	75 - 125
4-Bromofluorobenzene (Surr)	100	85 - 120
Trifluorotoluene (Surr)	106	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Control Spike - Batch: 580-37049

Method: 8260B
Preparation: 5035

Lab Sample ID: LCS 580-37049/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/20/2008 2053
Date Prepared: 10/14/2008 1550

Analysis Batch: 580-37283
Prep Batch: 580-37049
Units: ug/Kg

Instrument ID: SEA041
Lab File ID: Ar0016590.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	800	756	94	75 - 125	
Toluene	800	850	106	70 - 125	
Ethylbenzene	800	840	105	75 - 125	
m-Xylene & p-Xylene	1600	1780	112	80 - 125	
o-Xylene	800	759	95	75 - 125	

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	100	75 - 125
Toluene-d8 (Surr)	104	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	106	85 - 120
Trifluorotoluene (Surr)	107	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37049

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	580-11548-1	Analysis Batch:	580-37283	Instrument ID:	SEA041
Client Matrix:	Solid	Prep Batch:	580-37049	Lab File ID:	Ar0016592.D
Dilution:	1.0			Initial Weight/Volume:	10.39 g
Date Analyzed:	10/20/2008 2136			Final Weight/Volume:	400 mL
Date Prepared:	10/14/2008 1550				

MSD Lab Sample ID:	580-11548-1	Analysis Batch:	580-37283	Instrument ID:	SEA041
Client Matrix:	Solid	Prep Batch:	580-37049	Lab File ID:	Ar0016593.D
Dilution:	1.0			Initial Weight/Volume:	10.39 g
Date Analyzed:	10/20/2008 2158			Final Weight/Volume:	400 mL
Date Prepared:	10/14/2008 1550				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	100	102	75 - 125	2	30		
Toluene	111	113	70 - 125	1	30		
Ethylbenzene	110	111	75 - 125	1	30		
m-Xylene & p-Xylene	118	118	80 - 125	1	30		
o-Xylene	100	102	75 - 125	1	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	99	99	75 - 125
Toluene-d8 (Surr)	104	103	85 - 115
Ethylbenzene-d10	102	102	75 - 125
4-Bromofluorobenzene (Surr)	106	106	85 - 120
Trifluorotoluene (Surr)	102	98	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37050

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-37050/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/21/2008 1403
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050
Units: ug/Kg

Instrument ID: SEA041
Lab File ID: Ar0016625.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	RL
Benzene	ND		8.0
Toluene	ND		40
Ethylbenzene	ND		40
m-Xylene & p-Xylene	ND		40
o-Xylene	ND		40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	98	75 - 125
Toluene-d8 (Surr)	103	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	103	85 - 120
Trifluorotoluene (Surr)	101	75 - 125

Lab Control Spike - Batch: 580-37050

Method: 8260B
Preparation: 5035

Lab Sample ID: LCS 580-37050/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/21/2008 1424
Date Prepared: 10/14/2008 1614

Analysis Batch: 580-37309
Prep Batch: 580-37050
Units: ug/Kg

Instrument ID: SEA041
Lab File ID: Ar0016626.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	800	697	87	75 - 125	
Toluene	800	814	102	70 - 125	
Ethylbenzene	800	798	100	75 - 125	
m-Xylene & p-Xylene	1600	1690	106	80 - 125	
o-Xylene	800	722	90	75 - 125	

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	99	75 - 125
Toluene-d8 (Surr)	102	85 - 115
Ethylbenzene-d10	101	75 - 125
4-Bromofluorobenzene (Surr)	105	85 - 120
Trifluorotoluene (Surr)	101	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37050

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	580-11548-21	Analysis Batch: 580-37309	Instrument ID: SEA041
Client Matrix:	Solid	Prep Batch: 580-37050	Lab File ID: Ar0016628.D
Dilution:	1.0		Initial Weight/Volume: 10.15 g
Date Analyzed:	10/21/2008 1507		Final Weight/Volume: 400 mL
Date Prepared:	10/14/2008 1614		

MSD Lab Sample ID:	580-11548-21	Analysis Batch: 580-37309	Instrument ID: SEA041
Client Matrix:	Solid	Prep Batch: 580-37050	Lab File ID: Ar0016629.D
Dilution:	1.0		Initial Weight/Volume: 10.15 g
Date Analyzed:	10/21/2008 1529		Final Weight/Volume: 400 mL
Date Prepared:	10/14/2008 1614		

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	100	100	75 - 125	0	30		
Toluene	116	115	70 - 125	1	30		
Ethylbenzene	114	114	75 - 125	0	30		
m-Xylene & p-Xylene	121	121	80 - 125	0	30		
o-Xylene	103	103	75 - 125	0	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	99	99	75 - 125
Toluene-d8 (Surr)	103	103	85 - 115
Ethylbenzene-d10	102	102	75 - 125
4-Bromofluorobenzene (Surr)	104	105	85 - 120
Trifluorotoluene (Surr)	102	100	75 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37242

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-37242/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/23/2008 1416
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak018370.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
Naphthalene	ND		5.0
2-Methylnaphthalene	ND		5.0
1-Methylnaphthalene	ND		5.0
Benzo[a]anthracene	ND		5.0
Chrysene	ND		5.0
Benzo[b]fluoranthene	ND		5.0
Benzo[k]fluoranthene	ND		5.0
Benzo[a]pyrene	ND		5.0
Indeno[1,2,3-cd]pyrene	ND		5.0
Dibenz(a,h)anthracene	ND		5.0

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	90	38 - 141
2-Fluorobiphenyl	114	42 - 140
Terphenyl-d14	121	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Control Spike - Batch: 580-37242

Method: 8270C
Preparation: 3550B

Lab Sample ID: LCS 580-37242/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/23/2008 1437
Date Prepared: 10/20/2008 1333

Analysis Batch: 580-37617
Prep Batch: 580-37242
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak018371.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Naphthalene	1000	825	82	64 - 129	
2-Methylnaphthalene	1000	854	85	65 - 125	
1-Methylnaphthalene	1000	893	89	48 - 148	
Benzo[a]anthracene	1000	841	84	64 - 124	
Chrysene	1000	888	89	71 - 126	
Benzo[b]fluoranthene	1000	809	81	66 - 136	
Benzo[k]fluoranthene	1000	824	82	63 - 143	
Benzo[a]pyrene	1000	831	83	68 - 128	
Indeno[1,2,3-cd]pyrene	1000	688	69	59 - 139	
Dibenz(a,h)anthracene	1000	678	68	57 - 142	

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	89	38 - 141
2-Fluorobiphenyl	106	42 - 140
Terphenyl-d14	111	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37242

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-11548-1	Analysis Batch:	580-37617	Instrument ID:	SEA040
Client Matrix:	Solid	Prep Batch:	580-37242	Lab File ID:	ak018373.D
Dilution:	1.0			Initial Weight/Volume:	10.6964 g
Date Analyzed:	10/23/2008 1519			Final Weight/Volume:	10 mL
Date Prepared:	10/20/2008 1333			Injection Volume:	1.0 uL

MSD Lab Sample ID:	580-11548-1	Analysis Batch:	580-37617	Instrument ID:	SEA040
Client Matrix:	Solid	Prep Batch:	580-37242	Lab File ID:	ak018374.D
Dilution:	1.0			Initial Weight/Volume:	10.0964 g
Date Analyzed:	10/23/2008 1540			Final Weight/Volume:	10 mL
Date Prepared:	10/20/2008 1333			Injection Volume:	1.0 uL

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Naphthalene	84	82	64 - 129	3	26		
2-Methylnaphthalene	88	86	65 - 125	3	27		
1-Methylnaphthalene	92	89	48 - 148	2	30		
Benzo[a]anthracene	87	85	64 - 124	3	27		
Chrysene	87	85	71 - 126	4	26		
Benzo[b]fluoranthene	70	68	66 - 136	2	31		
Benzo[k]fluoranthene	68	66	63 - 143	4	31		
Benzo[a]pyrene	75	71	68 - 128	1	30		
Indeno[1,2,3-cd]pyrene	65	58	59 - 139	4	29		F
Dibenz(a,h)anthracene	62	57	57 - 142	2	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Nitrobenzene-d5	91	90	38 - 141
2-Fluorobiphenyl	105	104	42 - 140
Terphenyl-d14	100	100	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37258

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-37258/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/24/2008 1540
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak018401.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
Naphthalene	ND		5.0
2-Methylnaphthalene	ND		5.0
1-Methylnaphthalene	ND		5.0
Benzo[a]anthracene	ND		5.0
Chrysene	ND		5.0
Benzo[b]fluoranthene	ND		5.0
Benzo[k]fluoranthene	ND		5.0
Benzo[a]pyrene	ND		5.0
Indeno[1,2,3-cd]pyrene	ND		5.0
Dibenz(a,h)anthracene	ND		5.0

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	108	38 - 141
2-Fluorobiphenyl	126	42 - 140
Terphenyl-d14	124	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Control Spike - Batch: 580-37258

Method: 8270C
Preparation: 3550B

Lab Sample ID: LCS 580-37258/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/24/2008 1602
Date Prepared: 10/21/2008 0953

Analysis Batch: 580-37622
Prep Batch: 580-37258
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak018402.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Naphthalene	1000	869	87	64 - 129	
2-Methylnaphthalene	1000	909	91	65 - 125	
1-Methylnaphthalene	1000	937	94	48 - 148	
Benzo[a]anthracene	1000	918	92	64 - 124	
Chrysene	1000	917	92	71 - 126	
Benzo[b]fluoranthene	1000	827	83	66 - 136	
Benzo[k]fluoranthene	1000	753	75	63 - 143	
Benzo[a]pyrene	1000	838	84	68 - 128	
Indeno[1,2,3-cd]pyrene	1000	669	67	59 - 139	
Dibenz(a,h)anthracene	1000	676	68	57 - 142	

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	99	38 - 141
2-Fluorobiphenyl	116	42 - 140
Terphenyl-d14	115	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37258

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-11548-25	Analysis Batch:	580-37622	Instrument ID:	SEA040
Client Matrix:	Solid	Prep Batch:	580-37258	Lab File ID:	ak018408.D
Dilution:	1.0			Initial Weight/Volume:	10.5968 g
Date Analyzed:	10/24/2008 1808			Final Weight/Volume:	10 mL
Date Prepared:	10/21/2008 0953			Injection Volume:	1.0 uL

MSD Lab Sample ID:	580-11548-25	Analysis Batch:	580-37622	Instrument ID:	SEA040
Client Matrix:	Solid	Prep Batch:	580-37258	Lab File ID:	ak018409.D
Dilution:	1.0			Initial Weight/Volume:	10.7423 g
Date Analyzed:	10/24/2008 1829			Final Weight/Volume:	10 mL
Date Prepared:	10/21/2008 0953			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Naphthalene	88	104	64 - 129	15	26		
2-Methylnaphthalene	94	112	65 - 125	16	27		
1-Methylnaphthalene	97	115	48 - 148	16	30		
Benzo[a]anthracene	65	73	64 - 124	11	27		
Chrysene	61	70	71 - 126	11	26	F	F
Benzo[b]fluoranthene	48	53	66 - 136	8	31	F	F
Benzo[k]fluoranthene	51	66	63 - 143	23	31	F	
Benzo[a]pyrene	50	17	68 - 128	91	30	F	F
Indeno[1,2,3-cd]pyrene	38	40	59 - 139	4	29	F	F
Dibenz(a,h)anthracene	40	43	57 - 142	5	30	F	F

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Nitrobenzene-d5	96	110	38 - 141
2-Fluorobiphenyl	115	132	42 - 140
Terphenyl-d14	105	127	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37325

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-37325/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/29/2008 0904
Date Prepared: 10/22/2008 1305

Analysis Batch: 580-37624
Prep Batch: 580-37325
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak018443.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
Naphthalene	ND		5.0
2-Methylnaphthalene	ND		5.0
1-Methylnaphthalene	ND		5.0
Benzo[a]anthracene	ND		5.0
Chrysene	ND		5.0
Benzo[b]fluoranthene	ND		5.0
Benzo[k]fluoranthene	ND		5.0
Benzo[a]pyrene	ND		5.0
Indeno[1,2,3-cd]pyrene	ND		5.0
Dibenz(a,h)anthracene	ND		5.0

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	74	38 - 141
2-Fluorobiphenyl	92	42 - 140
Terphenyl-d14	90	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Control Spike - Batch: 580-37325

Method: 8270C
Preparation: 3550B

Lab Sample ID: LCS 580-37325/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/29/2008 0925
Date Prepared: 10/22/2008 1305

Analysis Batch: 580-37624
Prep Batch: 580-37325
Units: ug/Kg

Instrument ID: SEA040
Lab File ID: ak018444.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Naphthalene	1000	894	89	64 - 129	
2-Methylnaphthalene	1000	972	97	65 - 125	
1-Methylnaphthalene	1000	958	96	48 - 148	
Benzo[a]anthracene	1000	884	88	64 - 124	
Chrysene	1000	935	94	71 - 126	
Benzo[b]fluoranthene	1000	895	90	66 - 136	
Benzo[k]fluoranthene	1000	910	91	63 - 143	
Benzo[a]pyrene	1000	898	90	68 - 128	
Indeno[1,2,3-cd]pyrene	1000	710	71	59 - 139	
Dibenz(a,h)anthracene	1000	820	82	57 - 142	

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	79	38 - 141
2-Fluorobiphenyl	95	42 - 140
Terphenyl-d14	85	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37325

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-11548-42	Analysis Batch:	580-37624	Instrument ID:	SEA040
Client Matrix:	Solid	Prep Batch:	580-37325	Lab File ID:	ak018446.D
Dilution:	1.0			Initial Weight/Volume:	10.6165 g
Date Analyzed:	10/29/2008 1007			Final Weight/Volume:	10 mL
Date Prepared:	10/22/2008 1305			Injection Volume:	1.0 uL

MSD Lab Sample ID:	580-11548-42	Analysis Batch:	580-37624	Instrument ID:	SEA040
Client Matrix:	Solid	Prep Batch:	580-37325	Lab File ID:	ak018447.D
Dilution:	1.0			Initial Weight/Volume:	10.6591 g
Date Analyzed:	10/29/2008 1028			Final Weight/Volume:	10 mL
Date Prepared:	10/22/2008 1305			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Naphthalene	90	91	64 - 129	1	26		
2-Methylnaphthalene	97	99	65 - 125	2	27		
1-Methylnaphthalene	96	98	48 - 148	2	30		
Benzo[a]anthracene	87	89	64 - 124	2	27		
Chrysene	92	93	71 - 126	1	26		
Benzo[b]fluoranthene	82	85	66 - 136	3	31		
Benzo[k]fluoranthene	84	86	63 - 143	2	31		
Benzo[a]pyrene	88	88	68 - 128	0	30		
Indeno[1,2,3-cd]pyrene	76	64	59 - 139	18	29		
Dibenz(a,h)anthracene	88	74	57 - 142	17	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Nitrobenzene-d5	75	78	38 - 141
2-Fluorobiphenyl	84	88	42 - 140
Terphenyl-d14	84	83	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37248

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-37248/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/24/2008 0117
Date Prepared: 10/21/2008 0807

Analysis Batch: 580-37466
Prep Batch: 580-37248
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB19758.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		0.010
PCB-1221	ND		0.010
PCB-1232	ND		0.010
PCB-1242	ND		0.010
PCB-1248	ND		0.010
PCB-1254	ND		0.010
PCB-1260	ND		0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	103	45 - 155
DCB Decachlorobiphenyl	82	60 - 125

Lab Control Spike - Batch: 580-37248

Method: 8082
Preparation: 3550B

Lab Sample ID: LCS 580-37248/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/24/2008 0141
Date Prepared: 10/21/2008 0807

Analysis Batch: 580-37466
Prep Batch: 580-37248
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB19759.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	0.100	0.0975	98	40 - 140	
PCB-1260	0.100	0.0929	93	60 - 130	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	102	45 - 155
DCB Decachlorobiphenyl	90	60 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37248

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	580-11548-5	Analysis Batch: 580-37466	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-37248	Lab File ID: PCB19765.D
Dilution:	1.0		Initial Weight/Volume: 10.5104 g
Date Analyzed:	10/24/2008 0402		Final Weight/Volume: 10 mL
Date Prepared:	10/21/2008 0807		Injection Volume: 1.0 uL
			Column ID: PRIMARY
MSD Lab Sample ID:	580-11548-5	Analysis Batch: 580-37466	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-37248	Lab File ID: PCB19766.D
Dilution:	1.0		Initial Weight/Volume: 10.6360 g
Date Analyzed:	10/24/2008 0426		Final Weight/Volume: 10 mL
Date Prepared:	10/21/2008 0807		Injection Volume: 1.0 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	96	102	40 - 140	4	20		
PCB-1260	83	91	60 - 130	8	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	103	103	45 - 155
DCB Decachlorobiphenyl	81	86	60 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37274

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-37274/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/27/2008 1821
Date Prepared: 10/21/2008 1151

Analysis Batch: 580-37560
Prep Batch: 580-37274
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB19845.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		0.010
PCB-1221	ND		0.010
PCB-1232	ND		0.010
PCB-1242	ND		0.010
PCB-1248	ND		0.010
PCB-1254	ND		0.010
PCB-1260	ND		0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	106	45 - 155
DCB Decachlorobiphenyl	88	60 - 125

Lab Control Spike - Batch: 580-37274

Method: 8082
Preparation: 3550B

Lab Sample ID: LCS 580-37274/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/27/2008 1844
Date Prepared: 10/21/2008 1151

Analysis Batch: 580-37560
Prep Batch: 580-37274
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB19846.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	0.100	0.101	101	40 - 140	
PCB-1260	0.100	0.0936	94	60 - 130	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	103	45 - 155
DCB Decachlorobiphenyl	85	60 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37274

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	580-11548-25	Analysis Batch: 580-37560	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-37274	Lab File ID: PCB19852.D
Dilution:	1.0		Initial Weight/Volume: 10.0942 g
Date Analyzed:	10/27/2008 2106		Final Weight/Volume: 10 mL
Date Prepared:	10/21/2008 1151		Injection Volume: 1.0 uL
			Column ID: PRIMARY
MSD Lab Sample ID:	580-11548-25	Analysis Batch: 580-37560	Instrument ID: SEA034
Client Matrix:	Solid	Prep Batch: 580-37274	Lab File ID: PCB19853.D
Dilution:	1.0		Initial Weight/Volume: 10.0131 g
Date Analyzed:	10/27/2008 2130		Final Weight/Volume: 10 mL
Date Prepared:	10/21/2008 1151		Injection Volume: 1.0 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	96	80	40 - 140	18	20		
PCB-1260	74	75	60 - 130	2	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	92	95	45 - 155
DCB Decachlorobiphenyl	90	89	60 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37327

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-37327/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/29/2008 1244
Date Prepared: 10/22/2008 1330

Analysis Batch: 580-37623
Prep Batch: 580-37327
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB19938.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		0.010
PCB-1221	ND		0.010
PCB-1232	ND		0.010
PCB-1242	ND		0.010
PCB-1248	ND		0.010
PCB-1254	ND		0.010
PCB-1260	ND		0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	108	45 - 155
DCB Decachlorobiphenyl	84	60 - 125

Lab Control Spike - Batch: 580-37327

Method: 8082
Preparation: 3550B

Lab Sample ID: LCS 580-37327/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/29/2008 1308
Date Prepared: 10/22/2008 1330

Analysis Batch: 580-37623
Prep Batch: 580-37327
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB19939.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	0.100	0.0960	96	40 - 140	
PCB-1260	0.100	0.0903	90	60 - 130	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	106	45 - 155
DCB Decachlorobiphenyl	79	60 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37061

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-37061/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/17/2008 1301
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25297.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Motor Oil (>C24-C36)	ND		50

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	112	50 - 150

Lab Control Spike - Batch: 580-37061

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: LCS 580-37061/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/17/2008 1322
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25298.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	501	527	105	70 - 125	
Motor Oil (>C24-C36)	500	583	117	64 - 127	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	108	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Duplicate - Batch: 580-37061

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: 580-11548-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/17/2008 1623
Date Prepared: 10/15/2008 0824

Analysis Batch: 580-37168
Prep Batch: 580-37061
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25305.D
Initial Weight/Volume: 10.6845 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	79	70.5	11	35	
Motor Oil (>C24-C36)	490	340	35	35	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	108	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37219

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-37219/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/21/2008 1716
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25342.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Motor Oil (>C24-C36)	ND		50

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	114	50 - 150

Method Blank - Batch: 580-37219

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-37219/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/27/2008 1821
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37476
Prep Batch: 580-37219
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25408.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Motor Oil (>C24-C36)	ND		50

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	108	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Control Spike - Batch: 580-37219

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: LCS 580-37219/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/21/2008 1742
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25343.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	501	529	106	70 - 125	
Motor Oil (>C24-C36)	500	572	114	64 - 127	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	101	50 - 150

Lab Control Spike - Batch: 580-37219

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: LCS 580-37219/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/27/2008 1842
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37476
Prep Batch: 580-37219
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25409.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	501	460	92	70 - 125	
Motor Oil (>C24-C36)	500	505	101	64 - 127	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	93	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Duplicate - Batch: 580-37219

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: 580-11548-16
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/21/2008 1833
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25345.D
Initial Weight/Volume: 10.1766 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	390	543	34	35	
Motor Oil (>C24-C36)	3900	7090	59	35	F

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	93	50 - 150

Duplicate - Batch: 580-37219

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: 580-11548-26
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/21/2008 2239
Date Prepared: 10/20/2008 1029

Analysis Batch: 580-37278
Prep Batch: 580-37219
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25356.D
Initial Weight/Volume: 10.4914 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	2	35	
Motor Oil (>C24-C36)	ND	ND	4	35	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	98	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37307

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: MB 580-37307/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/28/2008 0919
Date Prepared: 10/22/2008 0943

Analysis Batch: 580-37505
Prep Batch: 580-37307
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25434.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Motor Oil (>C24-C36)	ND		50

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	102	50 - 150

Lab Control Spike - Batch: 580-37307

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: LCS 580-37307/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/28/2008 0939
Date Prepared: 10/22/2008 0943

Analysis Batch: 580-37505
Prep Batch: 580-37307
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25435.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	501	434	86	70 - 125	
Motor Oil (>C24-C36)	500	507	101	64 - 127	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	93	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Duplicate - Batch: 580-37307

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: 580-11548-39
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/28/2008 1106
Date Prepared: 10/22/2008 0943

Analysis Batch: 580-37505
Prep Batch: 580-37307
Units: mg/Kg

Instrument ID: 5890-II Dual Column/Detec
Lab File ID: EP25439.D
Initial Weight/Volume: 10.6890 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	48	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	71	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37141

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-37141/25-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/16/2008 1843
Date Prepared: 10/16/2008 1328

Analysis Batch: 580-37177
Prep Batch: 580-37141
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Arsenic	ND		3.0
Lead	ND		1.5
Cadmium	ND		0.50
Chromium	ND		1.3

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-37141

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-37141/26-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/16/2008 1916
Date Prepared: 10/16/2008 1328

Analysis Batch: 580-37177
Prep Batch: 580-37141
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-37141/27-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/16/2008 2110
Date Prepared: 10/16/2008 1328

Analysis Batch: 580-37177
Prep Batch: 580-37141
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	96	95	80 - 120	2	35		
Lead	99	96	80 - 120	3	35		
Cadmium	98	94	80 - 120	4	35		
Chromium	98	94	80 - 120	4	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37141

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	580-11548-13	Analysis Batch: 580-37177	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37141	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0792 g
Date Analyzed:	10/16/2008 1900		Final Weight/Volume: 50 mL
Date Prepared:	10/16/2008 1328		

MSD Lab Sample ID:	580-11548-13	Analysis Batch: 580-37177	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37141	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0505 g
Date Analyzed:	10/16/2008 1904		Final Weight/Volume: 50 mL
Date Prepared:	10/16/2008 1328		

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	104	111	75 - 125	8	35		
Lead	97	100	75 - 125	6	35		
Cadmium	98	99	75 - 125	4	35		
Chromium	114	113	75 - 125	1	35		

Duplicate - Batch: 580-37141

Method: 6010B
Preparation: 3050B

Lab Sample ID:	580-11548-13	Analysis Batch: 580-37177	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37141	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 1.0623 g
Date Analyzed:	10/16/2008 1856		Final Weight/Volume: 50 mL
Date Prepared:	10/16/2008 1328		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	20	35.3	57	35	F
Lead	ND	ND	16	35	
Cadmium	ND	ND	13	35	
Chromium	20	21.3	5	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37142

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-37142/16-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/17/2008 1550
Date Prepared: 10/16/2008 1404

Analysis Batch: 580-37213
Prep Batch: 580-37142
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Arsenic	ND		3.0
Lead	ND		1.5
Cadmium	ND		0.50
Chromium	ND		1.3

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-37142

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-37142/17-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/17/2008 1620
Date Prepared: 10/16/2008 1404

Analysis Batch: 580-37213
Prep Batch: 580-37142
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-37142/18-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/17/2008 1624
Date Prepared: 10/16/2008 1404

Analysis Batch: 580-37213
Prep Batch: 580-37142
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	93	94	80 - 120	1	35		
Lead	93	92	80 - 120	1	35		
Cadmium	93	92	80 - 120	1	35		
Chromium	93	92	80 - 120	1	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37142

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	580-11548-22	Analysis Batch: 580-37213	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37142	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0241 g
Date Analyzed:	10/17/2008 1608		Final Weight/Volume: 50 mL
Date Prepared:	10/16/2008 1404		

MSD Lab Sample ID:	580-11548-22	Analysis Batch: 580-37213	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37142	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0773 g
Date Analyzed:	10/17/2008 1612		Final Weight/Volume: 50 mL
Date Prepared:	10/16/2008 1404		

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	98	103	75 - 125	1	35		
Lead	93	97	75 - 125	1	35		
Cadmium	94	97	75 - 125	1	35		
Chromium	88	93	75 - 125	0	35		

Duplicate - Batch: 580-37142

Method: 6010B
Preparation: 3050B

Lab Sample ID:	580-11548-22	Analysis Batch: 580-37213	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37142	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 1.0111 g
Date Analyzed:	10/17/2008 1604		Final Weight/Volume: 50 mL
Date Prepared:	10/16/2008 1404		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	ND	ND	6	35	
Lead	ND	ND	15	35	
Cadmium	ND	ND	7	35	
Chromium	25	21.6	13	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37144

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-37144/15-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/17/2008 1233
Date Prepared: 10/16/2008 1435

Analysis Batch: 580-37187
Prep Batch: 580-37144
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Arsenic	ND		3.0
Lead	ND		1.5
Cadmium	ND		0.50
Chromium	ND		1.3

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-37144

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-37144/16-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/17/2008 1303
Date Prepared: 10/16/2008 1435

Analysis Batch: 580-37187
Prep Batch: 580-37144
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-37144/17-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/17/2008 1308
Date Prepared: 10/16/2008 1435

Analysis Batch: 580-37187
Prep Batch: 580-37144
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1.0 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	97	92	80 - 120	5	35		
Lead	97	89	80 - 120	9	35		
Cadmium	98	89	80 - 120	9	35		
Chromium	98	90	80 - 120	9	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37144

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	580-11548-36	Analysis Batch: 580-37187	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37144	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0494 g
Date Analyzed:	10/17/2008 1251		Final Weight/Volume: 50 mL
Date Prepared:	10/16/2008 1435		

MSD Lab Sample ID:	580-11548-36	Analysis Batch: 580-37187	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37144	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.0340 g
Date Analyzed:	10/17/2008 1255		Final Weight/Volume: 50 mL
Date Prepared:	10/16/2008 1435		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	97	100	75 - 125	5	35		
Lead	89	92	75 - 125	4	35		
Cadmium	90	94	75 - 125	6	35		
Chromium	120	100	75 - 125	9	35		

Duplicate - Batch: 580-37144

Method: 6010B
Preparation: 3050B

Lab Sample ID:	580-11548-36	Analysis Batch: 580-37187	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37144	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 1.0227 g
Date Analyzed:	10/17/2008 1243		Final Weight/Volume: 50 mL
Date Prepared:	10/16/2008 1435		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	ND	ND	9	35	
Lead	ND	ND	NC	35	
Cadmium	ND	ND	15	35	
Chromium	20	18.8	6	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37303

Method: 6010B
Preparation: 7195

Lab Sample ID: MB 580-37303/19-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/22/2008 1411
Date Prepared: 10/22/2008 0909

Analysis Batch: 580-37360
Prep Batch: 580-37303
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Hexavalent chromium	ND		0.26

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-37303

Method: 6010B
Preparation: 7195

LCS Lab Sample ID: LCS 580-37303/20-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/22/2008 1413
Date Prepared: 10/22/2008 0909

Analysis Batch: 580-37360
Prep Batch: 580-37303
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-37303/21-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/22/2008 1416
Date Prepared: 10/22/2008 0909

Analysis Batch: 580-37360
Prep Batch: 580-37303
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Hexavalent chromium	93	94	80 - 120	2	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37303

Method: 6010B
Preparation: 7195

MS Lab Sample ID:	580-11548-1	Analysis Batch:	580-37360	Instrument ID:	SEA027
Client Matrix:	Solid	Prep Batch:	580-37303	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	5.0223 g
Date Analyzed:	10/22/2008 1428			Final Weight/Volume:	50 mL
Date Prepared:	10/22/2008 0909				

MSD Lab Sample ID:	580-11548-1	Analysis Batch:	580-37360	Instrument ID:	SEA027
Client Matrix:	Solid	Prep Batch:	580-37303	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	5.0223 g
Date Analyzed:	10/22/2008 1431			Final Weight/Volume:	50 mL
Date Prepared:	10/22/2008 0909				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Hexavalent chromium	92	82	75 - 125	11	35		

Duplicate - Batch: 580-37303

Method: 6010B
Preparation: 7195

Lab Sample ID:	580-11548-1	Analysis Batch:	580-37360	Instrument ID:	SEA027
Client Matrix:	Solid	Prep Batch:	580-37303	Lab File ID:	N/A
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	5.0219 g
Date Analyzed:	10/22/2008 1426			Final Weight/Volume:	50 mL
Date Prepared:	10/22/2008 0909				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Hexavalent chromium	ND	ND	2	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37304

Method: 6010B
Preparation: 7195

Lab Sample ID: MB 580-37304/19-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/22/2008 1608
Date Prepared: 10/22/2008 0919

Analysis Batch: 580-37361
Prep Batch: 580-37304
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Hexavalent chromium	ND		0.26

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-37304

Method: 6010B
Preparation: 7195

LCS Lab Sample ID: LCS 580-37304/20-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/22/2008 1610
Date Prepared: 10/22/2008 0919

Analysis Batch: 580-37361
Prep Batch: 580-37304
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-37304/21-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/22/2008 1613
Date Prepared: 10/22/2008 0919

Analysis Batch: 580-37361
Prep Batch: 580-37304
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Hexavalent chromium	81	89	80 - 120	10	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37304

Method: 6010B
Preparation: 7195

MS Lab Sample ID:	580-11548-15	Analysis Batch: 580-37361	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37304	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 5.3178 g
Date Analyzed:	10/22/2008 1625		Final Weight/Volume: 50 mL
Date Prepared:	10/22/2008 0919		

MSD Lab Sample ID:	580-11548-15	Analysis Batch: 580-37361	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37304	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 5.3178 g
Date Analyzed:	10/22/2008 1628		Final Weight/Volume: 50 mL
Date Prepared:	10/22/2008 0919		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Hexavalent chromium	94	89	75 - 125	6	35		

Duplicate - Batch: 580-37304

Method: 6010B
Preparation: 7195

Lab Sample ID:	580-11548-15	Analysis Batch: 580-37361	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37304	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 5.1754 g
Date Analyzed:	10/22/2008 1623		Final Weight/Volume: 50 mL
Date Prepared:	10/22/2008 0919		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Hexavalent chromium	ND	ND	14	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-37305

Method: 6010B
Preparation: 7195

Lab Sample ID: MB 580-37305/18-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/22/2008 1733
Date Prepared: 10/22/2008 0924

Analysis Batch: 580-37362
Prep Batch: 580-37305
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Hexavalent chromium	ND		0.26

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-37305

Method: 6010B
Preparation: 7195

LCS Lab Sample ID: LCS 580-37305/19-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/22/2008 1735
Date Prepared: 10/22/2008 0924

Analysis Batch: 580-37362
Prep Batch: 580-37305
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-37305/20-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/22/2008 1738
Date Prepared: 10/22/2008 0924

Analysis Batch: 580-37362
Prep Batch: 580-37305
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 5 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Hexavalent chromium	87	81	80 - 120	7	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-37305

Method: 6010B
Preparation: 7195

MS Lab Sample ID:	580-11548-29	Analysis Batch: 580-37362	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37305	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 5.2306 g
Date Analyzed:	10/22/2008 1750		Final Weight/Volume: 50 mL
Date Prepared:	10/22/2008 0924		

MSD Lab Sample ID:	580-11548-29	Analysis Batch: 580-37362	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37305	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 5.2306 g
Date Analyzed:	10/22/2008 1753		Final Weight/Volume: 50 mL
Date Prepared:	10/22/2008 0924		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Hexavalent chromium	86	87	75 - 125	1	35		

Duplicate - Batch: 580-37305

Method: 6010B
Preparation: 7195

Lab Sample ID:	580-11548-29	Analysis Batch: 580-37362	Instrument ID: SEA027
Client Matrix:	Solid	Prep Batch: 580-37305	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 5.3495 g
Date Analyzed:	10/22/2008 1746		Final Weight/Volume: 50 mL
Date Prepared:	10/22/2008 0924		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Hexavalent chromium	ND	ND	3	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-36966

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 580-36966/25-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/13/2008 1307
Date Prepared: 10/13/2008 1151

Analysis Batch: 580-36992
Prep Batch: 580-36966
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Mercury	ND		0.020

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-36966

Method: 7471A
Preparation: 7471A

LCS Lab Sample ID: LCS 580-36966/26-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/13/2008 1310
Date Prepared: 10/13/2008 1151

Analysis Batch: 580-36992
Prep Batch: 580-36966
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-36966/27-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/13/2008 1314
Date Prepared: 10/13/2008 1151

Analysis Batch: 580-36992
Prep Batch: 580-36966
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Mercury	102	101	75 - 125	1	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-36966

Method: 7471A
Preparation: 7471A

MS Lab Sample ID:	580-11548-13	Analysis Batch: 580-36992	Instrument ID: SEA029
Client Matrix:	Solid	Prep Batch: 580-36966	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5558 g
Date Analyzed:	10/13/2008 1424		Final Weight/Volume: 50 mL
Date Prepared:	10/13/2008 1151		

MSD Lab Sample ID:	580-11548-13	Analysis Batch: 580-36992	Instrument ID: SEA029
Client Matrix:	Solid	Prep Batch: 580-36966	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5635 g
Date Analyzed:	10/13/2008 1435		Final Weight/Volume: 50 mL
Date Prepared:	10/13/2008 1151		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	113	105	75 - 125	9	35		

Duplicate - Batch: 580-36966

Method: 7471A
Preparation: 7471A

Lab Sample ID:	580-11548-13	Analysis Batch: 580-36992	Instrument ID: SEA029
Client Matrix:	Solid	Prep Batch: 580-36966	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 0.5596 g
Date Analyzed:	10/13/2008 1417		Final Weight/Volume: 50 mL
Date Prepared:	10/13/2008 1151		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	ND	ND	NC	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-36969

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 580-36969/16-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/13/2008 1512
Date Prepared: 10/13/2008 1247

Analysis Batch: 580-36996
Prep Batch: 580-36969
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Mercury	ND		0.020

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-36969

Method: 7471A
Preparation: 7471A

LCS Lab Sample ID: LCS 580-36969/17-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/13/2008 1516
Date Prepared: 10/13/2008 1247

Analysis Batch: 580-36996
Prep Batch: 580-36969
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-36969/18-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/13/2008 1519
Date Prepared: 10/13/2008 1247

Analysis Batch: 580-36996
Prep Batch: 580-36969
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Mercury	102	100	75 - 125	2	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-36969

Method: 7471A
Preparation: 7471A

MS Lab Sample ID:	580-11548-29	Analysis Batch: 580-36996	Instrument ID: SEA029
Client Matrix:	Solid	Prep Batch: 580-36969	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5442 g
Date Analyzed:	10/13/2008 1610		Final Weight/Volume: 50 mL
Date Prepared:	10/13/2008 1247		

MSD Lab Sample ID:	580-11548-29	Analysis Batch: 580-36996	Instrument ID: SEA029
Client Matrix:	Solid	Prep Batch: 580-36969	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5570 g
Date Analyzed:	10/13/2008 1614		Final Weight/Volume: 50 mL
Date Prepared:	10/13/2008 1247		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	105	105	75 - 125	2	35		

Duplicate - Batch: 580-36969

Method: 7471A
Preparation: 7471A

Lab Sample ID:	580-11548-29	Analysis Batch: 580-36996	Instrument ID: SEA029
Client Matrix:	Solid	Prep Batch: 580-36969	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 0.5487 g
Date Analyzed:	10/13/2008 1603		Final Weight/Volume: 50 mL
Date Prepared:	10/13/2008 1247		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.030	0.0272	11	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Method Blank - Batch: 580-36972

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 580-36972/15-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/14/2008 0833
Date Prepared: 10/13/2008 1311

Analysis Batch: 580-37011
Prep Batch: 580-36972
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Mercury	ND		0.020

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-36972

Method: 7471A
Preparation: 7471A

LCS Lab Sample ID: LCS 580-36972/16-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/14/2008 0838
Date Prepared: 10/13/2008 1311

Analysis Batch: 580-37011
Prep Batch: 580-36972
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-36972/17-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/14/2008 0842
Date Prepared: 10/13/2008 1311

Analysis Batch: 580-37011
Prep Batch: 580-36972
Units: mg/Kg

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Mercury	102	104	75 - 125	1	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-36972

Method: 7471A
Preparation: 7471A

MS Lab Sample ID:	580-11548-36	Analysis Batch: 580-37011	Instrument ID: SEA029
Client Matrix:	Solid	Prep Batch: 580-36972	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5360 g
Date Analyzed:	10/14/2008 0914		Final Weight/Volume: 50 mL
Date Prepared:	10/13/2008 1311		

MSD Lab Sample ID:	580-11548-36	Analysis Batch: 580-37011	Instrument ID: SEA029
Client Matrix:	Solid	Prep Batch: 580-36972	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.5479 g
Date Analyzed:	10/14/2008 0927		Final Weight/Volume: 50 mL
Date Prepared:	10/13/2008 1311		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	91	105	75 - 125	10	35		

Duplicate - Batch: 580-36972

Method: 7471A
Preparation: 7471A

Lab Sample ID:	580-11548-36	Analysis Batch: 580-37011	Instrument ID: SEA029
Client Matrix:	Solid	Prep Batch: 580-36972	Lab File ID: N/A
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 0.5685 g
Date Analyzed:	10/14/2008 0905		Final Weight/Volume: 50 mL
Date Prepared:	10/13/2008 1311		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.025	ND	NC	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: Brown and Caldwell

Job Number: 580-11548-1
Sdg Number: Lott Admin Phase II

Lab Section	Qualifier	Description
GC/MS VOA		
	I	Indicates the presence of an interference, recovery is not calculated.
	X	Surrogate exceeds the control limits
GC/MS Semi VOA		
	F	MS or MSD exceeds the control limits
	F	RPD of the MS and MSD exceeds the control limits
GC Semi VOA		
	F	Duplicate RPD exceeds the control limit
	I	Indicates the presence of an interference, recovery is not calculated.
	X	Surrogate exceeds the control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
Metals		
	F	Duplicate RPD exceeds the control limit

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

October 29, 2008

TestAmerica Project Number: G8J130196
PO/Contract: 580-11548

Heather Curbow
TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424

Dear Ms. Curbow,

This report contains the analytical results for the samples received under chain of custody by TestAmerica on October 11, 2008. These samples are associated with your 580-11548 project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4402.

Sincerely,

Jill Kellmann
Project Manager

Laura Nelson
Project Administrator

Table of Contents

TestAmerica West Sacramento Project Number G8J130196

Case Narrative

Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

SOLID, 1613B, Dioxins/Furans
Samples: 1 through 25
- Sample Data Sheets
- Method Blank Report
- Laboratory QC Reports

SOLID, D 2216-90, Percent Moisture
Samples: 1 through 25
- Sample Data Sheets
- Laboratory QC Reports

Case Narrative

TestAmerica West Sacramento Project Number G8J130196

SOLID, 1613B, Dioxins/Furans
Samples: 1, 2, 4, 8, 11, 12, 14, 15, 16, 23
The above samples required DB-225 Confirmation (CON) analysis for 2,3,7,8-TCDF, which were performed October 27 and 28, 2008.

Sample: 2
Sample 2 was diluted 5X due to matrix interference. All internal standards are within control and meet signal to noise criteria. Detection limits have been adjusted accordingly.

There are no other anomalies associated with this project.

TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	New York*	11666
Arizona	AZ0616	Oregon*	CA 200005
Arkansas	04-067-0	Pennsylvania	68-1272
California*	01119CA	South Carolina	87014002
Colorado	NA	Texas	TX 270-2004A
Connecticut	PH-0691	Utah*	QUAN1
Florida*	E87570	Virginia	00178
Georgia	960	Washington	C087
Hawaii	NA	West Virginia	9930C, 334
Kansas*	E10375	Wisconsin	998204680
Louisiana*	01944	NFESC	NA
Michigan	9947	USACE	NA
Nevada	CA44	USDA Foreign Plant	37-82605
New Jersey*	CA005	USDA Foreign Soil	S-46613

*NELAP accredited. A more detailed parameter list is available upon request. Updated 9/21/07

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary

TestAmerica West Sacramento Project Number G8J130196

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
K0Q2M	1	DP17-2 (580-11548-1)	10/9/2008 01:15 PM	10/11/2008 10:00 AM
K0Q22	2	DP17-7 (580-11548-2)	10/9/2008 01:15 PM	10/11/2008 10:00 AM
K0Q23	3	DP17-10 (580-11548-3)	10/9/2008 01:15 PM	10/11/2008 10:00 AM
K0Q24	4	DP17-12 (580-11548-4)	10/9/2008 01:15 PM	10/11/2008 10:00 AM
K0Q25	5	DP18-2 (580-11548-5)	10/9/2008 02:30 PM	10/11/2008 10:00 AM
K0Q27	6	DP18-7 (580-11548-6)	10/9/2008 02:30 PM	10/11/2008 10:00 AM
K0Q29	7	DP18-10 (580-11548-7)	10/9/2008 02:30 PM	10/11/2008 10:00 AM
K0Q3A	8	DP18-12 (580-11548-8)	10/9/2008 02:30 PM	10/11/2008 10:00 AM
K0Q3D	9	DP25-2 (580-11548-13)	10/9/2008 02:10 PM	10/11/2008 10:00 AM
K0Q3E	10	DP25-7 (580-11548-14)	10/9/2008 02:10 PM	10/11/2008 10:00 AM
K0Q3G	11	DP25-10 (580-11548-15)	10/9/2008 02:10 PM	10/11/2008 10:00 AM
K0Q3H	12	DP25-12 (580-11548-16)	10/9/2008 02:10 PM	10/11/2008 10:00 AM
K0Q3K	13	DP27-2 (580-11548-21)	10/9/2008 10:15 AM	10/11/2008 10:00 AM
K0Q3M	14	DP27-7 (580-11548-22)	10/9/2008 10:15 AM	10/11/2008 10:00 AM
K0Q3N	15	DP27-10 (580-11548-23)	10/9/2008 10:15 AM	10/11/2008 10:00 AM
K0Q3P	16	DP27-12 (580-11548-24)	10/9/2008 10:15 AM	10/11/2008 10:00 AM
K0Q3R	17	TP01-4 (580-11548-34)	10/9/2008 10:30 AM	10/11/2008 10:00 AM
K0Q3T	18	TP02-2 (580-11548-35)	10/9/2008 11:30 AM	10/11/2008 10:00 AM
K0Q3V	19	TP02-4 (580-11548-36)	10/9/2008 11:30 AM	10/11/2008 10:00 AM
K0Q3W	20	TP03-2 (580-11548-37)	10/9/2008 12:15 PM	10/11/2008 10:00 AM
K0Q3X	21	TP03-4 (580-11548-38)	10/9/2008 12:15 PM	10/11/2008 10:00 AM
K0Q30	22	DUP 1 (580-11548-39)	10/9/2008 12:15 PM	10/11/2008 10:00 AM
K0Q32	23	DUP 3 (580-11548-41)	10/9/2008 12:15 PM	10/11/2008 10:00 AM
K0Q33	24	DUP 4 (580-11548-42)	10/9/2008 12:15 PM	10/11/2008 10:00 AM
K0Q34	25	TP01-2 (580-11548-33)	10/9/2008 10:30 PM	10/11/2008 10:00 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as “ND” were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

G8J130196

TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

testAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Curbow, Heather	Carrier Tracking No(s):	COC No: 580-1586.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: heather.curbow@testamericainc.com		Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 580-11548-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/29/2008			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605	PO #: 580-11548			
Phone: 916-373-5600(Tel)	WO #:			Other:
Email:	Project #: 58002367			
Project Name: WA DOE Project - Soil Event 1	SSOW#:			
Site:				

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ West Sacramento DIOXINS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
DP25-12 (580-11548-16)	10/9/08	14:10		Solid			X	1	labeled @ 1425
DP27-2 (580-11548-21)	10/9/08	10:15		Solid			X	1	
DP27-7 (580-11548-22)	10/9/08	10:15		Solid			X	1	1045
DP27-10 (580-11548-23)	10/9/08	10:15		Solid			X	1	at 10:45 08
DP27-12 (580-11548-24)	10/9/08	10:15		Solid			X	1	
TP01-4 (580-11548-34)	10/9/08	10:30		Solid			X	1	
TP02-2 (580-11548-35)	10/9/08	11:30		Solid			X	1	
TP02-4 (580-11548-36)	10/9/08	11:30		Solid			X	1	
TP03-2 (580-11548-37)	10/9/08	12:15		Solid			X	1	
TP03-4 (580-11548-38)	10/9/08	12:15		Solid			X	1	
DUP 1 (580-11548-39)	10/9/08	12:15		Solid			X	1	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10-10-08 16:00pm	TAL-TAC		10/10/08 1245	TAL-WJ
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2°C

TestAmerica West Sacramento (916) 373 - 5600

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G8J130196

TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler	Lab PM: Curbow, Heather	Carrier Tracking No(s):	COC No: 580-1586.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: heather.curbow@testamericainc.com		Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.				Job #: 580-11548-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/29/2008			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel)	PO #: 580-11548			
Email:	WO #:			
Project Name: WA DOE Project - Soil Event 1	Project #: 58002367			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ West Sacramento DIOXINS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
DUP 3 (580-11548-41)	10/9/08	12:15		Solid			X	1	
DUP 4 (580-11548-42)	10/9/08	12:15		Solid			X	1	
rec'd 580-11548-33 @ 10-11-08	10-9	1030							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
J Harding	10-10-08 16:00pm	TAL-TAC	Chad Hoo	10-11-08 1245	TAL-WS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2°C

G8J130196

TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler	Lab PM: Curbow, Heather	Carrier Tracking No(s):	COC No: 580-1586.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: heather.curbow@testamericainc.com		Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.				Job #: 580-11548-1

Address: 880 Riverside Parkway,	Due Date Requested: 10/29/2008
City: West Sacramento	TAT Requested (days):
State, Zip: CA, 95605	
Phone: 916-373-5600(Tel)	PO #: 580-11548
Email:	WO #:
Project Name: WA DOE Project - Soil Event 1	Project #: 58002367
Site:	SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ West Sacramento DIOXINS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
DP17-2 (580-11548-1)	10/9/08	13:15		Solid			X	1	labeled @ 1310
DP17-7 (580-11548-2)	10/9/08	13:15		Solid			X	1	1319
DP17-10 (580-11548-3)	10/9/08	13:15		Solid			X	1	1325
DP17-12 (580-11548-4)	10/9/08	13:15		Solid			X	1	1331
DP18-2 (580-11548-5)	10/9/08	14:30		Solid			X	1	1435
DP18-7 (580-11548-6)	10/9/08	14:30		Solid			X	1	1435
DP18-10 (580-11548-7)	10/9/08	14:30		Solid			X	1	1449
DP18-12 (580-11548-8)	10/9/08	14:30		Solid			X	1	1449
DP25-2 (580-11548-13)	10/9/08	14:10		Solid			X	1	1413
DP25-7 (580-11548-14)	10/9/08	14:10		Solid			X	1	1415
DP25-10 (580-11548-15)	10/9/08	14:10		Solid			X	1	1420

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Archive for 8
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 10-10-08 16:00 pm	Company: TAL-TAC	Received by:	Date/Time: 10-11-08 1245	Company: TAL-WS
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 2°C

TestAmerica
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LOT RECEIPT CHECKLIST
TestAmerica West Sacramento

CLIENT TAL-Tacoma PM VK LOG # 54780

LOT# (QUANTIMS ID) G8J130196 QUOTE# ~~60788~~ 45270 LOCATION W13D

	Initials	Date
DATE RECEIVED 10-11-08 TIME RECEIVED 1000	QA	10-11-08

DELIVERED BY ☒ FEDEX ☐ CA OVERNIGHT ☐ CLIENT
☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL
☐ UPS ☐ BAX GLOBAL ☐ GO-GETTERS
☐ TAL COURIER ☐ VALLEY LOGISTICS ☐ MORGAN HILL COURIER
☐ OTHER

CUSTODY SEAL STATUS ☒ INTACT ☐ BROKEN ☐ N/A

CUSTODY SEAL #(S) 91783

SHIPPPING CONTAINER(S) ☒ TAL ☐ CLIENT ☐ N/A

TEMPERTURE RECORD (IN °C) IR 4 ☒ 5 ☐ ☐ OTHER

COC #(S)

TEMPERATURE BLANK Observed: 0 Corrected: 2

SAMPLE TEMPERATURE
Observed: 1 0 1 Average: 1 Corrected Average: 2

COLLECTOR'S NAME: ☐ Verified from COC ☐ Not on COC

pH MEASURED ☐ YES ☐ ANOMALY ☐ N/A — QA — 10/13/08

LABELED BY.....

LABELS CHECKED BY.....
PEER REVIEW _____ ☐ NA

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING
WETCHEM ☐ N/A
VOA-ENCORES ☐ N/A

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL ☐ N/A

☐ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES ☒ N/A

☒ CLOUSEAU ☐ TEMPERATURE EXCEEDED (2 °C – 6 °C)*1 ☐ N/A

☐ WET ICE ☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED ☒ PM NOTIFIED

Notes: See COC for time differences
rec'd 580-11548-33 not listed on COC

*1 Acceptable temperature range for State of Wisconsin samples is≤4°C.

LEAVE NO SPACES BLANK. USE "N/A" IF NOT APPLICABLE.

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TestAmerica West Sacramento

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Bottle Lot Inventory

Lot ID: G8J130196

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*																				
VOAh*																				
AGB																				
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				
____AGJ																				
500AGJ																				
250AGJ																				
125AGJ																				
____CGJ																				
500CGJ																				
250CGJ																				
125CGJ	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
PJ																				
PJn																				
500PJ																				
500PJn																				
500PJna																				
500PJzn/na																				
250PJ																				
250PJn																				
250PJna																				
250PJzn/na																				
Acetate Tube																				
_____"CT																				
Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid **s** = sulfuric acid **na** = sodium hydroxide **n** = nitric acid **zn** = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

QA-185 5/05 EM

Page 3

LEAVE NO SPACES BLANK. USE "NA" IF NOT APPLICABLE.

SOLID, 1613B, Dioxins/Furans

TestAmerica Tacoma

Client Sample ID: DP17-2 (580-11548-1)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-001 **Work Order #...:** K0Q2M1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**20**		**pg/g**	**EPA-5 1613B**
Total PeCDF	**3.7**		**pg/g**	**EPA-5 1613B**
Total HxCDF	**6.1**		**pg/g**	**EPA-5 1613B**
Total HpCDF	**16**		**pg/g**	**EPA-5 1613B**
Total TCDD	**14**		**pg/g**	**EPA-5 1613B**
Total PeCDD	**16**		**pg/g**	**EPA-5 1613B**
Total HxCDD	**28**		**pg/g**	**EPA-5 1613B**
Total HpCDD	**65**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.38	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.92	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.78	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	1.8	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	1.6	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	**36**		**pg/g**	**EPA-5 1613B**
OCDD	**340**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	**2.0 CON**		**pg/g**	**EPA-5 1613B**
1,2,3,7,8-PeCDF	ND	0.99	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	1.1	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.99	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.60	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.92	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.23	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	**5.4**		**pg/g**	**EPA-5 1613B**
1,2,3,4,7,8,9-HpCDF	ND	0.28	pg/g	EPA-5 1613B
OCDF	**13**		**pg/g**	**EPA-5 1613B**

(Continued on next page)

TestAmerica Tacoma

Client Sample ID: DP17-2 (580-11548-1)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-001 **Work Order #...:** K0Q2M1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	(25 - 164)
13C-1,2,3,7,8-PeCDD	86	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	80	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	92	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	82	(23 - 140)
13C-OCDD	81	(17 - 157)
13C-2,3,7,8-TCDF	80	(24 - 169)
13C-1,2,3,7,8-PeCDF	79	(24 - 185)
13C-2,3,4,7,8-PeCDF	85	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	86	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	85	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	80	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	82	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	76	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	82	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: DP17-7 (580-11548-2)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-002 **Work Order #...:** K0Q221AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/27/08
Prep Batch #...: 8291485
Dilution Factor: 5

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**3.4**		**pg/g**	**EPA-5 1613B**
Total PeCDF	ND	2.6	pg/g	EPA-5 1613B
Total HxCDF	ND	1.7	pg/g	EPA-5 1613B
Total HpCDF	ND	3.1	pg/g	EPA-5 1613B
Total TCDD	**3.6**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	3.0	pg/g	EPA-5 1613B
Total HxCDD	ND	5.3	pg/g	EPA-5 1613B
Total HpCDD	ND	5.3	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.30	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.45	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.53	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.37	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.79	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	4.1	pg/g	EPA-5 1613B
OCDD	ND	31	pg/g	EPA-5 1613B
2,3,7,8-TCDF	ND CON	2.1	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.49	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.64	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.64	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.37	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.29	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.098	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	2.7	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.26	pg/g	EPA-5 1613B
OCDF	ND	3.9	pg/g	EPA-5 1613B

(Continued on next page)

TestAmerica Tacoma

Client Sample ID: DP17-7 (580-11548-2)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-002 **Work Order #...:** K0Q221AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	96	(25 - 164)
13C-1,2,3,7,8-PeCDD	100	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	94	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	102	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	94	(23 - 140)
13C-OCDD	87	(17 - 157)
13C-2,3,7,8-TCDF	92	(24 - 169)
13C-1,2,3,7,8-PeCDF	101	(24 - 185)
13C-2,3,4,7,8-PeCDF	106	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	95	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	99	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	90	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	76	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	104	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	94	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	100	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: DP17-10 (580-11548-3)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-003 **Work Order #...:** K0Q231AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	1.4	pg/g	EPA-5 1613B
Total PeCDF	ND	0.57	pg/g	EPA-5 1613B
Total HxCDF	ND	0.19	pg/g	EPA-5 1613B
Total HpCDF	ND	0.28	pg/g	EPA-5 1613B
Total TCDD	ND	1.1	pg/g	EPA-5 1613B
Total PeCDD	ND	0.66	pg/g	EPA-5 1613B
Total HxCDD	ND	2.0	pg/g	EPA-5 1613B
Total HpCDD	ND	1.7	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.15	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.31	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.23	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.21	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.27	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	1.2	pg/g	EPA-5 1613B
OCDD	ND	7.9	pg/g	EPA-5 1613B
2,3,7,8-TCDF	ND	1.2	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.14	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.15	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.17	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.16	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.16	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.19	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.27	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.28	pg/g	EPA-5 1613B
OCDF	ND	0.39	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP17-10 (580-11548-3)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-003 **Work Order #...:** K0Q231AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	93	(25 - 164)
13C-1,2,3,7,8-PeCDD	94	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	101	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	91	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	95	(23 - 140)
13C-OCDD	100	(17 - 157)
13C-2,3,7,8-TCDF	91	(24 - 169)
13C-1,2,3,7,8-PeCDF	90	(24 - 185)
13C-2,3,4,7,8-PeCDF	95	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	89	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	93	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	88	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	93	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	97	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	96	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	92	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Tacoma

Client Sample ID: DP17-12 (580-11548-4)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-004 **Work Order #...:** K0Q241AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**17**		**pg/g**	**EPA-5 1613B**
Total PeCDF	ND	2.6	pg/g	EPA-5 1613B
Total HxCDF	ND	2.2	pg/g	EPA-5 1613B
Total HpCDF	**7.4**		**pg/g**	**EPA-5 1613B**
Total TCDD	**8.3**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	2.7	pg/g	EPA-5 1613B
Total HxCDD	**12**		**pg/g**	**EPA-5 1613B**
Total HpCDD	**17**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.23	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.68	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.38	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.94	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	1.0	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	**8.4**		**pg/g**	**EPA-5 1613B**
OCDD	**53**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	**1.7 CON**		**pg/g**	**EPA-5 1613B**
1,2,3,7,8-PeCDF	ND	0.74	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.70	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.61	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.53	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.64	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.12	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	**3.5 J**		**pg/g**	**EPA-5 1613B**
1,2,3,4,7,8,9-HpCDF	ND	0.16	pg/g	EPA-5 1613B
OCDF	ND	3.7	pg/g	EPA-5 1613B

(Continued on next page)

TestAmerica Tacoma

Client Sample ID: DP17-12 (580-11548-4)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-004 **Work Order #...:** K0Q241AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	84	(25 - 164)
13C-1,2,3,7,8-PeCDD	94	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	103	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	84	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	86	(23 - 140)
13C-OCDD	83	(17 - 157)
13C-2,3,7,8-TCDF	85	(24 - 169)
13C-1,2,3,7,8-PeCDF	90	(24 - 185)
13C-2,3,4,7,8-PeCDF	89	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	101	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	98	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	91	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	79	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	86	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	117	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	95	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CON Confirmation analysis.

J Estimated result. Result is less than the reporting limit.

TestAmerica Tacoma

Client Sample ID: DP18-2 (580-11548-5)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-005 **Work Order #...:** K0Q251AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.17	pg/g	EPA-5 1613B
Total PeCDF	ND	0.44	pg/g	EPA-5 1613B
Total HxCDF	ND	0.60	pg/g	EPA-5 1613B
Total HpCDF	ND	1.3	pg/g	EPA-5 1613B
Total TCDD	ND	0.29	pg/g	EPA-5 1613B
Total PeCDD	ND	0.29	pg/g	EPA-5 1613B
Total HxCDD	ND	0.88	pg/g	EPA-5 1613B
Total HpCDD	**9.1**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.066	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.13	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.45	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.39	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.30	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	**4.4 J**		**pg/g**	**EPA-5 1613B**
OCDD	**49**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.17	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.071	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.070	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.086	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.10	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.081	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.10	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.67	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.16	pg/g	EPA-5 1613B
OCDF	ND	1.8	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP18-2 (580-11548-5)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-005 **Work Order #...:** K0Q251AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	91	(25 - 164)
13C-1,2,3,7,8-PeCDD	92	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	108	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	94	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	102	(23 - 140)
13C-OCDD	106	(17 - 157)
13C-2,3,7,8-TCDF	80	(24 - 169)
13C-1,2,3,7,8-PeCDF	80	(24 - 185)
13C-2,3,4,7,8-PeCDF	85	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	89	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	94	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	86	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	90	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	94	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	99	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	88	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

TestAmerica Tacoma

Client Sample ID: DP18-7 (580-11548-6)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-006 **Work Order #...:** K0Q271AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.078	pg/g	EPA-5 1613B
Total PeCDF	ND	0.059	pg/g	EPA-5 1613B
Total HxCDF	ND	0.053	pg/g	EPA-5 1613B
Total HpCDF	ND	0.14	pg/g	EPA-5 1613B
Total TCDD	**2.0**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.30	pg/g	EPA-5 1613B
Total HxCDD	ND	1.9	pg/g	EPA-5 1613B
Total HpCDD	**6.0**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.094	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.091	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.064	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.16	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.34	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	3.2	pg/g	EPA-5 1613B
OCDD	**43**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.038	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.040	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.045	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.035	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.034	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.030	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.035	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.14	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.13	pg/g	EPA-5 1613B
OCDF	ND	0.18	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP18-7 (580-11548-6)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-006 **Work Order #...:** K0Q271AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	93	(25 - 164)
13C-1,2,3,7,8-PeCDD	88	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	103	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	90	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	98	(23 - 140)
13C-OCDD	98	(17 - 157)
13C-2,3,7,8-TCDF	82	(24 - 169)
13C-1,2,3,7,8-PeCDF	80	(24 - 185)
13C-2,3,4,7,8-PeCDF	82	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	81	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	88	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	85	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	84	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	93	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	89	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	92	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Tacoma

Client Sample ID: DP18-10 (580-11548-7)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-007 **Work Order #...:** K0Q291AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.083	pg/g	EPA-5 1613B
Total PeCDF	ND	0.17	pg/g	EPA-5 1613B
Total HxCDF	ND	0.26	pg/g	EPA-5 1613B
Total HpCDF	ND	0.60	pg/g	EPA-5 1613B
Total TCDD	**1.6**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.35	pg/g	EPA-5 1613B
Total HxCDD	ND	1.6	pg/g	EPA-5 1613B
Total HpCDD	**4.4**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.078	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.090	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.086	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.17	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.31	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	2.4	pg/g	EPA-5 1613B
OCDD	**26**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.081	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.030	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.032	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.023	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.034	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.031	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.026	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.60	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.064	pg/g	EPA-5 1613B
OCDF	ND	0.39	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP18-10 (580-11548-7)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-007 **Work Order #...:** K0Q291AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(25 - 164)
13C-1,2,3,7,8-PeCDD	88	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	99	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	85	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	96	(23 - 140)
13C-OCDD	100	(17 - 157)
13C-2,3,7,8-TCDF	80	(24 - 169)
13C-1,2,3,7,8-PeCDF	77	(24 - 185)
13C-2,3,4,7,8-PeCDF	80	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	77	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	83	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	82	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	82	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	89	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	87	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	88	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Tacoma

Client Sample ID: DP18-12 (580-11548-8)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-008 **Work Order #...:** K0Q3A1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**5.1**		**pg/g**	**EPA-5 1613B**
Total PeCDF	ND	1.2	pg/g	EPA-5 1613B
Total HxCDF	ND	0.48	pg/g	EPA-5 1613B
Total HpCDF	ND	0.85	pg/g	EPA-5 1613B
Total TCDD	**3.7**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	1.7	pg/g	EPA-5 1613B
Total HxCDD	ND	2.8	pg/g	EPA-5 1613B
Total HpCDD	ND	2.1	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.25	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.25	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.29	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.30	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.40	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	2.1	pg/g	EPA-5 1613B
OCDD	ND	10	pg/g	EPA-5 1613B
2,3,7,8-TCDF	ND CON	1.7	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.31	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.44	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.34	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.19	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.093	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.10	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.85	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.16	pg/g	EPA-5 1613B
OCDF	ND	0.73	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP18-12 (580-11548-8)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-008 **Work Order #...:** K0Q3A1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	92	(25 - 164)
13C-1,2,3,7,8-PeCDD	89	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	100	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	95	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	99	(23 - 140)
13C-OCDD	103	(17 - 157)
13C-2,3,7,8-TCDF	83	(24 - 169)
13C-1,2,3,7,8-PeCDF	77	(24 - 185)
13C-2,3,4,7,8-PeCDF	84	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	84	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	87	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	86	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	88	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	90	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	90	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	90	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: DP25-2 (580-11548-13)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-009 **Work Order #...:** K0Q3D1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.064	pg/g	EPA-5 1613B
Total PeCDF	ND	0.050	pg/g	EPA-5 1613B
Total HxCDF	ND	0.11	pg/g	EPA-5 1613B
Total HpCDF	ND	0.40	pg/g	EPA-5 1613B
Total TCDD	**2.1**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.40	pg/g	EPA-5 1613B
Total HxCDD	ND	1.7	pg/g	EPA-5 1613B
Total HpCDD	**5.9**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.10	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.078	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.25	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.18	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.34	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	3.3	pg/g	EPA-5 1613B
OCDD	**51**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.027	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.030	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.031	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.028	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.014	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.022	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.016	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.40	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.14	pg/g	EPA-5 1613B
OCDF	ND	0.30	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP25-2 (580-11548-13)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-009 **Work Order #...:** K0Q3D1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(25 - 164)
13C-1,2,3,7,8-PeCDD	83	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	91	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	100	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	96	(23 - 140)
13C-OCDD	107	(17 - 157)
13C-2,3,7,8-TCDF	79	(24 - 169)
13C-1,2,3,7,8-PeCDF	74	(24 - 185)
13C-2,3,4,7,8-PeCDF	79	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	86	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	84	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	83	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	85	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	90	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	87	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	93	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Tacoma

Client Sample ID: DP25-7 (580-11548-14)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-010 **Work Order #...:** K0Q3E1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.43	pg/g	EPA-5 1613B
Total PeCDF	ND	1.1	pg/g	EPA-5 1613B
Total HxCDF	ND	1.2	pg/g	EPA-5 1613B
Total HpCDF	ND	2.0	pg/g	EPA-5 1613B
Total TCDD	**2.2**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.35	pg/g	EPA-5 1613B
Total HxCDD	ND	1.7	pg/g	EPA-5 1613B
Total HpCDD	**4.6**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.098	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.11	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.16	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.16	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.27	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	2.3	pg/g	EPA-5 1613B
OCDD	**27**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.43	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.10	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.090	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.11	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.087	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.16	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.038	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	2.0	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.077	pg/g	EPA-5 1613B
OCDF	ND	1.2	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP25-7 (580-11548-14)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-010 **Work Order #...:** K0Q3E1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	(25 - 164)
13C-1,2,3,7,8-PeCDD	80	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	90	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	105	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	92	(23 - 140)
13C-OCDD	96	(17 - 157)
13C-2,3,7,8-TCDF	77	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	73	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	85	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	84	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	82	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	83	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	85	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	90	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	91	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Tacoma

Client Sample ID: DP25-10 (580-11548-15)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-011 **Work Order #...:** K0Q3G1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	93	(25 - 164)
13C-1,2,3,7,8-PeCDD	92	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	110	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	91	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	94	(23 - 140)
13C-OCDD	90	(17 - 157)
13C-2,3,7,8-TCDF	83	(24 - 169)
13C-1,2,3,7,8-PeCDF	80	(24 - 185)
13C-2,3,4,7,8-PeCDF	82	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	96	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	94	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	90	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	80	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	84	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	101	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	96	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CON Confirmation analysis.

J Estimated result. Result is less than the reporting limit.

TestAmerica Tacoma

Client Sample ID: DP25-12 (580-11548-16)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-012 **Work Order #...:** K0Q3H1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**6.1**		**pg/g**	**EPA-5 1613B**
Total PeCDF	ND	1.5	pg/g	EPA-5 1613B
Total HxCDF	ND	0.53	pg/g	EPA-5 1613B
Total HpCDF	ND	1.6	pg/g	EPA-5 1613B
Total TCDD	**2.6**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	2.1	pg/g	EPA-5 1613B
Total HxCDD	ND	5.3	pg/g	EPA-5 1613B
Total HpCDD	ND	11	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.43	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.62	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.48	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.57	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.53	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	11	pg/g	EPA-5 1613B
OCDD	**370**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND CON	1.5	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.38	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.44	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.48	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.39	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.37	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.44	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	1.2	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.41	pg/g	EPA-5 1613B
OCDF	ND	4.2	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP25-12 (580-11548-16)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-012 **Work Order #...:** K0Q3H1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	94	(25 - 164)
13C-1,2,3,7,8-PeCDD	95	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	106	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	92	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	99	(23 - 140)
13C-OCDD	102	(17 - 157)
13C-2,3,7,8-TCDF	82	(24 - 169)
13C-1,2,3,7,8-PeCDF	81	(24 - 185)
13C-2,3,4,7,8-PeCDF	84	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	83	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	89	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	87	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	86	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	92	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	95	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	95	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: DP27-2 (580-11548-21)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-013 **Work Order #...:** K0Q3K1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.043	pg/g	EPA-5 1613B
Total PeCDF	ND	0.065	pg/g	EPA-5 1613B
Total HxCDF	ND	0.072	pg/g	EPA-5 1613B
Total HpCDF	ND	0.20	pg/g	EPA-5 1613B
Total TCDD	ND	0.55	pg/g	EPA-5 1613B
Total PeCDD	ND	0.12	pg/g	EPA-5 1613B
Total HxCDD	ND	0.51	pg/g	EPA-5 1613B
Total HpCDD	ND	1.5	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.033	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.077	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.048	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.042	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.16	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	0.80	pg/g	EPA-5 1613B
OCDD	**9.6 J**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.043	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.035	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.037	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.031	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.030	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.030	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.034	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.20	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.12	pg/g	EPA-5 1613B
OCDF	ND	0.23	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP27-2 (580-11548-21)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-013 **Work Order #...:** K0Q3K1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(25 - 164)
13C-1,2,3,7,8-PeCDD	84	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	102	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	88	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	91	(23 - 140)
13C-OCDD	88	(17 - 157)
13C-2,3,7,8-TCDF	81	(24 - 169)
13C-1,2,3,7,8-PeCDF	75	(24 - 185)
13C-2,3,4,7,8-PeCDF	77	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	77	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	81	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	78	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	79	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	83	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	85	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	91	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

TestAmerica Tacoma

Client Sample ID: DP25-10 (580-11548-15)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-011 **Work Order #...:** K0Q3G1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**60**		**pg/g**	**EPA-5 1613B**
Total PeCDF	**8.3**		**pg/g**	**EPA-5 1613B**
Total HxCDF	**20**		**pg/g**	**EPA-5 1613B**
Total HpCDF	**69**		**pg/g**	**EPA-5 1613B**
Total TCDD	**41**		**pg/g**	**EPA-5 1613B**
Total PeCDD	**28**		**pg/g**	**EPA-5 1613B**
Total HxCDD	**35**		**pg/g**	**EPA-5 1613B**
Total HpCDD	**39**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.91	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	1.9	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	1.6	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	2.3	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	3.1	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	**20**		**pg/g**	**EPA-5 1613B**
OCDD	**87**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	**6.9 CON**		**pg/g**	**EPA-5 1613B**
1,2,3,7,8-PeCDF	ND	2.3	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	2.3	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	2.2	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	1.7	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	1.8	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.26	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	**42**		**pg/g**	**EPA-5 1613B**
1,2,3,4,7,8,9-HpCDF	ND	0.59	pg/g	EPA-5 1613B
OCDF	**21 J**		**pg/g**	**EPA-5 1613B**

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TestAmerica Tacoma

Client Sample ID: DP27-7 (580-11548-22)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-014 **Work Order #...:** K0Q3M1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**22**		**pg/g**	**EPA-5 1613B**
Total PeCDF	**4.0**		**pg/g**	**EPA-5 1613B**
Total HxCDF	ND	2.3	pg/g	EPA-5 1613B
Total HpCDF	ND	2.2	pg/g	EPA-5 1613B
Total TCDD	**18**		**pg/g**	**EPA-5 1613B**
Total PeCDD	**15**		**pg/g**	**EPA-5 1613B**
Total HxCDD	**20**		**pg/g**	**EPA-5 1613B**
Total HpCDD	**22**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.47	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	1.4	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.93	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	1.7	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	1.9	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	**11**		**pg/g**	**EPA-5 1613B**
OCDD	**47**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	**2.5 CON**		**pg/g**	**EPA-5 1613B**
1,2,3,7,8-PeCDF	ND	1.2	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	1.5	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	1.3	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.85	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.85	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.21	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	2.2	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.22	pg/g	EPA-5 1613B
OCDF	ND	2.6	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP27-7 (580-11548-22)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-014 **Work Order #...:** K0Q3M1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	(25 - 164)
13C-1,2,3,7,8-PeCDD	81	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	86	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	101	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	93	(23 - 140)
13C-OCDD	95	(17 - 157)
13C-2,3,7,8-TCDF	75	(24 - 169)
13C-1,2,3,7,8-PeCDF	70	(24 - 185)
13C-2,3,4,7,8-PeCDF	74	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	83	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	84	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	81	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	80	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	86	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	78	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	91	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: DP27-10 (580-11548-23)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-015 **Work Order #...:** K0Q3N1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**12**		**pg/g**	**EPA-5 1613B**
Total PeCDF	**8.3**		**pg/g**	**EPA-5 1613B**
Total HxCDF	ND	2.7	pg/g	EPA-5 1613B
Total HpCDF	ND	1.2	pg/g	EPA-5 1613B
Total TCDD	**1.4**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.54	pg/g	EPA-5 1613B
Total HxCDD	ND	1.0	pg/g	EPA-5 1613B
Total HpCDD	ND	2.5	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.19	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.11	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.15	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.19	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.17	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	1.2	pg/g	EPA-5 1613B
OCDD	**15**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	**1.2 J,CON**		**pg/g**	**EPA-5 1613B**
1,2,3,7,8-PeCDF	ND	0.19	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.38	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.19	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.20	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.28	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.070	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	1.2	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.070	pg/g	EPA-5 1613B
OCDF	ND	0.40	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP27-10 (580-11548-23)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-015 **Work Order #...:** K0Q3N1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	81	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	80	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	92	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
13C-OCDD	80	(17 - 157)
13C-2,3,7,8-TCDF	69	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	78	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	76	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	71	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	74	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	75	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: DP27-12 (580-11548-24)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-016 **Work Order #...:** K0Q3P1AA **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**5.8**		**pg/g**	**EPA-5 1613B**
Total PeCDF	ND	1.7	pg/g	EPA-5 1613B
Total HxCDF	ND	1.3	pg/g	EPA-5 1613B
Total HpCDF	ND	3.1	pg/g	EPA-5 1613B
Total TCDD	**4.3**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	1.2	pg/g	EPA-5 1613B
Total HxCDD	ND	2.4	pg/g	EPA-5 1613B
Total HpCDD	**6.0**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.14	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.15	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.028	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.31	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.46	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	3.6	pg/g	EPA-5 1613B
OCDD	**33**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	**1.2 J,CON**		**pg/g**	**EPA-5 1613B**
1,2,3,7,8-PeCDF	ND	0.31	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.32	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.15	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.20	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.24	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.084	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	3.1	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.090	pg/g	EPA-5 1613B
OCDF	ND	1.5	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DP27-12 (580-11548-24)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-016 **Work Order #...:** K0Q3P1AA **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	87	(25 - 164)
13C-1,2,3,7,8-PeCDD	76	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	89	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	98	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	84	(23 - 140)
13C-OCDD	79	(17 - 157)
13C-2,3,7,8-TCDF	76	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	71	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	86	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	83	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	78	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	76	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	77	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	82	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: TP01-4 (580-11548-34)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-017 **Work Order #...:** K0Q3R1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.34	pg/g	EPA-5 1613B
Total PeCDF	ND	0.43	pg/g	EPA-5 1613B
Total HxCDF	ND	1.6	pg/g	EPA-5 1613B
Total HpCDF	**8.5**		**pg/g**	**EPA-5 1613B**
Total TCDD	**1.2**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.55	pg/g	EPA-5 1613B
Total HxCDD	ND	2.0	pg/g	EPA-5 1613B
Total HpCDD	**24**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.082	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.091	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.25	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.30	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.30	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	**13**		**pg/g**	**EPA-5 1613B**
OCDD	**120**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.34	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.096	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.11	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.24	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.11	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.055	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.045	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	2.0	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.19	pg/g	EPA-5 1613B
OCDF	**10 J**		**pg/g**	**EPA-5 1613B**

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TestAmerica Tacoma

Client Sample ID: TP01-4 (580-11548-34)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-017 **Work Order #...:** K0Q3R1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	(25 - 164)
13C-1,2,3,7,8-PeCDD	88	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	76	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	104	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	87	(23 - 140)
13C-OCDD	75	(17 - 157)
13C-2,3,7,8-TCDF	88	(24 - 169)
13C-1,2,3,7,8-PeCDF	89	(24 - 185)
13C-2,3,4,7,8-PeCDF	93	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	97	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	90	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	88	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	92	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	93	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	82	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	93	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

TestAmerica Tacoma

Client Sample ID: TP02-2 (580-11548-35)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-018 **Work Order #...:** K0Q3T1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.37	pg/g	EPA-5 1613B
Total PeCDF	ND	0.56	pg/g	EPA-5 1613B
Total HxCDF	ND	0.93	pg/g	EPA-5 1613B
Total HpCDF	**3.7**		**pg/g**	**EPA-5 1613B**
Total TCDD	**2.0**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.52	pg/g	EPA-5 1613B
Total HxCDD	ND	1.7	pg/g	EPA-5 1613B
Total HpCDD	**23**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.13	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.21	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.20	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.33	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.45	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	**9.4**		**pg/g**	**EPA-5 1613B**
OCDD	**210**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.37	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.057	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.096	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.12	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.11	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.12	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.050	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	2.1	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.11	pg/g	EPA-5 1613B
OCDF	ND	4.0	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: TP02-2 (580-11548-35)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-018 **Work Order #...:** K0Q3T1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	81	(25 - 164)
13C-1,2,3,7,8-PeCDD	76	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	93	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
13C-OCDD	66	(17 - 157)
13C-2,3,7,8-TCDF	79	(24 - 169)
13C-1,2,3,7,8-PeCDF	77	(24 - 185)
13C-2,3,4,7,8-PeCDF	77	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	85	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	84	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	77	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	82	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	82	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	79	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Tacoma

Client Sample ID: TP02-4 (580-11548-36)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-019 **Work Order #...:** K0Q3V1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.024	pg/g	EPA-5 1613B
Total PeCDF	ND	0.059	pg/g	EPA-5 1613B
Total HxCDF	ND	0.026	pg/g	EPA-5 1613B
Total HpCDF	ND	0.12	pg/g	EPA-5 1613B
Total TCDD	ND	0.28	pg/g	EPA-5 1613B
Total PeCDD	ND	0.062	pg/g	EPA-5 1613B
Total HxCDD	ND	0.15	pg/g	EPA-5 1613B
Total HpCDD	ND	0.53	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.036	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.051	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.077	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.037	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.037	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	0.30	pg/g	EPA-5 1613B
OCDD	ND	3.3	pg/g	EPA-5 1613B
2,3,7,8-TCDF	ND	0.024	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.035	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.036	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.015	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.014	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.015	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.018	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.10	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.041	pg/g	EPA-5 1613B
OCDF	ND	0.093	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: TP02-4 (580-11548-36)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-019 **Work Order #...:** K0Q3V1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	(25 - 164)
13C-1,2,3,7,8-PeCDD	85	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	83	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	93	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	86	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	86	(24 - 169)
13C-1,2,3,7,8-PeCDF	85	(24 - 185)
13C-2,3,4,7,8-PeCDF	89	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	94	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	93	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	89	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	91	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	88	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	86	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	92	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Tacoma

Client Sample ID: TP03-2 (580-11548-37)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-020 **Work Order #...:** K0Q3W1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/17/08 **Analysis Date..:** 10/26/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.027	pg/g	EPA-5 1613B
Total PeCDF	ND	0.041	pg/g	EPA-5 1613B
Total HxCDF	ND	0.053	pg/g	EPA-5 1613B
Total HpCDF	ND	0.33	pg/g	EPA-5 1613B
Total TCDD	ND	0.23	pg/g	EPA-5 1613B
Total PeCDD	ND	0.048	pg/g	EPA-5 1613B
Total HxCDD	ND	0.18	pg/g	EPA-5 1613B
Total HpCDD	ND	0.93	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.032	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.047	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.074	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.050	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.055	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	0.79	pg/g	EPA-5 1613B
OCDD	**7.2 J**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.027	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.039	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.041	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.019	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.017	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.017	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.022	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.12	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.060	pg/g	EPA-5 1613B
OCDF	ND	0.42	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: TP03-2 (580-11548-37)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-020 **Work Order #...:** K0Q3W1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(25 - 164)
13C-1,2,3,7,8-PeCDD	84	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	86	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	96	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	90	(23 - 140)
13C-OCDD	75	(17 - 157)
13C-2,3,7,8-TCDF	85	(24 - 169)
13C-1,2,3,7,8-PeCDF	85	(24 - 185)
13C-2,3,4,7,8-PeCDF	90	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	98	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	95	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	87	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	96	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	91	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	90	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	89	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

TestAmerica Tacoma

Client Sample ID: TP03-4 (580-11548-38)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-021 **Work Order #...:** K0Q3X1AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/16/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8290631
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.32	pg/g	EPA-5 1613B
Total PeCDF	ND	0.45	pg/g	EPA-5 1613B
Total HxCDF	ND	0.50	pg/g	EPA-5 1613B
Total HpCDF	ND	1.6	pg/g	EPA-5 1613B
Total TCDD	**3.1**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.50	pg/g	EPA-5 1613B
Total HxCDD	**1.3**		**pg/g**	**EPA-5 1613B**
Total HpCDD	**4.3**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.10	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.083	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.041	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.19	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.37	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	2.2	pg/g	EPA-5 1613B
OCDD	**27**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.32	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.074	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.088	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.097	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.082	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.061	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.048	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	1.6	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.068	pg/g	EPA-5 1613B
OCDF	ND	1.1	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: TP03-4 (580-11548-38)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-021 **Work Order #...:** K0Q3X1AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	96	(25 - 164)
13C-1,2,3,7,8-PeCDD	93	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	94	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	106	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	97	(23 - 140)
13C-OCDD	103	(17 - 157)
13C-2,3,7,8-TCDF	91	(24 - 169)
13C-1,2,3,7,8-PeCDF	89	(24 - 185)
13C-2,3,4,7,8-PeCDF	93	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	96	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	96	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	95	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	93	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	100	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	94	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	101	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Tacoma

Client Sample ID: DUP 1 (580-11548-39)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-022 **Work Order #...:** K0Q301AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/16/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8290631
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.041	pg/g	EPA-5 1613B
Total PeCDF	ND	0.044	pg/g	EPA-5 1613B
Total HxCDF	ND	0.036	pg/g	EPA-5 1613B
Total HpCDF	ND	0.16	pg/g	EPA-5 1613B
Total TCDD	ND	0.55	pg/g	EPA-5 1613B
Total PeCDD	ND	0.10	pg/g	EPA-5 1613B
Total HxCDD	ND	0.34	pg/g	EPA-5 1613B
Total HpCDD	ND	1.1	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.037	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.069	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.047	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.038	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.091	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	0.66	pg/g	EPA-5 1613B
OCDD	**6.4 J**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.041	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.036	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.038	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.027	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.025	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.024	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.029	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.16	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.058	pg/g	EPA-5 1613B
OCDF	ND	0.10	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DUP 1 (580-11548-39)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-022 **Work Order #...:** K0Q301AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	91	(25 - 164)
13C-1,2,3,7,8-PeCDD	87	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	97	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	93	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	92	(23 - 140)
13C-OCDD	93	(17 - 157)
13C-2,3,7,8-TCDF	86	(24 - 169)
13C-1,2,3,7,8-PeCDF	82	(24 - 185)
13C-2,3,4,7,8-PeCDF	87	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	86	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	91	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	87	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	87	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	87	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	91	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	96	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

TestAmerica Tacoma

Client Sample ID: DUP 3 (580-11548-41)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-023 **Work Order #...:** K0Q321AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/16/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8290631
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	**9.0**	**0.061**	**pg/g**	**EPA-5 1613B**
Total PeCDF	ND	2.0	pg/g	EPA-5 1613B
Total HxCDF	ND	1.9	pg/g	EPA-5 1613B
Total HpCDF	**10**		**pg/g**	**EPA-5 1613B**
Total TCDD	**7.5**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	1.6	pg/g	EPA-5 1613B
Total HxCDD	ND	3.0	pg/g	EPA-5 1613B
Total HpCDD	**9.1**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.21	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.36	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.23	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.55	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.51	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	**3.5 J**		**pg/g**	**EPA-5 1613B**
OCDD	**28**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	**1.1 J,CON**		**pg/g**	**EPA-5 1613B**
1,2,3,7,8-PeCDF	ND	0.36	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.45	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.38	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.33	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.38	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.051	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	**5.9 J**		**pg/g**	**EPA-5 1613B**
1,2,3,4,7,8,9-HpCDF	ND	0.12	pg/g	EPA-5 1613B
OCDF	ND	3.2	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DUP 3 (580-11548-41)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-023 **Work Order #...:** K0Q321AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(25 - 164)
13C-1,2,3,7,8-PeCDD	91	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	92	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	94	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	94	(23 - 140)
13C-OCDD	91	(17 - 157)
13C-2,3,7,8-TCDF	87	(24 - 169)
13C-1,2,3,7,8-PeCDF	86	(24 - 185)
13C-2,3,4,7,8-PeCDF	88	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	86	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	89	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	90	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	85	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	90	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	88	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	94	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

CON Confirmation analysis.

TestAmerica Tacoma

Client Sample ID: DUP 4 (580-11548-42)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-024 **Work Order #...:** K0Q331AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/16/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8290631
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.21	pg/g	EPA-5 1613B
Total PeCDF	ND	0.28	pg/g	EPA-5 1613B
Total HxCDF	ND	0.55	pg/g	EPA-5 1613B
Total HpCDF	ND	1.7	pg/g	EPA-5 1613B
Total TCDD	**2.1**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.30	pg/g	EPA-5 1613B
Total HxCDD	ND	1.2	pg/g	EPA-5 1613B
Total HpCDD	**3.4**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDD	ND	0.13	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.074	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.079	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.13	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.25	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	1.8	pg/g	EPA-5 1613B
OCDD	**25**		**pg/g**	**EPA-5 1613B**
2,3,7,8-TCDF	ND	0.20	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.045	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.064	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.053	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.072	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.064	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.038	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	1.6	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.088	pg/g	EPA-5 1613B
OCDF	ND	1.4	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: DUP 4 (580-11548-42)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-024 **Work Order #...:** K0Q331AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(25 - 164)
13C-1,2,3,7,8-PeCDD	84	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	90	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	91	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	91	(23 - 140)
13C-OCDD	87	(17 - 157)
13C-2,3,7,8-TCDF	85	(24 - 169)
13C-1,2,3,7,8-PeCDF	79	(24 - 185)
13C-2,3,4,7,8-PeCDF	80	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	87	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	89	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	84	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	82	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	81	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	89	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	94	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Tacoma

Client Sample ID: TP01-2 (580-11548-33)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-025 **Work Order #...:** K0Q341AC **Matrix.....:** SOLID
Date Sampled...: 10/09/08 **Date Received..:** 10/11/08
Prep Date.....: 10/16/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8290631
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	1.1	pg/g	EPA-5 1613B
Total PeCDF	ND	0.29	pg/g	EPA-5 1613B
Total HxCDF	ND	1.1	pg/g	EPA-5 1613B
Total HpCDF	ND	0.52	pg/g	EPA-5 1613B
Total TCDD	**3.8**		**pg/g**	**EPA-5 1613B**
Total PeCDD	ND	0.44	pg/g	EPA-5 1613B
Total HxCDD	ND	1.1	pg/g	EPA-5 1613B
Total HpCDD	ND	0.83	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.10	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.12	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.11	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.11	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.093	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	0.70	pg/g	EPA-5 1613B
OCDD	ND	5.0	pg/g	EPA-5 1613B
2,3,7,8-TCDF	ND	1.1	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.16	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.091	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.075	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.099	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.036	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.026	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.51	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.13	pg/g	EPA-5 1613B
OCDF	ND	0.23	pg/g	EPA-5 1613B

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TestAmerica Tacoma

Client Sample ID: TP01-2 (580-11548-33)

Trace Level Organic Compounds

Lot-Sample #...: G8J130196-025 **Work Order #...:** K0Q341AC **Matrix.....:** SOLID

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(25 - 164)
13C-1,2,3,7,8-PeCDD	88	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	90	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	102	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	95	(23 - 140)
13C-OCDD	100	(17 - 157)
13C-2,3,7,8-TCDF	85	(24 - 169)
13C-1,2,3,7,8-PeCDF	84	(24 - 185)
13C-2,3,4,7,8-PeCDF	87	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	91	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	92	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	86	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	88	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	86	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	88	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	94	(35 - 197)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

QC DATA ASSOCIATION SUMMARY

G8J130196

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
002	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
003	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
004	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
005	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
006	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
007	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
008	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
009	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
010	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
011	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
012	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
013	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
014	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193

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QC DATA ASSOCIATION SUMMARY

G8J130196

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
015	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
016	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
017	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
018	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8291083	8291055
019	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8291083	8291055
020	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8291083	8291055
021	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055
022	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055
023	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055
024	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055
025	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K02291AA **Matrix.....:** SOLID
MB Lot-Sample #: G8J160000-631

Prep Date.....: 10/16/08
Analysis Date..: 10/25/08 **Prep Batch #...:** 8290631
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.027	pg/g	EPA-5 1613B
Total PeCDF	ND	0.037	pg/g	EPA-5 1613B
Total HxCDF	ND	0.024	pg/g	EPA-5 1613B
Total HpCDF	ND	0.047	pg/g	EPA-5 1613B
Total TCDD	ND	0.022	pg/g	EPA-5 1613B
Total PeCDD	ND	0.050	pg/g	EPA-5 1613B
Total HxCDD	ND	0.10	pg/g	EPA-5 1613B
Total HpCDD	ND	0.13	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.022	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.050	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.037	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.027	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.023	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	0.064	pg/g	EPA-5 1613B
OCDD	ND	1.2	pg/g	EPA-5 1613B
2,3,7,8-TCDF	ND	0.027	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.033	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.037	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.021	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.021	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.020	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.020	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.034	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.047	pg/g	EPA-5 1613B
OCDF	ND	0.039	pg/g	EPA-5 1613B

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METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K02291AA **Matrix.....:** SOLID

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
	PERCENT	RECOVERY		
INTERNAL STANDARDS	RECOVERY	LIMITS		
13C-2,3,7,8-TCDD	93	(25 - 164)		
13C-1,2,3,7,8-PeCDD	91	(25 - 181)		
13C-1,2,3,4,7,8-HxCDD	99	(32 - 141)		
13C-1,2,3,6,7,8-HxCDD	100	(28 - 130)		
13C-1,2,3,4,6,7,8-HpCDD	100	(23 - 140)		
13C-OCDD	106	(17 - 157)		
13C-2,3,7,8-TCDF	90	(24 - 169)		
13C-1,2,3,7,8-PeCDF	89	(24 - 185)		
13C-2,3,4,7,8-PeCDF	90	(21 - 178)		
13C-1,2,3,6,7,8-HxCDF	97	(26 - 123)		
13C-2,3,4,6,7,8-HxCDF	99	(28 - 136)		
13C-1,2,3,7,8,9-HxCDF	95	(29 - 147)		
13C-1,2,3,4,6,7,8-HpCDF	99	(28 - 143)		
13C-1,2,3,4,7,8,9-HpCDF	97	(26 - 138)		
13C-1,2,3,4,7,8-HxCDF	93	(26 - 152)		
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
37Cl4-2,3,7,8-TCDD	98	(35 - 197)		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K05DK1AA **Matrix.....:** SOLID
MB Lot-Sample #: G8J170000-485

Prep Date.....: 10/17/08
Analysis Date..: 10/25/08 **Prep Batch #...:** 8291485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.027	pg/g	EPA-5 1613B
Total PeCDF	ND	0.033	pg/g	EPA-5 1613B
Total HxCDF	ND	0.021	pg/g	EPA-5 1613B
Total HpCDF	ND	0.050	pg/g	EPA-5 1613B
Total TCDD	ND	0.026	pg/g	EPA-5 1613B
Total PeCDD	ND	0.045	pg/g	EPA-5 1613B
Total HxCDD	ND	0.21	pg/g	EPA-5 1613B
Total HpCDD	ND	0.065	pg/g	EPA-5 1613B
2,3,7,8-TCDD	ND	0.026	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDD	ND	0.045	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDD	ND	0.043	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDD	ND	0.035	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDD	ND	0.14	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	ND	0.065	pg/g	EPA-5 1613B
OCDD	ND	0.064	pg/g	EPA-5 1613B
2,3,7,8-TCDF	ND	0.027	pg/g	EPA-5 1613B
1,2,3,7,8-PeCDF	ND	0.030	pg/g	EPA-5 1613B
2,3,4,7,8-PeCDF	ND	0.033	pg/g	EPA-5 1613B
1,2,3,4,7,8-HxCDF	ND	0.018	pg/g	EPA-5 1613B
1,2,3,6,7,8-HxCDF	ND	0.017	pg/g	EPA-5 1613B
2,3,4,6,7,8-HxCDF	ND	0.017	pg/g	EPA-5 1613B
1,2,3,7,8,9-HxCDF	ND	0.021	pg/g	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	ND	0.038	pg/g	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	ND	0.050	pg/g	EPA-5 1613B
OCDF	ND	0.046	pg/g	EPA-5 1613B

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METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K05DK1AA **Matrix.....:** SOLID

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS		
13C-2,3,7,8-TCDD	89	(25 - 164)		
13C-1,2,3,7,8-PeCDD	85	(25 - 181)		
13C-1,2,3,4,7,8-HxCDD	82	(32 - 141)		
13C-1,2,3,6,7,8-HxCDD	101	(28 - 130)		
13C-1,2,3,4,6,7,8-HpCDD	88	(23 - 140)		
13C-OCDD	89	(17 - 157)		
13C-2,3,7,8-TCDF	86	(24 - 169)		
13C-1,2,3,7,8-PeCDF	81	(24 - 185)		
13C-2,3,4,7,8-PeCDF	85	(21 - 178)		
13C-1,2,3,6,7,8-HxCDF	94	(26 - 123)		
13C-2,3,4,6,7,8-HxCDF	91	(28 - 136)		
13C-1,2,3,7,8,9-HxCDF	86	(29 - 147)		
13C-1,2,3,4,6,7,8-HpCDF	86	(28 - 143)		
13C-1,2,3,4,7,8,9-HpCDF	86	(26 - 138)		
13C-1,2,3,4,7,8-HxCDF	86	(26 - 152)		
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
37Cl4-2,3,7,8-TCDD	90	(35 - 197)		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K02291AC **Matrix.....:** SOLID
LCS Lot-Sample#: G8J160000-631
Prep Date.....: 10/16/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8290631
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	91	(67 - 158)	EPA-5 1613B
1,2,3,7,8-PeCDD	91	(70 - 142)	EPA-5 1613B
1,2,3,4,7,8-HxCDD	98	(70 - 164)	EPA-5 1613B
1,2,3,6,7,8-HxCDD	85	(76 - 134)	EPA-5 1613B
1,2,3,7,8,9-HxCDD	91	(64 - 162)	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	93	(70 - 140)	EPA-5 1613B
OCDD	93	(78 - 144)	EPA-5 1613B
2,3,7,8-TCDF	92	(75 - 158)	EPA-5 1613B
1,2,3,7,8-PeCDF	93	(80 - 134)	EPA-5 1613B
2,3,4,7,8-PeCDF	88	(68 - 160)	EPA-5 1613B
1,2,3,4,7,8-HxCDF	92	(72 - 134)	EPA-5 1613B
1,2,3,6,7,8-HxCDF	94	(84 - 130)	EPA-5 1613B
2,3,4,6,7,8-HxCDF	95	(70 - 156)	EPA-5 1613B
1,2,3,7,8,9-HxCDF	93	(78 - 130)	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	93	(82 - 122)	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	90	(78 - 138)	EPA-5 1613B
OCDF	86	(63 - 170)	EPA-5 1613B

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K02291AC **Matrix.....:** SOLID
LCS Lot-Sample#: G8J160000-631

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	91	(25 - 164)
13C-1,2,3,7,8-PeCDD	92	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	96	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	103	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	102	(23 - 140)
13C-OCDD	109	(17 - 157)
13C-2,3,7,8-TCDF	89	(24 - 169)
13C-1,2,3,7,8-PeCDF	87	(24 - 185)
13C-2,3,4,7,8-PeCDF	93	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	95	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	96	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	93	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	99	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	100	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	95	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	93	(35 - 197)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K02291AC **Matrix.....:** SOLID
LCS Lot-Sample#: G8J160000-631
Prep Date.....: 10/16/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8290631
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2,3,7,8-TCDD	20.0	18.3	pg/g	91	EPA-5 1613B
1,2,3,7,8-PeCDD	100	90.6	pg/g	91	EPA-5 1613B
1,2,3,4,7,8-HxCDD	100	98.0	pg/g	98	EPA-5 1613B
1,2,3,6,7,8-HxCDD	100	85.4	pg/g	85	EPA-5 1613B
1,2,3,7,8,9-HxCDD	100	91.0	pg/g	91	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	100	93.1	pg/g	93	EPA-5 1613B
OCDD	200	185	pg/g	93	EPA-5 1613B
2,3,7,8-TCDF	20.0	18.4	pg/g	92	EPA-5 1613B
1,2,3,7,8-PeCDF	100	93.2	pg/g	93	EPA-5 1613B
2,3,4,7,8-PeCDF	100	88.4	pg/g	88	EPA-5 1613B
1,2,3,4,7,8-HxCDF	100	91.6	pg/g	92	EPA-5 1613B
1,2,3,6,7,8-HxCDF	100	93.8	pg/g	94	EPA-5 1613B
2,3,4,6,7,8-HxCDF	100	95.1	pg/g	95	EPA-5 1613B
1,2,3,7,8,9-HxCDF	100	92.9	pg/g	93	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	100	93.4	pg/g	93	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	100	90.4	pg/g	90	EPA-5 1613B
OCDF	200	173	pg/g	86	EPA-5 1613B

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LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K02291AC **Matrix.....:** SOLID
LCS Lot-Sample#: G8J160000-631

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	91	(25 - 164)
13C-1,2,3,7,8-PeCDD	92	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	96	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	103	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	102	(23 - 140)
13C-OCDD	109	(17 - 157)
13C-2,3,7,8-TCDF	89	(24 - 169)
13C-1,2,3,7,8-PeCDF	87	(24 - 185)
13C-2,3,4,7,8-PeCDF	93	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	95	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	96	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	93	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	99	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	100	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	95	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	93	(35 - 197)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K05DK1AC **Matrix.....:** SOLID
LCS Lot-Sample#: G8J170000-485
Prep Date.....: 10/17/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	88	(67 - 158)	EPA-5 1613B
1,2,3,7,8-PeCDD	90	(70 - 142)	EPA-5 1613B
1,2,3,4,7,8-HxCDD	98	(70 - 164)	EPA-5 1613B
1,2,3,6,7,8-HxCDD	83	(76 - 134)	EPA-5 1613B
1,2,3,7,8,9-HxCDD	93	(64 - 162)	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	89	(70 - 140)	EPA-5 1613B
OCDD	90	(78 - 144)	EPA-5 1613B
2,3,7,8-TCDF	91	(75 - 158)	EPA-5 1613B
1,2,3,7,8-PeCDF	91	(80 - 134)	EPA-5 1613B
2,3,4,7,8-PeCDF	88	(68 - 160)	EPA-5 1613B
1,2,3,4,7,8-HxCDF	88	(72 - 134)	EPA-5 1613B
1,2,3,6,7,8-HxCDF	93	(84 - 130)	EPA-5 1613B
2,3,4,6,7,8-HxCDF	93	(70 - 156)	EPA-5 1613B
1,2,3,7,8,9-HxCDF	94	(78 - 130)	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	92	(82 - 122)	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	89	(78 - 138)	EPA-5 1613B
OCDF	83	(63 - 170)	EPA-5 1613B

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K05DK1AC **Matrix.....:** SOLID
LCS Lot-Sample#: G8J170000-485

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	86	(25 - 164)
13C-1,2,3,7,8-PeCDD	84	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	84	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	93	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	88	(23 - 140)
13C-OCDD	93	(17 - 157)
13C-2,3,7,8-TCDF	82	(24 - 169)
13C-1,2,3,7,8-PeCDF	80	(24 - 185)
13C-2,3,4,7,8-PeCDF	84	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	83	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	84	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	82	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	84	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	86	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	82	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	85	(35 - 197)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K05DK1AC **Matrix.....:** SOLID
LCS Lot-Sample#: G8J170000-485
Prep Date.....: 10/17/08 **Analysis Date..:** 10/25/08
Prep Batch #...: 8291485
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2,3,7,8-TCDD	20.0	17.6	pg/g	88	EPA-5 1613B
1,2,3,7,8-PeCDD	100	89.8	pg/g	90	EPA-5 1613B
1,2,3,4,7,8-HxCDD	100	98.4	pg/g	98	EPA-5 1613B
1,2,3,6,7,8-HxCDD	100	83.1	pg/g	83	EPA-5 1613B
1,2,3,7,8,9-HxCDD	100	92.6	pg/g	93	EPA-5 1613B
1,2,3,4,6,7,8-HpCDD	100	89.1	pg/g	89	EPA-5 1613B
OCDD	200	180	pg/g	90	EPA-5 1613B
2,3,7,8-TCDF	20.0	18.2	pg/g	91	EPA-5 1613B
1,2,3,7,8-PeCDF	100	91.3	pg/g	91	EPA-5 1613B
2,3,4,7,8-PeCDF	100	87.6	pg/g	88	EPA-5 1613B
1,2,3,4,7,8-HxCDF	100	88.2	pg/g	88	EPA-5 1613B
1,2,3,6,7,8-HxCDF	100	92.7	pg/g	93	EPA-5 1613B
2,3,4,6,7,8-HxCDF	100	93.3	pg/g	93	EPA-5 1613B
1,2,3,7,8,9-HxCDF	100	94.5	pg/g	94	EPA-5 1613B
1,2,3,4,6,7,8-HpCDF	100	92.3	pg/g	92	EPA-5 1613B
1,2,3,4,7,8,9-HpCDF	100	88.7	pg/g	89	EPA-5 1613B
OCDF	200	166	pg/g	83	EPA-5 1613B

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G8J130196 **Work Order #...:** K05DK1AC **Matrix.....:** SOLID
LCS Lot-Sample#: G8J170000-485

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	86	(25 - 164)
13C-1,2,3,7,8-PeCDD	84	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	84	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	93	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	88	(23 - 140)
13C-OCDD	93	(17 - 157)
13C-2,3,7,8-TCDF	82	(24 - 169)
13C-1,2,3,7,8-PeCDF	80	(24 - 185)
13C-2,3,4,7,8-PeCDF	84	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	83	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	84	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	82	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	84	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	86	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	82	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	85	(35 - 197)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

SOLID, D 2216-90, Percent Moisture

TestAmerica Tacoma

Client Sample ID: DP17-2 (580-11548-1)

General Chemistry

Lot-Sample #...: G8J130196-001 Work Order #...: K0Q2M Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	6.9	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP17-7 (580-11548-2)

General Chemistry

Lot-Sample #...: G8J130196-002 Work Order #...: K0Q22 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	26.8	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP17-10 (580-11548-3)

General Chemistry

Lot-Sample #...: G8J130196-003 Work Order #...: K0Q23 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	77.1	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP17-12 (580-11548-4)

General Chemistry

Lot-Sample #...: G8J130196-004 Work Order #...: K0Q24 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	13.7	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP18-2 (580-11548-5)

General Chemistry

Lot-Sample #...: G8J130196-005 Work Order #...: K0Q25 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	4.0	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP18-7 (580-11548-6)

General Chemistry

Lot-Sample #...: G8J130196-006 Work Order #...: K0Q27 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	37.3	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP18-10 (580-11548-7)

General Chemistry

Lot-Sample #...: G8J130196-007 Work Order #...: K0Q29 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	25.6	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP18-12 (580-11548-8)

General Chemistry

Lot-Sample #...: G8J130196-008 Work Order #...: K0Q3A Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	75.2	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP25-2 (580-11548-13)

General Chemistry

Lot-Sample #...: G8J130196-009 Work Order #...: K0Q3D Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	32.3	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP25-7 (580-11548-14)

General Chemistry

Lot-Sample #...: G8J130196-010 Work Order #...: K0Q3E Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	37.6	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP25-10 (580-11548-15)

General Chemistry

Lot-Sample #...: G8J130196-011 Work Order #...: K0Q3G Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	65.8	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP25-12 (580-11548-16)

General Chemistry

Lot-Sample #...: G8J130196-012 Work Order #...: K0Q3H Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	79.1	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP27-2 (580-11548-21)

General Chemistry

Lot-Sample #...: G8J130196-013 Work Order #...: K0Q3K Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	17.1	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP27-7 (580-11548-22)

General Chemistry

Lot-Sample #...: G8J130196-014 Work Order #...: K0Q3M Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	5.2	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP27-10 (580-11548-23)

General Chemistry

Lot-Sample #...: G8J130196-015 Work Order #...: K0Q3N Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	24.4	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DP27-12 (580-11548-24)

General Chemistry

Lot-Sample #...: G8J130196-016 Work Order #...: K0Q3P Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	34.6	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: TP01-4 (580-11548-34)

General Chemistry

Lot-Sample #...: G8J130196-017 Work Order #...: K0Q3R Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	20.6	0.10	%	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: TP02-2 (580-11548-35)

General Chemistry

Lot-Sample #...: G8J130196-018 Work Order #...: K0Q3T Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	14.2	0.10	%	ASTM D 2216-90	10/17-10/19/08	8291083
	Dilution Factor: 1					

TestAmerica Tacoma

Client Sample ID: TP02-4 (580-11548-36)

General Chemistry

Lot-Sample #...: G8J130196-019 Work Order #...: K0Q3V Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	6.4	0.10	%	ASTM D 2216-90	10/17-10/19/08	8291083

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: TP03-2 (580-11548-37)

General Chemistry

Lot-Sample #...: G8J130196-020 Work Order #...: K0Q3W Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	3.7	0.10	%	ASTM D 2216-90	10/17-10/19/08	8291083

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: TP03-4 (580-11548-38)

General Chemistry

Lot-Sample #...: G8J130196-021 Work Order #...: K0Q3X Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	21.5	0.10	%	ASTM D 2216-90	10/17-10/19/08	8291083

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DUP 1 (580-11548-39)

General Chemistry

Lot-Sample #...: G8J130196-022 Work Order #...: K0Q30 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	21.2	0.10	%	ASTM D 2216-90	10/17-10/19/08	8291083

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DUP 3 (580-11548-41)

General Chemistry

Lot-Sample #...: G8J130196-023 Work Order #...: K0Q32 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	27.0	0.10	%	ASTM D 2216-90	10/17-10/19/08	8291083

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: DUP 4 (580-11548-42)

General Chemistry

Lot-Sample #...: G8J130196-024 Work Order #...: K0Q33 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	23.9	0.10	%	ASTM D 2216-90	10/17-10/19/08	8291083

Dilution Factor: 1

TestAmerica Tacoma

Client Sample ID: TP01-2 (580-11548-33)

General Chemistry

Lot-Sample #...: G8J130196-025 Work Order #...: K0Q34 Matrix.....: SOLID
Date Sampled...: 10/09/08 Date Received..: 10/11/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	61.5	0.10	%	ASTM D 2216-90	10/17-10/19/08	8291083

Dilution Factor: 1

QC DATA ASSOCIATION SUMMARY

G8J130196

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
002	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
003	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
004	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
005	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
006	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
007	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
008	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
009	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
010	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
011	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
012	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
013	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
014	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193

(Continued on next page)

QC DATA ASSOCIATION SUMMARY

G8J130196

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
015	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
016	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
017	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8289287	8289193
018	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8291083	8291055
019	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8291083	8291055
020	SOLID	EPA-5 1613B		8291485	
	SOLID	ASTM D 2216-90		8291083	8291055
021	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055
022	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055
023	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055
024	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055
025	SOLID	EPA-5 1613B		8290631	
	SOLID	ASTM D 2216-90		8291083	8291055

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: G8J130196 **Work Order #...:** K0QDA-SMP K0QDA-DUP **Matrix.....:** SOLID

Date Sampled...: 10/10/08 **Date Received..:** 10/13/08

% Moisture.....: 24

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #: G8J130165-001		
	23.9	23.6	%	1.3	(0-20)	ASTM D 2216-90	10/15-10/16/08	8289287

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: G8J130196 Work Order #...: K0Q3T-SMP K0Q3T-DUP Matrix.....: SOLID

Date Sampled...: 10/09/08 Date Received..: 10/11/08

% Moisture.....: 14

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #: G8J130196-018		
	14.2	14.5	%	2.6	(0-20)	ASTM D 2216-90	10/17-10/19/08	8291083

Dilution Factor: 1

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TestAmerica Tacoma
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

#1 STL Blue/Green 1.1°C
#2 0.7°C

Chain of Custody Record

Client	Project Manager	Date	Chain of Custody Number
BROWN & CALDWELL	JOSH JOHNSON	10/9/08	2918
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page**
724 COLUMBIA ST NW STE 420	360-943-7525 / 360-943-7513	11548	Page 1 of 4
City / **State** / **Zip Code**	**Site Contact** / **Lab Contact**	**Analysis (Attach list if more space is needed)**	
OLYMPIA / WA / 98501			
Project Name and Location (State)	**Carrier/Waybill Number**		
LOTT ADMIN PHASE II			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Acom	NWTPH-Dx	BTEX	8270C-SIM	PCBs	Metals	Dioxins/Furans	Special Instructions/ Conditions of Receipt
1 DP17-2	10/9/08	~~1:45~~ 1:30				X	2						1	X	X	X	X	X	X	
2 DP17-7						X	2						1	X	X	X	X	X	X	
3 DP17-10						X	2						1	X	X	X	X	X	X	
4 DP17-12						X	2						1	X	X	X	X	X	X	
5 DP18-2		2:30				X	2						1	X	X	X	X	X	X	
6 DP18-7						X	2						1	X	X	X	X	X	X	
7 DP18-10						X	2						1	X	X	X	X	X	X	
8 DP18-12						X	2						1	X	X	X	X	X	X	
9 DP19-2		1:30				X	1						1	X	X	X	X	X		
10 DP19-7						X	1						1	X	X	X	X	X		
11 DP19-10						X	1						1	X	X	X	X	X		
12 DP19-12						X	1						1	X	X	X	X	X		

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Cooler
☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/10/08	9:40	1. Received By	10-10-08	9:40
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0508)

TestAmerica
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Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Chain of Custody Record

Client	Project Manager	Date	Chain of Custody Number
BROWN & CALDWELL	JOSH JOHNSON	10/9/08	2919
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 4**
724 COLUMBIA ST NW STE 420	~~360~~ 360-943-7525/360-943-7513	11548	
City / State / Zip Code	**Site Contact / Lab Contact**		
OLYMPIA / WA / 98501			
Project Name and Location (State)	**Carrier/Waybill Number**		
LOTT ADMIN PHASE II			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	MeOH	Analysis: NWTPH-Dx	BTEX	8260C-SIM	PCBs	Metals	Dioxins/Furans	Special Instructions/ Conditions of Receipt
13 DP25-2	10/9/08	2:10				X	2						1	X	X	X	X	X	X	
14 DP25-7						X	2						1	X	X	X	X	X	X	
15 DP25-10						X	2						1	X	X	X	X	X	X	
16 DP25-12						X	2						1	X	X	X	X	X	X	
17 DP26-2		10:45				X	1						1	X	X	X	X	X		
18 DP26-7						X	1						1	X	X	X	X	X		
19 DP26-10						X	1						1	X	X	X	X	X		
20 DP26-12						X	1						1	X	X	X	X	X		
21 ~~DP26-2~~ DP27-2		6:15				X	2						1	X	X	X	X	X	X	
22 ~~DP26-7~~ DP27-7						X	2						1	X	X	X	X	X	X	
23 ~~DP26-10~~ DP27-10						X	2						1	X	X	X	X	X	X	
24 ~~DP26-12~~ DP27-12						X	2						1	X	X	X	X	X	X	

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/10/08	9:40	1. Received By K. Thomas	10-10-08	9:40
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

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Fax 253-922-5047
www.testamericainc.com

Chain of Custody Record

Client	Project Manager	Date	Chain of Custody Number
BROWN & CALDWELL	JOSH JOHNSON	10/9/08	2914
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 3 of 4
724 COLUMBIA ST NW STE 420	360-943-7525 / 360-943-7513	11548	
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
OLYMPIA / WA / 98501			
Project Name and Location (State)	**Carrier/Waybill Number**		
LOTT ADMIN PHASE II			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	MeOH	Analysis: NWTPH-Dx	BTEX	8270C-SIM	PCBs	Metals	Dioxins/Furans	Special Instructions/ Conditions of Receipt
25 DP28-2	10/9/08	11:30				X	1						1	X	X	X	X	X		
26 DP28-7						X	1						1	X	X	X	X	X		
27 DP28-10						X	1						1	X	X	X	X	X		
28 DP28-12		↓				X	1						1	X	X	X	X	X		
29 DP29-2		12:00				X	1						1	X	X	X	X	X		
30 DP29-7		↓				X	1						1	X	X	X	X	X		
31 DP29-10						X	1						1	X	X	X	X	X		
32 DP29-12		↓				X	1						1	X	X	X	X	X		
33 TP01-2		10:30				X	2						1	X	X	X	X	X	X	
34 TP01-4		↓				X	2						1	X	X	X	X	X	X	
35 TP02-2		11:30				X	2						1	X	X	X	X	X	X	
36 TP02-4	↓	↓				X	2						1	X	X	X	X	X	X	

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By	10/10/08	9:40	1. Received By R. Unruh	10-10	9:40
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Tacoma
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Chain of Custody Record

Client	Project Manager	Date	Chain of Custody Number
BROWN & CALDWELL	JOSH JOHNSON	10/9/08	2915
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 4 of 4
724 COLUMBIA ST NW STE 420	360-943-7525 / 360-943-7513	11548	
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
OLYMPIA / WA / 98501			
Project Name and Location (State)	**Carrier/Waybill Number**		
LOTT ADMIN PHASE II			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	MeOH	Analysis: NWTPH-Dx	BTEX	SVOC-SIM	PCBs	Metals	Dioxins/Furans	Special Instructions/ Conditions of Receipt
37 TP03-2	10/9/08	12:15				X	2						1	X	X	X	X	X	X	
38 TP03-4		〃				X	2						1	X	X	X	X	X	X	
39 DUP 1						X	2						1	X	X	X	X	X	X	
40 DUP 2						X	1						1	X	X	X	X	X		
41 DUP 3						X	2						1	X	X	X	X	X	X	
42 DUP 4						X	2						1	X	X	X	X	X	X	

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/10/08	9:40	1. Received By R. Unsen	10-10	9:40
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0508)

Login Sample Receipt Check List

Client: Brown and Caldwell

Job Number: 580-11548-1
SDG Number: Lott Admin Phase II

Login Number: 11548
List Source: TestAmerica Tacoma
Creator: Harding, Jessica
List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

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PHASE I RI SOIL SAMPLING

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Data Quality Review and Verification
East Bay Phase 1 RI – November 2008

1. Precision
Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, all matrix spike duplicate RPDs were within the acceptable range, with one exception. The RPD for 1,2,3,4,6,7,8,9-octachloro dibenzo-p-dioxin in one matrix spike duplicate was low due to variable background-subtracted results in the two matrix spikes as discussed in the Pace Analytical Services case narrative. Further data qualification beyond what was reported by the laboratories was not necessary. It should be noted that the QAPP (GeoEngineers, 2008) did not specify expectations for constituents to be spiked or for RPDs.

2. Accuracy
Accuracy was assessed by analysis of laboratory method and trip blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. As shown in the analytical reports, no constituents were detected in the trip blank or any of the laboratory method blanks, with the following exception. Several CDD/CDF congeners were detected in the laboratory method blanks, which can be attributed to background conditions. As shown in the analytical reports, recoveries for all blank spikes, matrix spikes, and surrogates were within the acceptable range, with the following exceptions. The surrogate recoveries for all CDD/CDF congeners in DP38-081104-6-7 and the surrogate recovery for one CDD/CDF congener in DP36-081104-5-6 were outside of the surrogate control limits. It is standard protocol to re-extract and re-analyze a sample with poor surrogate recoveries such as DP38-081106-6-7, however, not enough sample volume was left to re-extract DP38-081104-6-7. Further J-flag qualification of the sample results with poor surrogate recovery was not necessary in accordance with the Pace Analytical Services case narrative. It should be noted that the QAPP (GeoEngineers 2008) did not specify expectations for constituents to be spiked or for expected recoveries.

3. Representativeness
Representativeness was assessed by evaluating the sample collection, sample handling, and sample analysis procedures. All samples were collected, handled, and analyzed in accordance with the SAP/QAPP (GeoEngineers, 2008), which was designed to obtain representative samples. In addition, all samples were extracted and analyzed within appropriate holding times.

4. Comparability
Comparability was assessed by comparing current sample collection and analysis procedures with standard procedures. The samples were collected and analyzed with standard procedures and were comparable with other data as qualified by the laboratories.

5. Sensitivity
Sensitivity was assessed by comparing actual practical quantification limits (PQLs) with the PQL expectations in the QAPP (GeoEngineers, 2008). The actual PQL was equal to or less than the expected PQL listed in the QAPP, with the following exceptions. The actual PQLs for 2,3,7,8-tetrachloro dibenzo-p-dioxin in DP36-081104-5-6, 1,2,3,4,7,8,9-heptachloro dibenzofuran in DP33-081104-7-8, and most CDD/CDF congeners in DP38-081104-6-7 were slightly above the PQL expectations listed in the QAPP. However, these actual PQLs were still acceptable for use. Thus, no further data qualification beyond what was reported by the laboratories was necessary. It should be noted that the QAPP (GeoEngineers 2008) did not specify PQL expectations for EPH, TOC, and metals other than arsenic, cadmium, and lead.

6. Completeness
Completeness was assessed by calculating the percentage of acceptable sample results to all sample results. A total of 104 analyses were performed (nine NWTPH-G, nine BTEX, eight NWTPH-Dx, 17 PAHs, 21 metals, 25 CDDs/CDFs, two chromium VI, three EPH, 10 TOC). All of the sample results were acceptable as qualified by the laboratories. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions
This data is deemed acceptable for use as presented by the laboratory. As a result, no corrective action or further data qualification is necessary.

Anatek Labs Report

CASE NARRATIVE November 12, 2008

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com *FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM*

Project Tracking No.: EAST BAY RI PHASE 1
Anatek Batch: 081105018

Project Summary: Thirty-Three (33) soil samples were received on 11/5/2008. All samples were received with the appropriate chain of custody Samples were received at 7.9C. The requested analyses are summarized below. The TOC and EPH samples were held pending results of the initial round of analyses per the client request

Client Sample ID	Anatek Sample ID	TPHDx	TPHGx	BTEX	RCRA8	PAH	TOC	EPH	HOLD
DP32-081104-1-2	0811050118-001								x
DP32-081104-4-5	0811050118-002				x	x			
DP32-081104-8-9	0811050118-003								x
DP33-081104-1-2	0811050118-004				x	x			
DP33-081104-3-4	0811050118-005				x	x			
DP33-081104-5-6	0811050118-006				x	x			
DP33-081104-7-8	0811050118-007				x	x			
DP40-081104-1-2	0811050118-008	x	x	x	x	x			
DP40-081104-3-4	0811050118-009	x	x	x	x	x			
DP40-081104-5-6	0811050118-010	x	x	x	x	x			
DP40-081104-7-8	0811050118-011								x
DP36-081104-1-2	0811050118-012								x
DP36-081104-3-4	0811050118-013								x
DP36-081104-5-6	0811050118-014	x	x	x	x				
DP36-081104-7-8	0811050118-015								x
DP36-081104-8-9	0811050118-016								x
DP38-081104-1-2	0811050118-017				x	x			
DP38-081104-3-4	0811050118-018								x
DP38-081104-5-6	0811050118-019	x	x	x	x	x			
DP38-081104-6-7	0811050118-020	x	x	x	x	x			
DP38-081104-9-10	0811050118-021								x
DP30-081104-1-2	0811050118-022				x				
DP30-081104-3-4	0811050118-023				x	x			
DP30-081104-4-5	0811050118-024								x
DP30-081104-7-7.5	0811050118-025				x				
DP27-081104-0-1	0811050118-026				x	x			
DP27-081104-3-4	0811050118-027		x	x	x	x			
DP27-081104-4-5	0811050118-028				x	x			
DP27-081104-6-7	0811050118-029				x				
DP34-081104-1-3	0811050118-030								x
DP34-081104-4-6	0811050118-031	x	x	x	x	x			
DP34-081104-7.5-9.5	0811050118-032	x	x	x	x	x			
TRIP BLANK	0811050118-033		x	x					

QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Y	NA
Surrogate Recoveries Valid?	Y	NA
QC Sample(s) Recoveries Valid?	Y	NA
Method Blank(s) Valid?	Y	NA
Tune(s) Valid?	Y	NA
Internal Standard Responses Valid?	Y	NA
Initial Calibration Curve(s) Valid?	Y	NA
Continuing Calibration(s) Valid?	Y	NA
Comments:	Y	NA

1. Holding Time Requirements

Samples were received above the recommended temperature range of 0-6C and were stored at 4C after arrival at the laboratory. This is not expected to negatively impact the results.

2. GC/MS Tune Requirements

No problems encountered

3. Calibration Requirements

No problems encountered.

4. Surrogate Recovery Requirements

No problems encountered.

5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

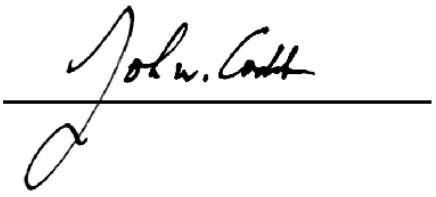
7. Internal Standard(s) Response Requirements

No problems encountered.

8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by: 

81105 018 PITC Last Due 11/12/2008
st SAMP 11/4/2008 1st RCVD 11/5/2008
AST BAY RI PHASE 1

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 4TH AVE SE, SUITE B
City: OLYMPIA State: WA Zip: 98501
Phone: 360 - 570 - 1700
Fax:

Project Manager: TROY BUSSEY
Project Name & #: EAST BAY RI PHASE 1
Email Address: bussey+e@pioneer.com
Purchase Order #: TO BE PAID BY PORT OF OLYMPIA
Sampler Name & phone: SAME

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

__Normal
__Next Day*
__2nd Day*
X Other* 5 DAY MAT

*All rush order requests must be prior approved.

__Phone
X Mail FAX
__Fax
X Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

MWBS
SW ~~8015~~ - TOC 9060

HOLD ALL SAMPLES FOR POSSIBLE SUBSEQUENT ANALYSES

*RUN EPH ON 3 HIGHEST TPH-D + TPH-HO CONCENTRATIONS

SEE PQL EXPECTATIONS SENT TO JOINT COORDINATION PREVIOUSLY

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-D/HO by NWTPH-Dx	TPH-G by NWTPH-Gx	BTEX by 8260	RCRA 8 Metals	PAHs 8270 SIM	TOC
1	DP32-081104-1-2	11/4/08 0900	SOIL	2	1 [illegible]						X
2	DP32-081104-4-5	0905							X	X	X
3	DP32-081104-8-9	0910									
4	DP33-081104-1-2	0950							X	X	
5	DP33-081104-3-4	0955							X	X	X
6	DP33-081104-5-6	1000							X	X	
7	DP33-081104-7-8	1005							X	X	
8	DP40-081104-1-2	1110				X	X	X	X	X	
9	DP40-081104-3-4	1115				X	X	X	X	X	X
10	DP40-081104-5-6	1120				X	X	X	X	X	X
11	DP40-081104-7-8	1125									
12	DP36-081104-1-2	1150									
13	DP36-081104-3-4	1200									

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

UPS
Temperature (°C): 7.9
Preservative: MeOH
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY JR	[signature]	PTC	11/4/08	1630
Received by	Kamilla Mooney	Kamilla Mooney	Anatek	11-5-08	10:45
Relinquished by					
Received by					
Relinquished by					
Received by					

2

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #:

Company Name: PTC
Address: 2612 Yelm Hwy SE, Suite B
City: Olympia State: WA Zip: 98501
Phone: (360) 570-1700
Fax:

Project Manager: Troy Bussey
Project Name & #: East Bay RE Phase 1
Email Address: bussey@pioneer.com
Purchase Order #: TO BE PAID BY Port of Olympia
Sampler Name & phone: Same

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

__Normal
__Next Day*
__2nd Day*
X Other* 5 Day TAT

*All rush order requests must be prior approved.

__Phone
X Mail Final
__Fax
X Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

Hold all samples for possible subsequent analysis

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative	TPHd (TPH-Dx by Ecology NWTPH-Dx)	TPHg (TPH-G by Ecology NWTPH-G)	BTEX by 8260	PCBs (Aroclors only)	Pesticides 8270 SIM	TOC
14	DP36-081104-5-6	11/4/08 1210	SOIL	2	1 8oz Vial	—	X	X	X	X		
15	DP36-081104-7-8	1220										
16	DP36-081104-8-9	1230										
17	DP38-081104-1-2	1250								X	X	
18	DP38-081104-3-4	1300										
19	DP38-081104-5-6	1310					X	X	X	X	X	X
20	DP38-081104-6-7	1320					X	X	X	X	X	X
21	DP38-081104-9-10	1330										
22	DP30-081104-1-2	1350								X		
23	DP30-081104-3-4	1400								X	X	
24	DP30-081104-4-5	1410										
25	DP30-081104-7-7.5	1420								X		

	Printed Name	Signature	Company	Date	Time
Relinquished by	Troy Bussey Jr.		PTC	11/4/08	1630
Received by					
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): _____
Preservative: _____
Date & Time: _____
Inspected By: _____

32

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name: PTC	Project Manager: TROY BUSSEY
Address: 2612 YELM HWY SE, SUITE B	Project Name & # : BUSY BAY RT PHASE 1
City: OLYMPIA State: WA Zip: 98501	Email Address : bussey@ci.olympia.wa.us
Phone: 360 570-1702	Purchase Order #: TO BE PAID BY PORT OF OLYMPIA
Fax:	Sampler Name & phone: SAME

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

__Normal
__Next Day*
__2nd Day*
X Other* 5 DAY TAT

*All rush order requests must be prior approved.

__Phone
X Mail FAX
__Fax
X Email

Provide Sample Description / **List Analyses Requested** / **Note Special Instructions/Comments**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative	TPH-D & TPH-HCID (w/ silica gel cleanup)	TPH-G by NWTPH-Gx	BTEX by 8260	VOCs & cVOCs by 8260	PAHs by 8270 SIM	TOC
26	DP27-081104-0-1	11/4/08 1440	SOIL	2	1 BOTTLE 1 VOA					X	X	
27	DP27-081104-3-4	1450						X	X	X	X	X
28	DP27-081104-4-5	1580								X	X	X
29	DP27-081104-6-7	1570								X		
30	DP34-081104-1-3	1530										
31	DP34-081104-4-6	1540					X	X	X	X	X	X
32	DP34-081104-7.5-9.5	1550					X	X	X	X	X	
33	TRIP BLANK	N/A	N/A	1	1 VOA			X	X			

HOLD ALL SAMPLES FOR POSSIBLE SUBSEQUENT ANALYSIS

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C):
Preservative:
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY JR	Troy Bussey	PTC	11/4/08	1630
Received by					
Relinquished by					
Received by					
Relinquished by					
Received by					

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 081105018
Order Date: 11/5/2008

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI PHASE 1

Comment:

Sample #: 081105018-001 **Customer Sample #:** DP32-081104-1-2

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***

Sample #: 081105018-002 **Customer Sample #:** DP32-081104-4-5

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 081105018
Order Date: 11/5/2008

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI PHASE 1

Comment:

Sample #: 081105018-003 **Customer Sample #:** DP32-081104-8-9

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Sample #: 081105018-004 **Customer Sample #:** DP33-081104-1-2

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-005 **Customer Sample #:** DP33-081104-3-4

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 081105018

2612 YELM HWY SE **Order Date:** 11/5/2008

OLYMPIA WA 98001

Contact Name: TROY BUSSEY **Project Name:** EAST BAY RI PHASE 1

Comment:

Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-006 **Customer Sample #:** DP33-081104-5-6

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-007 **Customer Sample #:** DP33-081104-7-8

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 081105018

2612 YELM HWY SE **Order Date:** 11/5/2008

OLYMPIA WA 98001

Contact Name: TROY BUSSEY **Project Name:** EAST BAY RI PHASE 1

Comment:

Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-008 **Customer Sample #:** DP40-081104-1-2

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
TPHDX-NW		NWTPHDX	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-009 **Customer Sample #:** DP40-081104-3-4

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 081105018

2612 YELM HWY SE **Order Date:** 11/5/2008

OLYMPIA WA 98001

Contact Name: TROY BUSSEY **Project Name:** EAST BAY RI PHASE 1

Comment:

TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***
TPHDX-NW		NWTPHDX	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-010 **Customer Sample #:** DP40-081104-5-6

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***
TPHDX-NW		NWTPHDX	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 081105018
Order Date: 11/5/2008

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI PHASE 1

Comment:

Sample #: 081105018-011 **Customer Sample #:** DP40-081104-7-8

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Sample #: 081105018-012 **Customer Sample #:** DP36-081104-1-2

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Sample #: 081105018-013 **Customer Sample #:** DP36-081104-3-4

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Sample #: 081105018-014 **Customer Sample #:** DP36-081104-5-6

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
TPHDX-NW		NWTPHDX	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 081105018

2612 YELM HWY SE **Order Date:** 11/5/2008

OLYMPIA WA 98001

Contact Name: TROY BUSSEY **Project Name:** EAST BAY RI PHASE 1

Comment:

Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-015 **Customer Sample #:** DP36-081104-7-8

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Sample #: 081105018-016 **Customer Sample #:** DP36-081104-8-9

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Sample #: 081105018-017 **Customer Sample #:** DP38-081104-1-2

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 081105018

2612 YELM HWY SE **Order Date:** 11/5/2008

OLYMPIA WA 98001

Contact Name: TROY BUSSEY **Project Name:** EAST BAY RI PHASE 1

Comment:

Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-018 **Customer Sample #:** DP38-081104-3-4

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Sample #: 081105018-019 **Customer Sample #:** DP38-081104-5-6

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***
TPHDX-NW		NWTPHDX	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 081105018
Order Date: 11/5/2008

Contact Name: TROY BUSSEY
Project Name: EAST BAY RI PHASE 1

Comment:

Sample #: 081105018-020 **Customer Sample #:** DP38-081104-6-7

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***
TPHDX-NW		NWTPHDX	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-021 **Customer Sample #:** DP38-081104-9-10

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Sample #: 081105018-022 **Customer Sample #:** DP30-081104-1-2

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 081105018

2612 YELM HWY SE **Order Date:** 11/5/2008

OLYMPIA WA 98001

Contact Name: TROY BUSSEY **Project Name:** EAST BAY RI PHASE 1

Comment:

Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-023 **Customer Sample #:** DP30-081104-3-4

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-024 **Customer Sample #:** DP30-081104-4-5

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 081105018
Order Date: 11/5/2008

Contact Name: TROY BUSSEY
Project Name: EAST BAY RI PHASE 1

Comment:

Sample #: 081105018-025 **Customer Sample #:** DP30-081104-7-7.75

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-026 **Customer Sample #:** DP27-081104-0-1

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 081105018
Order Date: 11/5/2008

Contact Name: TROY BUSSEY
Project Name: EAST BAY RI PHASE 1

Comment:

Sample #: 081105018-027 **Customer Sample #:** DP27-081104-3-4

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-028 **Customer Sample #:** DP27-081104-4-5

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 081105018

2612 YELM HWY SE **Order Date:** 11/5/2008

OLYMPIA WA 98001

Contact Name: TROY BUSSEY **Project Name:** EAST BAY RI PHASE 1

Comment:

Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-029 **Customer Sample #:** DP27-081104-6-7

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-030 **Customer Sample #:** DP34-081104-1-3

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
HOLD		hold	11/12/2008	***5 Days***

Sample #: 081105018-031 **Customer Sample #:** DP34-081104-4-6

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 081105018

2612 YELM HWY SE **Order Date:** 11/5/2008

OLYMPIA WA 98001

Contact Name: TROY BUSSEY **Project Name:** EAST BAY RI PHASE 1

Comment:

TOC - EPA 9060mod PSEP		EPA 9060mod	11/12/2008	***5 Days***
TPHDX-NW		NWTPHDX	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Sample #: 081105018-032 **Customer Sample #:** DP34-081104-7.5-9.5

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008

Quantity: 2 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A

Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
PAH 8270 LOW		EPA 8270C	11/12/2008	***5 Days***
TPHDX-NW		NWTPHDX	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***
Arsenic	Total 8	EPA 6020A	11/12/2008	***5 Days***
Barium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Cadmium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Chromium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Lead	Total 8	EPA 6020A	11/12/2008	***5 Days***
Mercury-ICPMS	Total 8	EPA 6020A	11/12/2008	***5 Days***
Selenium	Total 8	EPA 6020A	11/12/2008	***5 Days***
Silver	Total 8	EPA 6020A	11/12/2008	***5 Days***
TOTAL 8	TOTAL 8	N/A	11/12/2008	***5 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 081105018
Order Date: 11/5/2008

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI PHASE 1

Comment:

Sample #: 081105018-033 **Customer Sample #:** TRIP BLANK

Recv'd: ☑ **Collector:** TROY **Date Collected:** 11/4/2008
Quantity: 1 **Matrix:** Soil **Date Received:** 11/5/2008 10:45:00 A
Comment:

Test	Test Group	Method	Due Date	Priority
%Moisture		%moisture	11/12/2008	***5 Days***
BTEX 8260		EPA 8260B	11/12/2008	***5 Days***
TPHG-NW		NWTPHG	11/12/2008	***5 Days***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	7.9
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-008	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP40-081104-1-2	**Sampling Time**	11:10 AM	**Extraction Date**	11/07/2008
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	21.7	mg/kg	5	11/8/2008	MAH	NWTPHDX	
Lube Oil	113	mg/kg	10	11/8/2008	MAH	NWTPHDX	

Surrogate Data

Sample Number 081105018-008

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	66.0	50-150

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-009	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP40-081104-3-4	**Sampling Time**	11:15 AM	**Extraction Date**	11/07/2008
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/kg	5	11/8/2008	MAH	NWTPHDX	
Lube Oil	39.2	mg/kg	10	11/8/2008	MAH	NWTPHDX	

Surrogate Data

Sample Number 081105018-009

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	70.2	50-150

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-010	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP40-081104-5-6	**Sampling Time**	11:20 AM	**Extraction Date**	11/07/2008
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	19.2	mg/kg	5	11/8/2008	MAH	NWTPHDX	
Lube Oil	295	mg/kg	10	11/8/2008	MAH	NWTPHDX	

Surrogate Data

Sample Number 081105018-010

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	79.4	50-150

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-014	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP36-081104-5-6	**Sampling Time**	12:10 PM	**Extraction Date**	11/07/2008
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	15.7	mg/kg	5	11/8/2008	MAH	NWTPHDX	
Lube Oil	163	mg/kg	10	11/8/2008	MAH	NWTPHDX	

Surrogate Data

Sample Number 081105018-014

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	73.8	50-150

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-019	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP38-081104-5-6	**Sampling Time**	1:10 PM	**Extraction Date**	11/07/2008
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	8.15	mg/kg	5	11/8/2008	MAH	NWTPHDX	
Lube Oil	14.3	mg/kg	10	11/8/2008	MAH	NWTPHDX	

Surrogate Data

Sample Number 081105018-019

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	78.6	50-150

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-020	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP38-081104-6-7	**Sampling Time**	1:20 PM	**Extraction Date**	11/07/2008
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	56.3	mg/kg	5	11/8/2008	MAH	NWTPHDX	
Lube Oil	470	mg/kg	10	11/8/2008	MAH	NWTPHDX	

Surrogate Data

Sample Number 081105018-020

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	81.4	50-150

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-031	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP34-081104-4-6	**Sampling Time**	3:40 PM	**Extraction Date**	11/07/2008
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	5.36	mg/kg	5	11/8/2008	MAH	NWTPHDX	
Lube Oil	12.6	mg/kg	10	11/8/2008	MAH	NWTPHDX	

Surrogate Data

Sample Number 081105018-031

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	77.6	50-150

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-032	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP34-081104-7.5-9.5	**Sampling Time**	3:50 PM	**Extraction Date**	11/07/2008
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	16.2	mg/kg	5	11/8/2008	MAH	NWTPHDX	
Lube Oil	36.1	mg/kg	50	11/8/2008	MAH	NWTPHDX	

Surrogate Data

Sample Number 081105018-032

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	71.4	50-150

Authorized Signature

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	74.2	mg/kg	100	74.2	50-150	11/7/2008	11/9/2008

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
081107002-002	Diesel	ND	83.6	mg/kg	100	83.6	50-150	11/7/2008	11/9/2008

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	78.0	mg/kg	100	78.0	6.9	0-50	11/7/2008	11/9/2008

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/Kg	5	11/7/2008	11/9/2008
Lube Oil	ND	mg/Kg	10	11/7/2008	11/9/2008

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-008 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP40-081104-1-2 **Sampling Time** 11:10 AM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/6/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-008

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	80.4	50-150

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-009	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP40-081104-3-4	**Sampling Time**	11:15 AM		
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/6/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-009

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	70.8	50-150

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-010	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP40-081104-5-6	**Sampling Time**	11:20 AM		
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/6/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-010

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	71.2	50-150

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-014	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP36-081104-5-6	**Sampling Time**	12:10 PM		
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/11/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-014

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	100.4	50-150

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-019 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP38-081104-5-6 **Sampling Time** 1:10 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/11/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-019

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	99.2	50-150

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-020	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP38-081104-6-7	**Sampling Time**	1:20 PM		
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/6/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-020

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	71.6	50-150

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-027	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP27-081104-3-4	**Sampling Time**	2:50 PM		
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/6/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-027

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	75.6	50-150

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-031	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP34-081104-4-6	**Sampling Time**	3:40 PM		
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/6/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-031

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	72.4	50-150

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-032	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP34-081104-7.5-9.5	**Sampling Time**	3:50 PM		
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/6/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-032

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	84.8	50-150

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-033	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	TRIP BLANK	**Sampling Time**			
Matrix	Soil				
Comments					

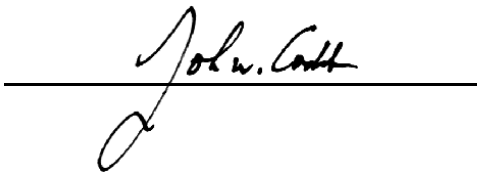
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	11/6/2008	CAS	NWTPHG	

Surrogate Data

Sample Number 081105018-033

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	75.2	50-150

Authorized Signature



MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Gasoline	1.04	mg/kg	1	104.0	70-130	11/11/2008	11/11/2008
Gasoline	1.16	mg/kg	1	116.0	70-130	11/6/2008	11/6/2008

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
081105018-014	Gasoline	ND	55.3	mg/kg	50	110.6	60-140	11/11/2008	11/11/2008

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	47.7	mg/kg	50	95.4	14.8	0-25	11/11/2008	11/11/2008

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Gasoline	ND	mg/Kg	5	11/11/2008	11/11/2008
Gasoline	ND	mg/Kg	5	11/6/2008	11/6/2008

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-008
Client Sample ID DP40-081104-1-2
Matrix Soil
Comments

Sampling Date 11/4/2008
Sampling Time 11:10 AM

Date/Time Received 11/5/2008 10:45 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/10/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-008

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	98.8	70-130
4-Bromofluorobenzene	EPA 8260B	102.4	70-130
Toluene-d8	EPA 8260B	98.4	70-130

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-009 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP40-081104-3-4 **Sampling Time** 11:15 AM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/10/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-009

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	101.2	70-130
4-Bromofluorobenzene	EPA 8260B	102.8	70-130
Toluene-d8	EPA 8260B	98.4	70-130

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-010 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP40-081104-5-6 **Sampling Time** 11:20 AM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/10/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-010

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	99.2	70-130
4-Bromofluorobenzene	EPA 8260B	102.0	70-130
Toluene-d8	EPA 8260B	98.4	70-130

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-014 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP36-081104-5-6 **Sampling Time** 12:10 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/10/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-014

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	100.8	70-130
4-Bromofluorobenzene	EPA 8260B	103.2	70-130
Toluene-d8	EPA 8260B	99.2	70-130

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-019 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP38-081104-5-6 **Sampling Time** 1:10 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/10/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-019

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	100.0	70-130
4-Bromofluorobenzene	EPA 8260B	102.8	70-130
Toluene-d8	EPA 8260B	98.8	70-130

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-020 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP38-081104-6-7 **Sampling Time** 1:20 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/11/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/11/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/11/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/11/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-020

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	101.2	70-130
4-Bromofluorobenzene	EPA 8260B	94.0	70-130
Toluene-d8	EPA 8260B	101.2	70-130

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Analytical Results Report

Sample Number 081105018-027 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP27-081104-3-4 **Sampling Time** 2:50 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/10/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-027

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	100.8	70-130
4-Bromofluorobenzene	EPA 8260B	102.8	70-130
Toluene-d8	EPA 8260B	98.8	70-130

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-031 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP34-081104-4-6 **Sampling Time** 3:40 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/10/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-031

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	101.2	70-130
4-Bromofluorobenzene	EPA 8260B	103.2	70-130
Toluene-d8	EPA 8260B	98.8	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-032 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP34-081104-7.5-9.5 **Sampling Time** 3:50 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/10/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-032

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	98.8	70-130
4-Bromofluorobenzene	EPA 8260B	101.2	70-130
Toluene-d8	EPA 8260B	97.6	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-033 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID TRIP BLANK **Sampling Time**
Matrix Soil
Comments

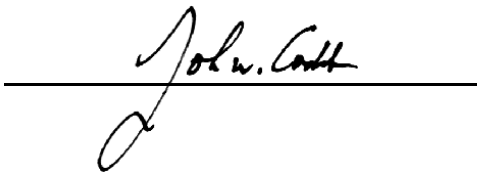
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Toluene	ND	mg/Kg	0.001	11/10/2008	CAS	EPA 8260B	
Total Xylene	ND	mg/Kg	0.002	11/10/2008	CAS	EPA 8260B	

Surrogate Data

Sample Number 081105018-033

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichloroethane-d4	EPA 8260B	98.8	70-130
4-Bromofluorobenzene	EPA 8260B	102.4	70-130
Toluene-d8	EPA 8260B	98.4	70-130

Authorized Signature



MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Toluene	0.00477	mg/kg	0.005	95.4	70-130	11/10/2008	11/10/2008
Ethylbenzene	0.00502	mg/kg	0.005	100.4	70-130	11/10/2008	11/10/2008
Benzene	0.00508	mg/kg	0.005	101.6	70-130	11/10/2008	11/10/2008

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
081105018-008	Toluene	ND	0.502	mg/kg	0.5	100.4	70-130	11/10/2008	11/10/2008
081105018-008	Ethylbenzene	ND	0.522	mg/kg	0.5	104.4	70-130	11/10/2008	11/10/2008
081105018-008	Benzene	ND	0.545	mg/kg	0.5	109.0	70-130	11/10/2008	11/10/2008

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Toluene	0.553	mg/kg	0.5	110.6	9.7	0-25	11/10/2008	11/10/2008
Ethylbenzene	0.588	mg/kg	0.5	117.6	11.9	0-25	11/10/2008	11/10/2008
Benzene	0.593	mg/kg	0.5	118.6	8.4	0-25	11/10/2008	11/10/2008

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	mg/Kg	0.001	11/10/2008	11/10/2008
Ethylbenzene	ND	mg/Kg	0.001	11/10/2008	11/10/2008
Toluene	ND	mg/Kg	0.001	11/10/2008	11/10/2008
Total Xylene	ND	mg/Kg	0.002	11/10/2008	11/10/2008

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-002
Client Sample ID DP32-081104-4-5
Matrix Soil
Comments

Sampling Date 11/4/2008
Sampling Time 9:05 AM

Date/Time Received 11/5/2008 10:45 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.27	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	40.8	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	14.9	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	2.51	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	0.0236	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-004 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP33-081104-1-2 **Sampling Time** 9:50 AM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	1.89	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	35.5	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	21.3	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	2.18	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	0.0202	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-005 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP33-081104-3-4 **Sampling Time** 9:55 AM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.14	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	50.4	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	19.0	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	2.19	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-006	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP33-081104-5-6	**Sampling Time**	10:00 AM		
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.95	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	52.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	34.3	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	2.61	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-007 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP33-081104-7-8 **Sampling Time** 10:05 AM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.84	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	44.6	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	0.219	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	17.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	7.67	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-008	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008	10:45 AM
Client Sample ID	DP40-081104-1-2	**Sampling Time**	11:10 AM			
Matrix	Soil					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.66	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	59.2	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	18.5	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	3.81	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-009	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008	10:45 AM
Client Sample ID	DP40-081104-3-4	**Sampling Time**	11:15 AM			
Matrix	Soil					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.76	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	52.5	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	21.2	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	3.42	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-010	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP40-081104-5-6	**Sampling Time**	11:20 AM		
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.42	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	51.3	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	84.4	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	2.63	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	0.405	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-014 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP36-081104-5-6 **Sampling Time** 12:10 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.59	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	62.3	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	29.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	2.90	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	0.743	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-017 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP38-081104-1-2 **Sampling Time** 12:50 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.90	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	65.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	17.5	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	11.6	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-019 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP38-081104-5-6 **Sampling Time** 1:10 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.75	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	42.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	0.681	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	30.9	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	32.2	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	0.0600	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	0.286	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-020 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP38-081104-6-7 **Sampling Time** 1:20 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	7.53	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	17.3	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	0.473	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	7.74	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	95.4	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	0.0296	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	0.412	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-022 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP30-081104-1-2 **Sampling Time** 1:50 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	3.41	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	26.8	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	19.0	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	6.28	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-023 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP30-081104-3-4 **Sampling Time** 2:00 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	5.08	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	54.6	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	31.3	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	2.91	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-025 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP30-081104-7-7.75 **Sampling Time** 2:20 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	9.87	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	63.4	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	0.691	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	45.9	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	55.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	0.0863	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	0.489	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-026 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP27-081104-0-1 **Sampling Time** 2:40 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.97	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	53.5	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	18.2	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	6.59	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	0.587	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-027 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP27-081104-3-4 **Sampling Time** 2:50 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	3.53	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	85.1	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	0.209	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	47.9	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	5.07	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	0.0281	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-028 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP27-081104-4-5 **Sampling Time** 3:00 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	3.07	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	63.1	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	0.245	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	51.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	4.16	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	0.332	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-029 **Sampling Date** 11/4/2008 **Date/Time Received** 11/5/2008 10:45 AM
Client Sample ID DP27-081104-6-7 **Sampling Time** 3:10 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.10	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	21.5	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	17.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	1.28	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-031	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008	10:45 AM
Client Sample ID	DP34-081104-4-6	**Sampling Time**	3:40 PM			
Matrix	Soil					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	3.88	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	70.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	24.8	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	4.72	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	ND	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-032	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008	10:45 AM
Client Sample ID	DP34-081104-7.5-9.5	**Sampling Time**	3:50 PM			
Matrix	Soil					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	14.5	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Barium	36.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Cadmium	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Chromium	21.3	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Lead	55.7	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Mercury-ICPMS	0.0457	mg/Kg	0.02	11/12/2008	ETL	EPA 6020A	
Selenium	1.34	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	
Silver	ND	mg/Kg	0.2	11/12/2008	ETL	EPA 6020A	

Authorized Signature

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Silver	0.0519	mg/kg	0.05	103.8	85-115	11/11/2008	11/12/2008
Selenium	0.0506	mg/kg	0.05	101.2	85-115	11/11/2008	11/12/2008
MERCURY-ICPMS	0.00304	mg/kg	0.00308	98.7	85-115	11/11/2008	11/12/2008
Lead	0.0517	mg/kg	0.05	103.4	85-115	11/11/2008	11/12/2008
Chromium	0.0523	mg/kg	0.05	104.6	85-115	11/11/2008	11/12/2008
Cadmium	0.0519	mg/kg	0.05	103.8	85-115	11/11/2008	11/12/2008
Barium	0.0508	mg/kg	0.05	101.6	85-115	11/11/2008	11/12/2008
Arsenic	0.0515	mg/kg	0.05	103.0	85-115	11/11/2008	11/12/2008

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
081105018-002	Silver	ND	10.8	mg/kg	10.7	100.9	75-125	11/11/2008	11/12/2008
081105018-002	Selenium	ND	10.3	mg/kg	10.7	96.3	75-125	11/11/2008	11/12/2008
081105018-002	MERCURY-ICPMS	0.0236	0.623	mg/kg	0.659	90.9	75-125	11/11/2008	11/12/2008
081105018-002	Lead	2.51	12.9	mg/kg	10.7	97.1	75-125	11/11/2008	11/12/2008
081105018-002	Chromium	14.9	26.1	mg/kg	10.7	104.7	75-125	11/11/2008	11/12/2008
081105018-002	Cadmium	ND	10.9	mg/kg	10.7	101.9	75-125	11/11/2008	11/12/2008
081105018-002	Barium	40.8	51.5	mg/kg	10.7	100.0	75-125	11/11/2008	11/12/2008
081105018-002	Arsenic	2.27	13.0	mg/kg	10.7	100.3	75-125	11/11/2008	11/12/2008

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Silver	10.9	mg/kg	10.7	101.9	0.9	0-20	11/11/2008	11/12/2008
Selenium	10.8	mg/kg	10.7	100.9	4.7	0-20	11/11/2008	11/12/2008
MERCURY-ICPMS	0.669	mg/kg	0.65912	97.9	7.1	0-20	11/11/2008	11/12/2008
Lead	13.0	mg/kg	10.7	98.0	0.8	0-20	11/11/2008	11/12/2008
Chromium	26.3	mg/kg	10.7	106.5	0.8	0-20	11/11/2008	11/12/2008
Cadmium	11.1	mg/kg	10.7	103.7	1.8	0-20	11/11/2008	11/12/2008
Barium	52.0	mg/kg	10.7	104.7	1.0	0-20	11/11/2008	11/12/2008
Arsenic	13.0	mg/kg	10.7	100.3	0.0	0-20	11/11/2008	11/12/2008

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.2	11/11/2008	11/12/2008
Barium	ND	mg/Kg	0.2	11/11/2008	11/12/2008
Cadmium	ND	mg/Kg	0.2	11/11/2008	11/12/2008
Chromium	ND	mg/Kg	0.2	11/11/2008	11/12/2008
Lead	ND	mg/Kg	0.2	11/11/2008	11/12/2008
Mercury-ICPMS	ND	mg/Kg	0.02	11/11/2008	11/12/2008
Selenium	ND	mg/Kg	0.2	11/11/2008	11/12/2008
Silver	ND	mg/Kg	0.2	11/11/2008	11/12/2008

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-002
Client Sample ID DP32-081104-4-5
Matrix Soil
Comments

Sampling Date 11/4/2008
Sampling Time 9:05 AM

Date/Time Received 11/5/2008 10:45 AM
Extraction Date 11/06/2008

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Phenanthrene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	100.4	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-004	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP33-081104-1-2	**Sampling Time**	9:50 AM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.0090	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0232	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0182	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0172	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0188	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0158	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.0106	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0211	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	0.0114	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.0073	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0215	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.0109	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	0.0121	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	105.4	18-137

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-005	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP33-081104-3-4	**Sampling Time**	9:55 AM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0142	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	0.425	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	0.0892	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.435	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0618	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.492	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.169	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.143	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.184	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.507	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0292	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	2.41	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.345	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0514	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	2.93	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	2.31	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	95.9	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-006	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP33-081104-5-6	**Sampling Time**	10:00 AM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthene	0.0529	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthylene	0.0086	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Anthracene	0.0227	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0110	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0279	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0160	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0174	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0128	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Chrysene	0.0287	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0074	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluoranthene	0.102	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluorene	0.0306	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0088	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Phenanthrene	0.128	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Pyrene	0.103	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	93.0	18-137

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Analytical Results Report

Sample Number	081105018-007	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP33-081104-7-8	**Sampling Time**	10:05 AM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0916	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	0.178	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	0.0507	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.144	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0801	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.432	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.215	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.313	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.232	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.484	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0766	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	2.88	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.0907	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0797	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	0.228	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.270	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	1.89	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-007

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	86.5	18-137

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Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-008	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP40-081104-1-2	**Sampling Time**	11:10 AM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0051	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.0107	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0230	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0170	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0211	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0297	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0136	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.0244	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0149	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	0.0179	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0165	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	0.0113	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.0156	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	0.0473	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-008

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	104.9	18-137

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Analytical Results Report

Sample Number	081105018-009	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP40-081104-3-4	**Sampling Time**	11:15 AM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0069	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0107	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0051	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0051	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluoranthene	0.0113	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Naphthalene	0.0197	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Phenanthrene	0.0156	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Pyrene	0.0123	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-009

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	97.7	18-137

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Analytical Results Report

Sample Number	081105018-010	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP40-081104-5-6	**Sampling Time**	11:20 AM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.0061	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0279	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0244	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0266	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0339	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0134	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.0692	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0123	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	0.125	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.0050	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0125	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.0175	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	0.0259	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-010

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	91.0	18-137

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Analytical Results Report

Sample Number 081105018-017
Client Sample ID DP38-081104-1-2
Matrix Soil
Comments

Sampling Date 11/4/2008
Sampling Time 12:50 PM

Date/Time Received 11/5/2008 10:45 AM
Extraction Date 11/06/2008

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0103	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	0.0073	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.0121	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0472	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0276	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0355	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0393	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0510	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.0497	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0196	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	0.0308	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.0094	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0258	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	0.0126	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.0244	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	0.0303	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-017

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	92.4	18-137

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Analytical Results Report

Sample Number	081105018-019	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP38-081104-5-6	**Sampling Time**	1:10 PM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0668	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	0.0469	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	0.0311	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.0605	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0432	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0719	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0705	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0724	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0560	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.0947	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0245	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	0.222	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.0693	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0400	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	0.226	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.300	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	0.203	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-019

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	98.9	18-137

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-020	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP38-081104-6-7	**Sampling Time**	1:20 PM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0097	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	0.0084	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	0.0104	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.0162	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0575	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0773	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0565	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0620	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0416	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.0941	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0354	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	0.0643	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.0218	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0465	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	0.0233	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.0447	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	0.0926	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-020

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	96.4	18-137

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number 081105018-023
Client Sample ID DP30-081104-3-4
Matrix Soil
Comments

Sampling Date 11/4/2008
Sampling Time 2:00 PM

Date/Time Received 11/5/2008 10:45 AM
Extraction Date 11/06/2008

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.0089	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0258	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0206	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0177	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0200	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0162	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.0115	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0203	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	0.0133	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.0079	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0230	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.0134	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	0.0140	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-023

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	104.6	18-137

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Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-026	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP27-081104-0-1	**Sampling Time**	2:40 PM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0131	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	0.0064	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	0.0241	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.0254	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0557	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0989	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.120	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0876	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0736	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.101	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0293	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	0.190	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.0127	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0548	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	0.0312	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.0863	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	0.223	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-026

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	101.8	18-137

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Analytical Results Report

Sample Number	081105018-027	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP27-081104-3-4	**Sampling Time**	2:50 PM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0069	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0092	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0067	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0085	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0055	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Chrysene	0.0136	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluoranthene	0.0291	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Phenanthrene	0.0127	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Pyrene	0.0250	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-027

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	98.1	18-137

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Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-028	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP27-081104-4-5	**Sampling Time**	3:00 PM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0131	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Acenaphthylene	0.0060	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Anthracene	0.0090	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0243	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0293	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0314	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0296	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0159	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Chrysene	0.0228	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0159	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluoranthene	0.0363	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Fluorene	0.0056	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0221	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Naphthalene	0.0131	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Phenanthrene	0.0242	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	
Pyrene	0.0435	mg/Kg	0.005	11/9/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-028

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	107.2	18-137

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-031	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP34-081104-4-6	**Sampling Time**	3:40 PM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0414	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthylene	0.0100	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Anthracene	0.0146	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0297	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0369	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0393	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0314	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0331	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Chrysene	0.0341	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0172	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluoranthene	0.0606	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluorene	0.0111	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0250	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Naphthalene	0.0326	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Phenanthrene	0.0402	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Pyrene	0.0687	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-031

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	98.3	18-137

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Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Sample Number	081105018-032	**Sampling Date**	11/4/2008	**Date/Time Received**	11/5/2008 10:45 AM
Client Sample ID	DP34-081104-7.5-9.5	**Sampling Time**	3:50 PM	**Extraction Date**	11/06/2008
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0161	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthene	0.0122	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Acenaphthylene	0.0060	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Anthracene	0.0144	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo(ghi)perylene	0.0325	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]anthracene	0.0328	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[a]pyrene	0.0340	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.0306	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.0226	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Chrysene	0.0196	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.0184	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluoranthene	0.0489	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Fluorene	0.0170	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.0335	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Naphthalene	0.0653	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Phenanthrene	0.0564	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	
Pyrene	0.0483	mg/Kg	0.005	11/10/2008	EMP	EPA 8270C	

Surrogate Data

Sample Number 081105018-032

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	92.6	18-137

Authorized Signature

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.788	mg/kg	1	78.8	30-140	11/6/2008	11/10/2008
Acenaphthene	1.01	mg/kg	1	101.0	30-140	11/6/2008	11/10/2008
Acenaphthylene	1.02	mg/kg	1	102.0	30-140	11/6/2008	11/10/2008
Anthracene	0.899	mg/kg	1	89.9	30-140	11/6/2008	11/10/2008
Benzo(ghi)perylene	1.02	mg/kg	1	102.0	30-140	11/6/2008	11/10/2008
Benzo[a]anthracene	0.872	mg/kg	1	87.2	30-140	11/6/2008	11/10/2008
Benzo[a]pyrene	1.01	mg/kg	1	101.0	30-140	11/6/2008	11/10/2008
2-Methylnaphthalene	1.09	mg/kg	1	109.0	30-140	11/6/2008	11/10/2008
Benzo[k]fluoranthene	0.960	mg/kg	1	96.0	30-140	11/6/2008	11/10/2008
Pyrene	0.853	mg/kg	1	85.3	30-140	11/6/2008	11/10/2008
Dibenz[a,h]anthracene	0.995	mg/kg	1	99.5	30-140	11/6/2008	11/10/2008
Fluoranthene	0.877	mg/kg	1	87.7	30-140	11/6/2008	11/10/2008
Fluorene	0.952	mg/kg	1	95.2	30-140	11/6/2008	11/10/2008
Indeno[1,2,3-cd]pyrene	1.00	mg/kg	1	100.0	30-140	11/6/2008	11/10/2008
Naphthalene	0.953	mg/kg	1	95.3	30-140	11/6/2008	11/10/2008
Phenanthrene	0.900	mg/kg	1	90.0	30-140	11/6/2008	11/10/2008
Benzo[b]fluoranthene	1.02	mg/kg	1	102.0	30-140	11/6/2008	11/10/2008

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
081105018-023	Chrysene	0.0115	0.863	mg/kg	1	85.2	30-140	11/6/2008	11/10/2008
081105018-023	Acenaphthene	ND	1.09	mg/kg	1	109.0	30-140	11/6/2008	11/10/2008
081105018-023	Acenaphthylene	ND	1.09	mg/kg	1	109.0	30-140	11/6/2008	11/10/2008
081105018-023	Anthracene	0.0089	0.979	mg/kg	1	97.0	30-140	11/6/2008	11/10/2008
081105018-023	Benzo(ghi)perylene	0.0258	1.18	mg/kg	1	115.4	30-140	11/6/2008	11/10/2008
081105018-023	Benzo[a]anthracene	0.0206	0.984	mg/kg	1	96.3	30-140	11/6/2008	11/10/2008
081105018-023	Benzo[a]pyrene	0.0177	1.10	mg/kg	1	108.2	30-140	11/6/2008	11/10/2008
081105018-023	2-Methylnaphthalene	ND	1.16	mg/kg	1	116.0	30-140	11/6/2008	11/10/2008
081105018-023	Benzo[k]fluoranthene	0.0162	1.04	mg/kg	1	102.4	30-140	11/6/2008	11/10/2008
081105018-023	Pyrene	0.0140	0.940	mg/kg	1	92.6	30-140	11/6/2008	11/10/2008
081105018-023	Dibenz[a,h]anthracene	0.0203	1.13	mg/kg	1	111.0	30-140	11/6/2008	11/10/2008
081105018-023	Fluoranthene	0.0133	0.973	mg/kg	1	96.0	30-140	11/6/2008	11/10/2008
081105018-023	Fluorene	0.0079	1.04	mg/kg	1	103.2	30-140	11/6/2008	11/10/2008
081105018-023	Indeno[1,2,3-cd]pyrene	0.0230	1.15	mg/kg	1	112.7	30-140	11/6/2008	11/10/2008

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
081105018-023	Naphthalene	ND	0.960	mg/kg	1	96.0	30-140	11/6/2008	11/10/2008
081105018-023	Phenanthrene	0.0134	0.947	mg/kg	1	93.4	30-140	11/6/2008	11/10/2008
081105018-023	Benzo[b]fluoranthene	0.0200	1.02	mg/kg	1	100.0	30-140	11/6/2008	11/10/2008

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.822	mg/kg	1	81.1	4.9	0-50	11/6/2008	11/10/2008
Acenaphthene	1.05	mg/kg	1	105.0	3.7	0-50	11/6/2008	11/10/2008
Acenaphthylene	1.07	mg/kg	1	107.0	1.9	0-50	11/6/2008	11/10/2008
Anthracene	0.932	mg/kg	1	92.3	4.9	0-50	11/6/2008	11/10/2008
Benzo(ghi)perylene	1.06	mg/kg	1	103.4	10.7	0-50	11/6/2008	11/10/2008
Benzo[a]anthracene	0.943	mg/kg	1	92.2	4.3	0-50	11/6/2008	11/10/2008
Benzo[a]pyrene	1.07	mg/kg	1	105.2	2.8	0-50	11/6/2008	11/10/2008
2-Methylnaphthalene	1.11	mg/kg	1	111.0	4.4	0-50	11/6/2008	11/10/2008
Benzo[k]fluoranthene	1.01	mg/kg	1	99.4	2.9	0-50	11/6/2008	11/10/2008
Pyrene	0.929	mg/kg	1	91.5	1.2	0-50	11/6/2008	11/10/2008
Dibenz[a,h]anthracene	1.05	mg/kg	1	103.0	7.3	0-50	11/6/2008	11/10/2008
Fluoranthene	0.942	mg/kg	1	92.9	3.2	0-50	11/6/2008	11/10/2008
Fluorene	0.981	mg/kg	1	97.3	5.8	0-50	11/6/2008	11/10/2008
Indeno[1,2,3-cd]pyrene	1.07	mg/kg	1	104.7	7.2	0-50	11/6/2008	11/10/2008
Naphthalene	0.924	mg/kg	1	92.4	3.8	0-50	11/6/2008	11/10/2008
Phenanthrene	0.927	mg/kg	1	91.4	2.1	0-50	11/6/2008	11/10/2008
Benzo[b]fluoranthene	1.04	mg/kg	1	102.0	1.9	0-50	11/6/2008	11/10/2008

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Acenaphthene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Acenaphthylene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Anthracene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Benzo(ghi)perylene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Benzo[a]anthracene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Benzo[a]pyrene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Benzo[b]fluoranthene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Benzo[k]fluoranthene	ND	mg/Kg	0.005	11/6/2008	11/10/2008

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 081105018
Project Name: EAST BAY RI PHASE 1

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Dibenz[a,h]anthracene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Fluoranthene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Fluorene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Naphthalene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Phenanthrene	ND	mg/Kg	0.005	11/6/2008	11/10/2008
Pyrene	ND	mg/Kg	0.005	11/6/2008	11/10/2008

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Pace Analytical Services Report

Pace Analytical™

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

John Coddington
Anatek Labs, Inc.
1282 Alturas Drive
Moscow ID 83843

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

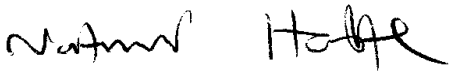
Pace Project #: 1083915
Sample Receipt Date: 11/05/2008
Client Project #: East Bay RI Phase I
Client Sub PO #: N/A
State Cert #: Idaho

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

This report has been reviewed and prepared by:



Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

Report Prepared Date:
December 2, 2008

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on twenty-five samples submitted by a representative of Anatek Labs, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements. The samples received on 11/05/2008 were outside of the recommended temperature range of 0-6 degrees Celsius.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts generally ranged from 29-108%. All of the labeled standard recoveries obtained for sample DP38-081104-6-7 were below the 40-135% target range specified in Method 8290 and were flagged "P" on the results tables. Also, one low recovery was obtained for sample DP36-081104-5-6. Since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained. Pace Analytical Services will perform a repeat analysis of sample DP38-081104-6-7 at no charge if additional sample material is submitted within 30-days of this report.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained, or "E" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with each sample batch as part of our routine quality control procedures. The results show the blanks to contain trace levels of selected congeners. These were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory and matrix spike samples were also prepared using clean sand or sample matrix that had been fortified with native standard materials. The spiked native compounds were generally recovered at 72-130%, with relative percent differences of 0.5-18.2%. Somewhat variable background-subtracted results were obtained for the spiked native OCDD in the matrix spike samples due to the levels of this congener in the sample materials. Matrix spikes were prepared with the 11/19/2008 sample batch using sample material from a separate project; results from these analyses will be provided upon request.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

The responses obtained for the labeled OCDD and/or HpCDD in calibration standard analyses D81112B01 and D81112B02 were outside the target range. As specified in the method, the averages of the daily response factors for these compounds were used in the calculations for the samples from these runshifts. The affected values were flagged "Y" on the results tables. It should be noted that the accuracy of the native congener determinations was not impacted by these deviations.

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Appendix A

Sample Management

Report No....1083915_8290

Page 5 of 47

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In # 1083915

Company Name: ANATEK	Project Manager: TROY BUSSEY / JOHN CODDINGTON
Address: 1282 ALTURAS DRIVE	Project Name & #: EAST BAY RE PHASE 1
City: MOSCOW State: ID Zip: 83843	Email Address :
Phone: 208 883-2839	Purchase Order #: TO BE PAID BY ANATEK – SEND RESULTS TO ANATEK
Fax:	Sampler Name & phone: TROY BUSSEY (360) 570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

__Normal __Next Day* __2nd Day* X Other* 5 DAY TAT

*All rush order requests must be prior approved.

__Phone X Mail FINAL __Fax X Email

Provide Sample Description / **List Analyses Requested**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	
	DP32-081104-1-2	11/4/08 0900	SOIL	1	4oz.		001
	DP32-081104-4-5	0905					002
	DP32-081104-8-9	0910					003
	DP33-081104-1-2	0950					004
	DP33-081104-3-4	0955					005
	DP33-081104-5-6	1000					006
	DP33-081104-7-8	1005					007
	DP40-081104-1-2	1110					008
	DP40-081104-3-4	1115					009
	DP40-081104-5-6	1120					010
	DP40-081104-7-8	1125					011
	DP36-081104-1-2	1150					012
	DP36-081104-3-4	1200					013

Preservative: C = 8260 or 1613 / Methanol / Bisulfate

Note Special Instructions/Comments

1) HOLD ALL SAMPLES FOR POSSIBLE SUBSEQUENT ANALYSES

2) BILL ANALYSES & SEND RESULTS TO ANATEK LABS

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY JR		PTE	11/4/08	1630
Received by	JS		Pace	11-5-08	9:20
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Temperature (°C): 9.1

Preservative:

Date & Time:

Inspected By:

B

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In # 1083915

Company Name: ANATEK
Address: 1282 ALTURAS DR
City: MOSCOW State: ID Zip: 83843
Phone: 208 883-2839
Fax:

Project Manager: TROY BUSSEY / JOHN COCHRAN
Project Name & #: EAST BAY RI Phase I
Email Address :
Purchase Order #: TO BE PAID BY ANATEK
Sampler Name & phone: TROY BUSSEY (360) 570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

__Normal
__Next Day*
__2nd Day*
X Other* 5 DAY FAX

*All rush order requests must be prior approved.

__Phone
X Mail FAX
__Fax
X Email

Provide Sample Description

List Analyses Requested

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Dioxins/Furans 8290A/1613	
	DP36-081104-5-6	11/4/08 1240	SOIL		4oz.	X	14
	DP36-081104-7-8	1220					15
	DP36-081104-8-9	1230				X	16
	DP38-081104-1-2	1250					17
	DP38-081104-3-4	1300					18
	DP38-081104-5-6	1310				X	19
	DP38-081104-6-7	1320				X	20
	DP38-081104-9-10	1330					21
	DP30-081104-1-2	1350				X	22
	DP30-081104-3-4	1400				X	23
	DP30-081104-4-5	1410					24
	DP30-081104-7-7.5	1420				X	25
							26

Note Special Instructions/Comments

1) HOLD ALL SAMPLES FOR POSSIBLE SUBSEQUENT ANALYSES
2) BILL TO ANATEK & SEND RESULTS TO ANATEK LABS

Inspection Checklist

Received Intact? (Y) N
Labels & Chains Agree? (Y) N
Containers Sealed? (Y) N
VOC Head Space? Y (N) NA
11/5/08
Temperature (°C): 9.1
Preservative:
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY OR		PTC	11/4/08	1630
Received by	JS		Anatek	11.5.08	0920
Relinquished by					
Received by					
Relinquished by					
Received by					

Report No.....1083915_8290

Chain of Custody Record

Anatek Labs, Inc.
1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In # 1083915

Company Name: ANATEK	Project Manager: TROY BUSSEY / JOHN COOMBOW
Address: 1282 ALTURAS DR	Project Name & #: EAST BAY RE PHASE 1
City: MOSCOW State: ID Zip: 83843	Email Address :
Phone: 208 883-2839	Purchase Order #: TO BE PAID BY ANATEK
Fax:	Sampler Name & phone: TROY BUSSEY (360) 570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

__Normal __Next Day* __2nd Day* X Other* 5 DAY TAT

*All rush order requests must be prior approved.

__Phone X Mail Final __Fax X Email

Provide Sample Description / **List Analyses Requested**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: Diohnt/Frozen 8260/1613										
	DP27-081104-01	11/4/08 1446	Soil	1	40z.	X								026	27	
	DP27-081104-3-4	1450				X								027	28	
	DP27-081104-4.5	1500				X								028	29	
	DP27-081104-6.7	1510				X								029	30	
	DP34-081104-1-3	1530				X								032	33	
	DP34-081104-4-6	1540				X								030	31	
	DP34-081104-7.5-8.5	1550				X								031	32	

Note Special Instructions/Comments

1) HOLD ALL SAMPLES FOR POSSIBLE SUBSEQUENT ANALYSES

2) BILL TO ANATEK & SEND RESULTS TO ANATEK

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Temperature (°C): 9.1

Preservative:

Date & Time:

Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY DR		DTE	11/4/08	1630
Received by	JS.		Pace	11-5-08	9:20
Relinquished by					
Received by					
Relinquished by					
Received by					

Sample Condition Upon Receipt

Pace Analytical

Client Name: Anatek Project # 1083915

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8613 7182 8992

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ____ No ✓

Thermometer Used: ~~80344042~~, (179425) Type of Ice: Wet (Blue) None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 9.1 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: 11-5-08

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☑Yes ☐No ☐N/A	7. 5 DAY TAT
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: SL		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Kathy Sattler Date/Time: 11/5/08 @ 13:00

Comments/ Resolution: John Coddington
— 8d90, T=0, 10Ds, Rush 5WD TAT, ~~Level 4~~ 5 day Excel EDD
— Proceed despite temp exceedance
— No Level 4 package required
— Place non checked samples on hold.
— Report & Invoice to John Coddington @ Moscow lab.

Project Manager Review: NAH Date: 11/5/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Sample Condition Upon Receipt

Pace Analytical

Client Name: Anatek Project # 1083915

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 9713 2074-3536

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ____ No ✓

Thermometer Used: 80344042, 179425 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 3.9 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 11/18/08

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☐Yes ☑No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☑No ☐N/A	2.
Chain of Custody Relinquished:	☐Yes ☑No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☑Yes ☐No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: 31		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Sample 1083915005 resubmitted for re-extraction

Project Manager Review: NAH **Date:** 11/19/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP32-081104-1-2		
Lab Sample ID	1083915001		
Filename	D81112A10		
Injected By	SMT		
Total Amount Extracted	13.1 g	Matrix	Soil
% Moisture	6.8	Dilution	NA
Dry Weight Extracted	12.2 g	Collected	11/04/2008
ICAL ID	D81031GC2	Received	11/05/2008
CCal Filename(s)	D81112A02 & D81112B02	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/12/2008 16:51

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	0.041		2,3,7,8-TCDF-13C	2.00	82	
Total TCDF	ND	-----	0.041		2,3,7,8-TCDD-13C	2.00	72	
					1,2,3,7,8-PeCDF-13C	2.00	92	
2,3,7,8-TCDD	ND	-----	0.077		2,3,4,7,8-PeCDF-13C	2.00	93	
Total TCDD	ND	-----	0.077		1,2,3,7,8-PeCDD-13C	2.00	91	
					1,2,3,4,7,8-HxCDF-13C	2.00	80	
1,2,3,7,8-PeCDF	-----	0.074	0.028	I	1,2,3,6,7,8-HxCDF-13C	2.00	70	
2,3,4,7,8-PeCDF	ND	-----	0.039		2,3,4,6,7,8-HxCDF-13C	2.00	75	
Total PeCDF	ND	-----	0.034		1,2,3,7,8,9-HxCDF-13C	2.00	92	
					1,2,3,4,7,8-HxCDD-13C	2.00	78	
1,2,3,7,8-PeCDD	ND	-----	0.082		1,2,3,6,7,8-HxCDD-13C	2.00	68	
Total PeCDD	ND	-----	0.082		1,2,3,4,6,7,8-HpCDF-13C	2.00	86	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	96	
1,2,3,4,7,8-HxCDF	-----	0.069	0.030	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	84	Y
1,2,3,6,7,8-HxCDF	-----	0.100	0.033	I	OCDD-13C	4.00	76	Y
2,3,4,6,7,8-HxCDF	-----	0.067	0.021	I				
1,2,3,7,8,9-HxCDF	0.045	-----	0.028	J	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	0.140	-----	0.028	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	-----	0.045	0.043	I	2,3,7,8-TCDD-37Cl4	0.20	83	
1,2,3,6,7,8-HxCDD	ND	-----	0.045					
1,2,3,7,8,9-HxCDD	0.130	-----	0.050	J				
Total HxCDD	0.130	-----	0.046	J				
1,2,3,4,6,7,8-HpCDF	0.260	-----	0.072	BJ	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	0.150	-----	0.097	BJ	Equivalence: 0.046 ng/Kg			
Total HpCDF	0.410	-----	0.084	BJ	(Using ITE Factors)			
1,2,3,4,6,7,8-HpCDD	1.400	-----	0.100	J				
Total HpCDD	2.500	-----	0.100	J				
OCDF	0.700	-----	0.170	J				
OCDD	9.600	-----	0.190					

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
B = Less than 10x higher than method blank level
I = Interference present
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP32-081104-4-5		
Lab Sample ID	1083915002		
Filename	R81111A17		
Injected By	CVS		
Total Amount Extracted	13.1 g	Matrix	Soil
% Moisture	6.2	Dilution	NA
Dry Weight Extracted	12.3 g	Collected	11/04/2008
ICAL ID	R81101GC1	Received	11/05/2008
CCal Filename(s)	R81111A01 & R81111A25	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/11/2008 23:49

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.029	0.025	I	2,3,7,8-TCDF-13C	2.00	68
Total TCDF	0.11	-----	0.025	BJ	2,3,7,8-TCDD-13C	2.00	75
					1,2,3,7,8-PeCDF-13C	2.00	74
2,3,7,8-TCDD	ND	-----	0.053		2,3,4,7,8-PeCDF-13C	2.00	70
Total TCDD	ND	-----	0.053		1,2,3,7,8-PeCDD-13C	2.00	81
					1,2,3,4,7,8-HxCDF-13C	2.00	82
1,2,3,7,8-PeCDF	ND	-----	0.053		1,2,3,6,7,8-HxCDF-13C	2.00	83
2,3,4,7,8-PeCDF	-----	0.064	0.036	I	2,3,4,6,7,8-HxCDF-13C	2.00	70
Total PeCDF	0.26	-----	0.045	BJ	1,2,3,7,8,9-HxCDF-13C	2.00	72
					1,2,3,4,7,8-HxCDD-13C	2.00	79
1,2,3,7,8-PeCDD	-----	0.039	0.029	I	1,2,3,6,7,8-HxCDD-13C	2.00	77
Total PeCDD	ND	-----	0.029		1,2,3,4,6,7,8-HpCDF-13C	2.00	70
					1,2,3,4,7,8,9-HpCDF-13C	2.00	67
1,2,3,4,7,8-HxCDF	0.11	-----	0.045	BJ	1,2,3,4,6,7,8-HpCDD-13C	2.00	87
1,2,3,6,7,8-HxCDF	0.14	-----	0.046	J	OCDD-13C	4.00	85
2,3,4,6,7,8-HxCDF	-----	0.084	0.022	I			
1,2,3,7,8,9-HxCDF	-----	0.055	0.046	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.90	-----	0.040	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.086	0.074	I	2,3,7,8-TCDD-37Cl4	0.20	75
1,2,3,6,7,8-HxCDD	-----	0.190	0.055	I			
1,2,3,7,8,9-HxCDD	-----	0.120	0.054	I			
Total HxCDD	0.16	-----	0.061	J			
1,2,3,4,6,7,8-HpCDF	-----	0.370	0.056	E	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	-----	0.110	0.051	I	Equivalence: 0.080 ng/Kg		
Total HpCDF	2.30	-----	0.054	BJ	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	2.90	-----	0.042	J			
Total HpCDD	5.10	-----	0.042				
OCDF	3.10	-----	0.061	J			
OCDD	23.00	-----	0.052				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
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B = Less than 10x higher than method blank level
E = PCDE Interference
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP32-081104-8-9		
Lab Sample ID	1083915003		
Filename	D81112A12		
Injected By	SMT		
Total Amount Extracted	13.4 g	Matrix	Soil
% Moisture	6.6	Dilution	NA
Dry Weight Extracted	12.5 g	Collected	11/04/2008
ICAL ID	D81031GC2	Received	11/05/2008
CCal Filename(s)	D81112A02 & D81112B02	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/12/2008 17:57

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.130	0.120	I	2,3,7,8-TCDF-13C	2.00	98
Total TCDF	0.22	-----	0.120	BJ	2,3,7,8-TCDD-13C	2.00	84
					1,2,3,7,8-PeCDF-13C	2.00	102
2,3,7,8-TCDD	ND	-----	0.060		2,3,4,7,8-PeCDF-13C	2.00	100
Total TCDD	ND	-----	0.060		1,2,3,7,8-PeCDD-13C	2.00	101
					1,2,3,4,7,8-HxCDF-13C	2.00	91
1,2,3,7,8-PeCDF	ND	-----	0.081		1,2,3,6,7,8-HxCDF-13C	2.00	80
2,3,4,7,8-PeCDF	-----	0.220	0.091	I	2,3,4,6,7,8-HxCDF-13C	2.00	83
Total PeCDF	1.10	-----	0.086	J	1,2,3,7,8,9-HxCDF-13C	2.00	105
					1,2,3,4,7,8-HxCDD-13C	2.00	90
1,2,3,7,8-PeCDD	0.16	-----	0.096	J	1,2,3,6,7,8-HxCDD-13C	2.00	80
Total PeCDD	0.85	-----	0.096	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	98
					1,2,3,4,7,8,9-HpCDF-13C	2.00	108
1,2,3,4,7,8-HxCDF	0.17	-----	0.017	BJ	1,2,3,4,6,7,8-HpCDD-13C	2.00	97 Y
1,2,3,6,7,8-HxCDF	0.25	-----	0.028	J	OCDD-13C	4.00	83 Y
2,3,4,6,7,8-HxCDF	0.14	-----	0.014	J			
1,2,3,7,8,9-HxCDF	0.11	-----	0.019	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	2.50	-----	0.020	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.079	0.076	I	2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	0.32	-----	0.082	J			
1,2,3,7,8,9-HxCDD	-----	0.180	0.064	I			
Total HxCDD	0.64	-----	0.074	J			
1,2,3,4,6,7,8-HpCDF	1.20	-----	0.095	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	-----	0.150	0.130	I	Equivalence: 0.25 ng/Kg		
Total HpCDF	3.30	-----	0.110	J	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	3.20	-----	0.052	J			
Total HpCDD	6.30	-----	0.052				
OCDF	3.80	-----	0.130	J			
OCDD	24.00	-----	0.120				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
B = Less than 10x higher than method blank level
I = Interference present
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP33-081104-1-2		
Lab Sample ID	1083915004		
Filename	R81111A19		
Injected By	CVS		
Total Amount Extracted	13.1 g	Matrix	Soil
% Moisture	9.8	Dilution	NA
Dry Weight Extracted	11.8 g	Collected	11/04/2008
ICAL ID	R81101GC1	Received	11/05/2008
CCal Filename(s)	R81111A01 & R81111A25	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/12/2008 00:54

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.93	-----	0.140		2,3,7,8-TCDF-13C	2.00	61
Total TCDF	37.00	-----	0.140		2,3,7,8-TCDD-13C	2.00	62
					1,2,3,7,8-PeCDF-13C	2.00	58
2,3,7,8-TCDD	0.43	-----	0.150	J	2,3,4,7,8-PeCDF-13C	2.00	60
Total TCDD	15.00	-----	0.150		1,2,3,7,8-PeCDD-13C	2.00	69
					1,2,3,4,7,8-HxCDF-13C	2.00	65
1,2,3,7,8-PeCDF	0.86	-----	0.190	J	1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	0.88	-----	0.160	J	2,3,4,6,7,8-HxCDF-13C	2.00	59
Total PeCDF	36.00	-----	0.170		1,2,3,7,8,9-HxCDF-13C	2.00	60
					1,2,3,4,7,8-HxCDD-13C	2.00	64
1,2,3,7,8-PeCDD	0.94	-----	0.094	J	1,2,3,6,7,8-HxCDD-13C	2.00	62
Total PeCDD	22.00	-----	0.094		1,2,3,4,6,7,8-HpCDF-13C	2.00	55
					1,2,3,4,7,8,9-HpCDF-13C	2.00	48
1,2,3,4,7,8-HxCDF	0.95	-----	0.061	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	64
1,2,3,6,7,8-HxCDF	0.61	-----	0.042	J	OCDD-13C	4.00	59
2,3,4,6,7,8-HxCDF	1.50	-----	0.042	J			
1,2,3,7,8,9-HxCDF	0.11	-----	0.041	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	18.00	-----	0.047		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.50	-----	0.088	J	2,3,7,8-TCDD-37Cl4	0.20	72
1,2,3,6,7,8-HxCDD	3.40	-----	0.086	J			
1,2,3,7,8,9-HxCDD	2.10	-----	0.130	J			
Total HxCDD	35.00	-----	0.100				
1,2,3,4,6,7,8-HpCDF	-----	4.2	0.051	E	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.35	-----	0.075	BJ	Equivalence: 2.6 ng/Kg		
Total HpCDF	6.10	-----	0.063		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	17.00	-----	0.092				
Total HpCDD	35.00	-----	0.092				
OCDF	4.20	-----	0.085	J			
OCDD	63.00	-----	0.038				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
B = Less than 10x higher than method blank level
E = PCDE Interference

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP33-081104-3-4		
Lab Sample ID	1083915005		
Filename	D81112A14		
Injected By	SMT		
Total Amount Extracted	13.2 g	Matrix	Soil
% Moisture	5.6	Dilution	NA
Dry Weight Extracted	12.5 g	Collected	11/04/2008
ICAL ID	D81031GC2	Received	11/05/2008
CCal Filename(s)	D81112A02 & D81112B02	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/12/2008 19:02

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	0.34	-----	0.081	J	2,3,7,8-TCDF-13C	2.00	88	
Total TCDF	3.60	-----	0.081		2,3,7,8-TCDD-13C	2.00	73	
					1,2,3,7,8-PeCDF-13C	2.00	93	
2,3,7,8-TCDD	ND	-----	0.075		2,3,4,7,8-PeCDF-13C	2.00	92	
Total TCDD	7.30	-----	0.075		1,2,3,7,8-PeCDD-13C	2.00	92	
					1,2,3,4,7,8-HxCDF-13C	2.00	81	
1,2,3,7,8-PeCDF	1.10	-----	0.150	J	1,2,3,6,7,8-HxCDF-13C	2.00	68	
2,3,4,7,8-PeCDF	7.40	-----	0.220		2,3,4,6,7,8-HxCDF-13C	2.00	72	
Total PeCDF	36.00	-----	0.180		1,2,3,7,8,9-HxCDF-13C	2.00	94	
					1,2,3,4,7,8-HxCDD-13C	2.00	77	
1,2,3,7,8-PeCDD	0.68	-----	0.098	J	1,2,3,6,7,8-HxCDD-13C	2.00	66	
Total PeCDD	7.10	-----	0.098		1,2,3,4,6,7,8-HpCDF-13C	2.00	84	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	100	
1,2,3,4,7,8-HxCDF	16.00	-----	0.120		1,2,3,4,6,7,8-HpCDD-13C	2.00	84	Y
1,2,3,6,7,8-HxCDF	-----	6.2	0.130	E	OCDD-13C	4.00	84	Y
2,3,4,6,7,8-HxCDF	3.80	-----	0.092	J				
1,2,3,7,8,9-HxCDF	3.20	-----	0.096	J	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	99.00	-----	0.110		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	-----	1.1	0.110	I	2,3,7,8-TCDD-37Cl4	0.20	79	
1,2,3,6,7,8-HxCDD	5.20	-----	0.093					
1,2,3,7,8,9-HxCDD	1.90	-----	0.110	J				
Total HxCDD	65.00	-----	0.100					
1,2,3,4,6,7,8-HpCDF	25.00	-----	0.095		Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	4.70	-----	0.150		Equivalence: 10 ng/Kg			
Total HpCDF	140.00	-----	0.120		(Using ITE Factors)			
1,2,3,4,6,7,8-HpCDD	150.00	-----	0.190					
Total HpCDD	440.00	-----	0.190					
OCDF	140.00	-----	0.170					
OCDD	1000.00	-----	0.065					

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
E = PCDE Interference
I = Interference present
Y = Calculated using average of daily RFs

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP33-081104-5-6		
Lab Sample ID	1083915006		
Filename	R81111A21		
Injected By	CVS		
Total Amount Extracted	13.8 g	Matrix	Soil
% Moisture	6.3	Dilution	NA
Dry Weight Extracted	12.9 g	Collected	11/04/2008
ICAL ID	R81101GC1	Received	11/05/2008
CCal Filename(s)	R81111A01 & R81111A25	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/12/2008 01:59

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.063	0.027	I	2,3,7,8-TCDF-13C	2.00	56
Total TCDF	0.72	-----	0.027	J	2,3,7,8-TCDD-13C	2.00	56
					1,2,3,7,8-PeCDF-13C	2.00	56
2,3,7,8-TCDD	ND	-----	0.040		2,3,4,7,8-PeCDF-13C	2.00	54
Total TCDD	ND	-----	0.040		1,2,3,7,8-PeCDD-13C	2.00	62
					1,2,3,4,7,8-HxCDF-13C	2.00	66
1,2,3,7,8-PeCDF	0.15	-----	0.064	J	1,2,3,6,7,8-HxCDF-13C	2.00	67
2,3,4,7,8-PeCDF	-----	0.340	0.049	I	2,3,4,6,7,8-HxCDF-13C	2.00	55
Total PeCDF	2.20	-----	0.056	J	1,2,3,7,8,9-HxCDF-13C	2.00	58
					1,2,3,4,7,8-HxCDD-13C	2.00	62
1,2,3,7,8-PeCDD	-----	0.089	0.049	I	1,2,3,6,7,8-HxCDD-13C	2.00	60
Total PeCDD	0.13	-----	0.049	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	53
					1,2,3,4,7,8,9-HpCDF-13C	2.00	47
1,2,3,4,7,8-HxCDF	0.91	-----	0.042	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	62
1,2,3,6,7,8-HxCDF	-----	0.220	0.029	I	OCDD-13C	4.00	57
2,3,4,6,7,8-HxCDF	0.42	-----	0.049	J			
1,2,3,7,8,9-HxCDF	0.24	-----	0.042	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	9.20	-----	0.041		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.29	-----	0.056	J	2,3,7,8-TCDD-37Cl4	0.20	60
1,2,3,6,7,8-HxCDD	0.86	-----	0.070	J			
1,2,3,7,8,9-HxCDD	-----	0.370	0.056	I			
Total HxCDD	13.00	-----	0.061				
1,2,3,4,6,7,8-HpCDF	-----	8.000	0.057	E	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.47	-----	0.049	BJ	Equivalence: 0.71 ng/Kg		
Total HpCDF	15.00	-----	0.053		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	25.00	-----	0.110				
Total HpCDD	81.00	-----	0.110				
OCDF	16.00	-----	0.074				
OCDD	160.00	-----	0.097				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
B = Less than 10x higher than method blank level
E = PCDE Interference
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP33-081104-7-8		
Lab Sample ID	1083915007		
Filename	U81113A_08		
Injected By	BAL		
Total Amount Extracted	13.9 g	Matrix	Soil
% Moisture	16.8	Dilution	NA
Dry Weight Extracted	11.5 g	Collected	11/04/2008
ICAL ID	U81002	Received	11/05/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/13/2008 21:45

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.82	-----	0.21	J	2,3,7,8-TCDF-13C	2.00	93
Total TCDF	8.20	-----	0.21		2,3,7,8-TCDD-13C	2.00	87
					1,2,3,7,8-PeCDF-13C	2.00	86
2,3,7,8-TCDD	ND	-----	0.35		2,3,4,7,8-PeCDF-13C	2.00	86
Total TCDD	15.00	-----	0.35		1,2,3,7,8-PeCDD-13C	2.00	91
					1,2,3,4,7,8-HxCDF-13C	2.00	101
1,2,3,7,8-PeCDF	ND	-----	1.80		1,2,3,6,7,8-HxCDF-13C	2.00	82
2,3,4,7,8-PeCDF	2.00	-----	0.90	J	2,3,4,6,7,8-HxCDF-13C	2.00	71
Total PeCDF	16.00	-----	1.30		1,2,3,7,8,9-HxCDF-13C	2.00	80
					1,2,3,4,7,8-HxCDD-13C	2.00	99
1,2,3,7,8-PeCDD	1.70	-----	1.50	J	1,2,3,6,7,8-HxCDD-13C	2.00	78
Total PeCDD	17.00	-----	1.50		1,2,3,4,6,7,8-HpCDF-13C	2.00	58
					1,2,3,4,7,8,9-HpCDF-13C	2.00	50
1,2,3,4,7,8-HxCDF	-----	1.9	0.60	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	65
1,2,3,6,7,8-HxCDF	-----	9.7	0.69	E	OCDD-13C	4.00	46
2,3,4,6,7,8-HxCDF	1.70	-----	0.56	J			
1,2,3,7,8,9-HxCDF	1.20	-----	0.72	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	21.00	-----	0.64		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.70	-----	1.10	J	2,3,7,8-TCDD-37Cl4	0.20	93
1,2,3,6,7,8-HxCDD	4.20	-----	1.30	J			
1,2,3,7,8,9-HxCDD	2.70	-----	0.89	J			
Total HxCDD	40.00	-----	1.10				
1,2,3,4,6,7,8-HpCDF	21.00	-----	2.50		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	1.60		Equivalence: 5.4 ng/Kg		
Total HpCDF	80.00	-----	2.00		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	84.00	-----	1.50				
Total HpCDD	160.00	-----	1.50				
OCDF	90.00	-----	2.50				
OCDD	1200.00	-----	2.30				

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP40-081104-1-2		
Lab Sample ID	1083915008		
Filename	R81111B05		
Injected By	CVS		
Total Amount Extracted	12.2 g	Matrix	Soil
% Moisture	6.4	Dilution	NA
Dry Weight Extracted	11.4 g	Collected	11/04/2008
ICAL ID	R81101GC1	Received	11/05/2008
CCal Filename(s)	R81111A25 & R81111B23	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/12/2008 07:40

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.37	-----	0.056	J	2,3,7,8-TCDF-13C	2.00	69
Total TCDF	5.10	-----	0.056		2,3,7,8-TCDD-13C	2.00	72
					1,2,3,7,8-PeCDF-13C	2.00	67
2,3,7,8-TCDD	0.20	-----	0.036	J	2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	3.40	-----	0.036		1,2,3,7,8-PeCDD-13C	2.00	81
					1,2,3,4,7,8-HxCDF-13C	2.00	79
1,2,3,7,8-PeCDF	0.34	-----	0.120	J	1,2,3,6,7,8-HxCDF-13C	2.00	78
2,3,4,7,8-PeCDF	0.49	-----	0.073	BJ	2,3,4,6,7,8-HxCDF-13C	2.00	68
Total PeCDF	4.50	-----	0.094		1,2,3,7,8,9-HxCDF-13C	2.00	69
					1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	-----	0.440	0.120	I	1,2,3,6,7,8-HxCDD-13C	2.00	73
Total PeCDD	2.30	-----	0.120	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	65
					1,2,3,4,7,8,9-HpCDF-13C	2.00	55
1,2,3,4,7,8-HxCDF	0.53	-----	0.048	BJ	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	0.38	-----	0.053	J	OCDD-13C	4.00	74
2,3,4,6,7,8-HxCDF	0.47	-----	0.062	J			
1,2,3,7,8,9-HxCDF	-----	0.090	0.052	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	11.00	-----	0.054		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.10	-----	0.098	J	2,3,7,8-TCDD-37Cl4	0.20	71
1,2,3,6,7,8-HxCDD	4.00	-----	0.099	J			
1,2,3,7,8,9-HxCDD	2.40	-----	0.130	J			
Total HxCDD	43.00	-----	0.110				
1,2,3,4,6,7,8-HpCDF	-----	16.000	0.140	E	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.84	-----	0.180	BJ	Equivalence: 6.6 ng/Kg		
Total HpCDF	46.00	-----	0.160		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	250.00	-----	0.280				
Total HpCDD	660.00	-----	0.280				
OCDF	84.00	-----	0.091				
OCDD	2600.00	-----	0.086				

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP40-081104-3-4		
Lab Sample ID	1083915009		
Filename	R81111B06		
Injected By	CVS		
Total Amount Extracted	13.2 g	Matrix	Soil
% Moisture	6.9	Dilution	NA
Dry Weight Extracted	12.3 g	Collected	11/04/2008
ICAL ID	R81101GC2	Received	11/05/2008
CCal Filename(s)	R81111A26 & R81112A02	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/12/2008 08:13

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.290		2,3,7,8-TCDF-13C	2.00	68
Total TCDF	0.34	-----	0.290	BJ	2,3,7,8-TCDD-13C	2.00	74
					1,2,3,7,8-PeCDF-13C	2.00	63
2,3,7,8-TCDD	ND	-----	0.074		2,3,4,7,8-PeCDF-13C	2.00	65
Total TCDD	0.79	-----	0.074	J	1,2,3,7,8-PeCDD-13C	2.00	76
					1,2,3,4,7,8-HxCDF-13C	2.00	66
1,2,3,7,8-PeCDF	-----	0.24	0.090	I	1,2,3,6,7,8-HxCDF-13C	2.00	61
2,3,4,7,8-PeCDF	-----	0.34	0.150	I	2,3,4,6,7,8-HxCDF-13C	2.00	71
Total PeCDF	4.10	-----	0.120		1,2,3,7,8,9-HxCDF-13C	2.00	74
					1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	-----	0.16	0.130	I	1,2,3,6,7,8-HxCDD-13C	2.00	69
Total PeCDD	0.86	-----	0.130	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	59
					1,2,3,4,7,8,9-HpCDF-13C	2.00	55
1,2,3,4,7,8-HxCDF	1.30	-----	0.061	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	65
1,2,3,6,7,8-HxCDF	0.43	-----	0.087	J	OCDD-13C	4.00	53
2,3,4,6,7,8-HxCDF	0.49	-----	0.073	J			
1,2,3,7,8,9-HxCDF	0.37	-----	0.074	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	12.00	-----	0.074		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.25	0.100	I	2,3,7,8-TCDD-37Cl4	0.20	78
1,2,3,6,7,8-HxCDD	1.40	-----	0.100	J			
1,2,3,7,8,9-HxCDD	0.58	-----	0.077	J			
Total HxCDD	9.90	-----	0.094				
1,2,3,4,6,7,8-HpCDF	6.30	-----	0.100		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.68	-----	0.190	BJ	Equivalence: 0.96 ng/Kg		
Total HpCDF	24.00	-----	0.140		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	22.00	-----	0.190				
Total HpCDD	51.00	-----	0.190				
OCDF	22.00	-----	0.120				
OCDD	180.00	-----	0.180				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
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I = Interference present

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP40-081104-5-6		
Lab Sample ID	1083915010		
Filename	R81111B07		
Injected By	CVS		
Total Amount Extracted	12.5 g	Matrix	Soil
% Moisture	7.0	Dilution	NA
Dry Weight Extracted	11.6 g	Collected	11/04/2008
ICAL ID	R81101GC1	Received	11/05/2008
CCal Filename(s)	R81111A25 & R81111B23	Extracted	11/06/2008
Method Blank ID	BLANK-18168	Analyzed	11/12/2008 08:44

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.055	0.050	I	2,3,7,8-TCDF-13C	2.00	77
Total TCDF	ND	-----	0.050		2,3,7,8-TCDD-13C	2.00	84
					1,2,3,7,8-PeCDF-13C	2.00	79
2,3,7,8-TCDD	ND	-----	0.120		2,3,4,7,8-PeCDF-13C	2.00	76
Total TCDD	0.27	-----	0.120	J	1,2,3,7,8-PeCDD-13C	2.00	86
					1,2,3,4,7,8-HxCDF-13C	2.00	82
1,2,3,7,8-PeCDF	ND	-----	0.130		1,2,3,6,7,8-HxCDF-13C	2.00	78
2,3,4,7,8-PeCDF	ND	-----	0.130		2,3,4,6,7,8-HxCDF-13C	2.00	78
Total PeCDF	ND	-----	0.130		1,2,3,7,8,9-HxCDF-13C	2.00	72
					1,2,3,4,7,8-HxCDD-13C	2.00	84
1,2,3,7,8-PeCDD	0.29	-----	0.210	J	1,2,3,6,7,8-HxCDD-13C	2.00	79
Total PeCDD	0.73	-----	0.210	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	69
					1,2,3,4,7,8,9-HpCDF-13C	2.00	63
1,2,3,4,7,8-HxCDF	ND	-----	0.120		1,2,3,4,6,7,8-HpCDD-13C	2.00	74
1,2,3,6,7,8-HxCDF	ND	-----	0.130		OCDD-13C	4.00	85
2,3,4,6,7,8-HxCDF	ND	-----	0.100				
1,2,3,7,8,9-HxCDF	ND	-----	0.110		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.41	-----	0.110	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.230	0.220	I	2,3,7,8-TCDD-37Cl4	0.20	79
1,2,3,6,7,8-HxCDD	-----	0.520	0.260	I			
1,2,3,7,8,9-HxCDD	0.55	-----	0.320	J			
Total HxCDD	3.70	-----	0.270	J			
1,2,3,4,6,7,8-HpCDF	0.83	-----	0.420	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.360		Equivalence: 0.48 ng/Kg		
Total HpCDF	3.20	-----	0.390	J	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	13.00	-----	0.430				
Total HpCDD	35.00	-----	0.430				
OCDF	5.40	-----	0.400	J			
OCDD	140.00	-----	0.210				

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP36-081104-1-2		
Lab Sample ID	1083915012		
Filename	R81111B08		
Injected By	CVS		
Total Amount Extracted	12.7 g	Matrix	Soil
% Moisture	7.1	Dilution	NA
Dry Weight Extracted	11.8 g	Collected	11/04/2008
ICAL ID	R81101GC2	Received	11/05/2008
CCal Filename(s)	R81111A26 & R81112A02	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/12/2008 09:17

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.061		2,3,7,8-TCDF-13C	2.00	53
Total TCDF	ND	-----	0.061		2,3,7,8-TCDD-13C	2.00	65
					1,2,3,7,8-PeCDF-13C	2.00	60
2,3,7,8-TCDD	ND	-----	0.075		2,3,4,7,8-PeCDF-13C	2.00	65
Total TCDD	ND	-----	0.075		1,2,3,7,8-PeCDD-13C	2.00	77
					1,2,3,4,7,8-HxCDF-13C	2.00	57
1,2,3,7,8-PeCDF	-----	0.074	0.069	I	1,2,3,6,7,8-HxCDF-13C	2.00	51
2,3,4,7,8-PeCDF	-----	0.090	0.055	I	2,3,4,6,7,8-HxCDF-13C	2.00	70
Total PeCDF	0.120	-----	0.062	BJ	1,2,3,7,8,9-HxCDF-13C	2.00	66
					1,2,3,4,7,8-HxCDD-13C	2.00	69
1,2,3,7,8-PeCDD	ND	-----	0.075		1,2,3,6,7,8-HxCDD-13C	2.00	68
Total PeCDD	ND	-----	0.075		1,2,3,4,6,7,8-HpCDF-13C	2.00	55
					1,2,3,4,7,8,9-HpCDF-13C	2.00	57
1,2,3,4,7,8-HxCDF	-----	0.092	0.053	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	64
1,2,3,6,7,8-HxCDF	-----	0.110	0.059	I	OCDD-13C	4.00	55
2,3,4,6,7,8-HxCDF	-----	0.110	0.056	I			
1,2,3,7,8,9-HxCDF	0.093	-----	0.055	BJ	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.093	-----	0.056	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.120	0.068	I	2,3,7,8-TCDD-37Cl4	0.20	81
1,2,3,6,7,8-HxCDD	0.160	-----	0.100	J			
1,2,3,7,8,9-HxCDD	-----	0.150	0.090	I			
Total HxCDD	0.700	-----	0.087	BJ			
1,2,3,4,6,7,8-HpCDF	0.410	-----	0.100	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.150	-----	0.110	J	Equivalence: 0.053 ng/Kg		
Total HpCDF	0.560	-----	0.110	BJ	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	1.200	-----	0.140	BJ			
Total HpCDD	2.300	-----	0.140	BJ			
OCDF	0.910	-----	0.160	J			
OCDD	9.100	-----	0.220				

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J = Value below calibration range
B = Less than 10x higher than method blank level
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP36-081104-5-6		
Lab Sample ID	1083915014		
Filename	U81113A_09		
Injected By	BAL		
Total Amount Extracted	13.0 g	Matrix	Soil
% Moisture	5.0	Dilution	NA
Dry Weight Extracted	12.4 g	Collected	11/04/2008
ICAL ID	U81002	Received	11/05/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/13/2008 22:32

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	0.27		2,3,7,8-TCDF-13C	2.00	89	
Total TCDF	ND	-----	0.27		2,3,7,8-TCDD-13C	2.00	83	
					1,2,3,7,8-PeCDF-13C	2.00	68	
2,3,7,8-TCDD	ND	-----	0.52		2,3,4,7,8-PeCDF-13C	2.00	67	
Total TCDD	ND	-----	0.52		1,2,3,7,8-PeCDD-13C	2.00	73	
					1,2,3,4,7,8-HxCDF-13C	2.00	98	
1,2,3,7,8-PeCDF	ND	-----	0.78		1,2,3,6,7,8-HxCDF-13C	2.00	79	
2,3,4,7,8-PeCDF	ND	-----	0.66		2,3,4,6,7,8-HxCDF-13C	2.00	78	
Total PeCDF	ND	-----	0.72		1,2,3,7,8,9-HxCDF-13C	2.00	77	
					1,2,3,4,7,8-HxCDD-13C	2.00	91	
1,2,3,7,8-PeCDD	ND	-----	0.78		1,2,3,6,7,8-HxCDD-13C	2.00	79	
Total PeCDD	ND	-----	0.78		1,2,3,4,6,7,8-HpCDF-13C	2.00	54	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	44	
1,2,3,4,7,8-HxCDF	-----	0.86	0.59	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	55	
1,2,3,6,7,8-HxCDF	ND	-----	0.47		OCDD-13C	4.00	29	P
2,3,4,6,7,8-HxCDF	ND	-----	0.64					
1,2,3,7,8,9-HxCDF	ND	-----	0.76		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	1.1	-----	0.61	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	ND	-----	0.88		2,3,7,8-TCDD-37Cl4	0.20	97	
1,2,3,6,7,8-HxCDD	ND	-----	0.74					
1,2,3,7,8,9-HxCDD	ND	-----	0.90					
Total HxCDD	ND	-----	0.84					
1,2,3,4,6,7,8-HpCDF	2.4	-----	1.60	J	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	ND	-----	1.50		Equivalence: 0.13 ng/Kg			
Total HpCDF	6.9	-----	1.60		(Using ITE Factors)			
1,2,3,4,6,7,8-HpCDD	5.7	-----	2.00					
Total HpCDD	11.0	-----	2.00					
OCDF	-----	6.60	3.10	I				
OCDD	47.0	-----	3.20					

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP36-081104-8-9		
Lab Sample ID	1083915016		
Filename	R81111B10		
Injected By	CVS		
Total Amount Extracted	11.1 g	Matrix	Soil
% Moisture	5.0	Dilution	NA
Dry Weight Extracted	10.6 g	Collected	11/04/2008
ICAL ID	R81101GC2	Received	11/05/2008
CCal Filename(s)	R81111A26 & R81112A02	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/12/2008 10:22

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.042		2,3,7,8-TCDF-13C	2.00	68
Total TCDF	ND	-----	0.042		2,3,7,8-TCDD-13C	2.00	79
					1,2,3,7,8-PeCDF-13C	2.00	63
2,3,7,8-TCDD	ND	-----	0.096		2,3,4,7,8-PeCDF-13C	2.00	66
Total TCDD	ND	-----	0.096		1,2,3,7,8-PeCDD-13C	2.00	80
					1,2,3,4,7,8-HxCDF-13C	2.00	75
1,2,3,7,8-PeCDF	ND	-----	0.100		1,2,3,6,7,8-HxCDF-13C	2.00	66
2,3,4,7,8-PeCDF	ND	-----	0.130		2,3,4,6,7,8-HxCDF-13C	2.00	84
Total PeCDF	0.17	-----	0.110	BJ	1,2,3,7,8,9-HxCDF-13C	2.00	80
					1,2,3,4,7,8-HxCDD-13C	2.00	78
1,2,3,7,8-PeCDD	ND	-----	0.099		1,2,3,6,7,8-HxCDD-13C	2.00	72
Total PeCDD	ND	-----	0.099		1,2,3,4,6,7,8-HpCDF-13C	2.00	62
					1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	-----	0.18	0.110	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	-----	0.14	0.120	E	OCDD-13C	4.00	54
2,3,4,6,7,8-HxCDF	-----	0.11	0.093	I			
1,2,3,7,8,9-HxCDF	ND	-----	0.140		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.76	-----	0.110	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.12	-----	0.110	J	2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	-----	0.20	0.170	I			
1,2,3,7,8,9-HxCDD	ND	-----	0.180				
Total HxCDD	0.44	-----	0.150	BJ			
1,2,3,4,6,7,8-HpCDF	-----	1.30	0.190	E	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	-----	0.24	0.150	I	Equivalence: 0.058 ng/Kg		
Total HpCDF	2.60	-----	0.170	J	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	2.50	-----	0.200	J			
Total HpCDD	4.60	-----	0.200	J			
OCDF	-----	3.90	0.350	I			
OCDD	20.00	-----	0.230				

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP38-081104-5-6		
Lab Sample ID	1083915019		
Filename	U81113A_10		
Injected By	BAL		
Total Amount Extracted	14.2 g	Matrix	Soil
% Moisture	46.0	Dilution	NA
Dry Weight Extracted	7.70 g	Collected	11/04/2008
ICAL ID	U81002	Received	11/05/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/13/2008 23:20

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.68	-----	0.30	J	2,3,7,8-TCDF-13C	2.00	72
Total TCDF	10.00	-----	0.30		2,3,7,8-TCDD-13C	2.00	69
					1,2,3,7,8-PeCDF-13C	2.00	72
2,3,7,8-TCDD	ND	-----	0.43		2,3,4,7,8-PeCDF-13C	2.00	74
Total TCDD	2.30	-----	0.43		1,2,3,7,8-PeCDD-13C	2.00	80
					1,2,3,4,7,8-HxCDF-13C	2.00	71
1,2,3,7,8-PeCDF	-----	0.51	0.45	I	1,2,3,6,7,8-HxCDF-13C	2.00	63
2,3,4,7,8-PeCDF	0.79	-----	0.49	J	2,3,4,6,7,8-HxCDF-13C	2.00	66
Total PeCDF	6.40	-----	0.47	J	1,2,3,7,8,9-HxCDF-13C	2.00	66
					1,2,3,4,7,8-HxCDD-13C	2.00	80
1,2,3,7,8-PeCDD	0.83	-----	0.63	J	1,2,3,6,7,8-HxCDD-13C	2.00	63
Total PeCDD	1.90	-----	0.63	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	59
					1,2,3,4,7,8,9-HpCDF-13C	2.00	52
1,2,3,4,7,8-HxCDF	ND	-----	0.71		1,2,3,4,6,7,8-HpCDD-13C	2.00	68
1,2,3,6,7,8-HxCDF	-----	1.90	0.71	E	OCDD-13C	4.00	47
2,3,4,6,7,8-HxCDF	ND	-----	0.66				
1,2,3,7,8,9-HxCDF	-----	0.66	0.65	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	30.00	-----	0.68		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	1.10		2,3,7,8-TCDD-37Cl4	0.20	91
1,2,3,6,7,8-HxCDD	4.60	-----	0.76	J			
1,2,3,7,8,9-HxCDD	1.30	-----	0.82	J			
Total HxCDD	22.00	-----	0.90				
1,2,3,4,6,7,8-HpCDF	56.00	-----	0.64		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	2.70	-----	0.59	J	Equivalence: 4.2 ng/Kg		
Total HpCDF	190.00	-----	0.61		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	93.00	-----	0.80				
Total HpCDD	160.00	-----	0.80				
OCDF	320.00	-----	1.50				
OCDD	900.00	-----	1.60				

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP38-081104-6-7		
Lab Sample ID	1083915020		
Filename	U81113A_14		
Injected By	BAL		
Total Amount Extracted	15.2 g	Matrix	Soil
% Moisture	75.9	Dilution	NA
Dry Weight Extracted	3.65 g	Collected	11/04/2008
ICAL ID	U81002	Received	11/05/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/14/2008 02:29

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	-----	2.3	1.9	I	2,3,7,8-TCDF-13C	2.00	11	P
Total TCDF	ND	-----	1.9		2,3,7,8-TCDD-13C	2.00	10	P
					1,2,3,7,8-PeCDF-13C	2.00	11	P
2,3,7,8-TCDD	ND	-----	3.8		2,3,4,7,8-PeCDF-13C	2.00	12	P
Total TCDD	ND	-----	3.8		1,2,3,7,8-PeCDD-13C	2.00	13	P
					1,2,3,4,7,8-HxCDF-13C	2.00	10	P
1,2,3,7,8-PeCDF	ND	-----	2.7		1,2,3,6,7,8-HxCDF-13C	2.00	10	P
2,3,4,7,8-PeCDF	ND	-----	1.8		2,3,4,6,7,8-HxCDF-13C	2.00	10	P
Total PeCDF	ND	-----	2.3		1,2,3,7,8,9-HxCDF-13C	2.00	11	P
					1,2,3,4,7,8-HxCDD-13C	2.00	11	P
1,2,3,7,8-PeCDD	ND	-----	3.9		1,2,3,6,7,8-HxCDD-13C	2.00	10	P
Total PeCDD	ND	-----	3.9		1,2,3,4,6,7,8-HpCDF-13C	2.00	9	P
					1,2,3,4,7,8,9-HpCDF-13C	2.00	8	P
1,2,3,4,7,8-HxCDF	ND	-----	2.0		1,2,3,4,6,7,8-HpCDD-13C	2.00	10	P
1,2,3,6,7,8-HxCDF	ND	-----	2.0		OCDD-13C	4.00	8	P
2,3,4,6,7,8-HxCDF	ND	-----	3.3					
1,2,3,7,8,9-HxCDF	ND	-----	2.3		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	ND	-----	2.4		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	ND	-----	2.8		2,3,7,8-TCDD-37Cl4	0.20	87	
1,2,3,6,7,8-HxCDD	ND	-----	2.1					
1,2,3,7,8,9-HxCDD	ND	-----	2.6					
Total HxCDD	ND	-----	2.5					
1,2,3,4,6,7,8-HpCDF	-----	5.1	2.3	I	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	ND	-----	2.6		Equivalence: 0.22 ng/Kg			
Total HpCDF	6.6	-----	2.5	J	(Using ITE Factors)			
1,2,3,4,6,7,8-HpCDD	11.0	-----	3.1	J				
Total HpCDD	11.0	-----	3.1	J				
OCDF	18.0	-----	9.2	J				
OCDD	97.0	-----	5.8					

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP30-081104-1-2		
Lab Sample ID	1083915022		
Filename	R81111B13		
Injected By	CVS		
Total Amount Extracted	13.1 g	Matrix	Soil
% Moisture	16.7	Dilution	NA
Dry Weight Extracted	10.9 g	Collected	11/04/2008
ICAL ID	R81101GC1	Received	11/05/2008
CCal Filename(s)	R81111A25 & R81111B23	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/12/2008 11:58

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.24	-----	0.098	J	2,3,7,8-TCDF-13C	2.00	59
Total TCDF	3.50	-----	0.098		2,3,7,8-TCDD-13C	2.00	63
					1,2,3,7,8-PeCDF-13C	2.00	60
2,3,7,8-TCDD	0.22	-----	0.180	J	2,3,4,7,8-PeCDF-13C	2.00	65
Total TCDD	1.90	-----	0.180		1,2,3,7,8-PeCDD-13C	2.00	74
					1,2,3,4,7,8-HxCDF-13C	2.00	65
1,2,3,7,8-PeCDF	0.30	-----	0.170	BJ	1,2,3,6,7,8-HxCDF-13C	2.00	63
2,3,4,7,8-PeCDF	-----	0.42	0.150	I	2,3,4,6,7,8-HxCDF-13C	2.00	59
Total PeCDF	2.40	-----	0.160	J	1,2,3,7,8,9-HxCDF-13C	2.00	57
					1,2,3,4,7,8-HxCDD-13C	2.00	66
1,2,3,7,8-PeCDD	-----	0.37	0.140	I	1,2,3,6,7,8-HxCDD-13C	2.00	62
Total PeCDD	0.99	-----	0.140	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	53
					1,2,3,4,7,8,9-HpCDF-13C	2.00	47
1,2,3,4,7,8-HxCDF	-----	0.21	0.140	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	63
1,2,3,6,7,8-HxCDF	0.28	-----	0.140	J	OCDD-13C	4.00	55
2,3,4,6,7,8-HxCDF	0.29	-----	0.096	J			
1,2,3,7,8,9-HxCDF	0.26	-----	0.130	BJ	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	1.50	-----	0.130	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.32	-----	0.170	J	2,3,7,8-TCDD-37Cl4	0.20	79
1,2,3,6,7,8-HxCDD	0.57	-----	0.210	J			
1,2,3,7,8,9-HxCDD	0.56	-----	0.190	BJ			
Total HxCDD	6.00	-----	0.190				
1,2,3,4,6,7,8-HpCDF	0.66	-----	0.220	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.220		Equivalence: 0.56 ng/Kg		
Total HpCDF	0.66	-----	0.220	BJ	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	3.20	-----	0.310	J			
Total HpCDD	7.60	-----	0.310				
OCDF	1.10	-----	0.520	J			
OCDD	33.00	-----	0.830				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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B = Less than 10x higher than method blank level
I = Interference present

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP30-081104-3-4		
Lab Sample ID	1083915023		
Filename	R81111B14		
Injected By	CVS		
Total Amount Extracted	13.6 g	Matrix	Soil
% Moisture	7.0	Dilution	NA
Dry Weight Extracted	12.6 g	Collected	11/04/2008
ICAL ID	R81101GC2	Received	11/05/2008
CCal Filename(s)	R81111A26 & R81112A02	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/12/2008 12:31

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.048		2,3,7,8-TCDF-13C	2.00	62
Total TCDF	ND	-----	0.048		2,3,7,8-TCDD-13C	2.00	75
					1,2,3,7,8-PeCDF-13C	2.00	64
2,3,7,8-TCDD	ND	-----	0.072		2,3,4,7,8-PeCDF-13C	2.00	66
Total TCDD	ND	-----	0.072		1,2,3,7,8-PeCDD-13C	2.00	79
					1,2,3,4,7,8-HxCDF-13C	2.00	67
1,2,3,7,8-PeCDF	-----	0.060	0.030	I	1,2,3,6,7,8-HxCDF-13C	2.00	59
2,3,4,7,8-PeCDF	-----	0.059	0.027	I	2,3,4,6,7,8-HxCDF-13C	2.00	77
Total PeCDF	ND	-----	0.028		1,2,3,7,8,9-HxCDF-13C	2.00	75
					1,2,3,4,7,8-HxCDD-13C	2.00	76
1,2,3,7,8-PeCDD	0.062	-----	0.045	J	1,2,3,6,7,8-HxCDD-13C	2.00	71
Total PeCDD	0.062	-----	0.045	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	60
					1,2,3,4,7,8,9-HpCDF-13C	2.00	56
1,2,3,4,7,8-HxCDF	0.068	-----	0.034	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	66
1,2,3,6,7,8-HxCDF	-----	0.048	0.043	I	OCDD-13C	4.00	54
2,3,4,6,7,8-HxCDF	-----	0.071	0.042	I			
1,2,3,7,8,9-HxCDF	-----	0.077	0.045	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.068	-----	0.041	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.047		2,3,7,8-TCDD-37Cl4	0.20	90
1,2,3,6,7,8-HxCDD	ND	-----	0.053				
1,2,3,7,8,9-HxCDD	ND	-----	0.051				
Total HxCDD	ND	-----	0.050				
1,2,3,4,6,7,8-HpCDF	0.220	-----	0.075	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.078		Equivalence: 0.044 ng/Kg		
Total HpCDF	0.220	-----	0.076	BJ	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	-----	0.350	0.110	I			
Total HpCDD	0.580	-----	0.110	BJ			
OCDF	0.450	-----	0.130	J			
OCDD	3.400	-----	0.200	BJ			

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP30-081104-7-7.5		
Lab Sample ID	1083915025-R		
Filename	U81125A_07		
Injected By	SMT		
Total Amount Extracted	43.4 g	Matrix	Soil
% Moisture	55.7	Dilution	NA
Dry Weight Extracted	19.2 g	Collected	11/04/2008
ICAL ID	U81123	Received	11/05/2008
CCal Filename(s)	U81124A_16 & U81125A_15	Extracted	11/19/2008
Method Blank ID	BLANK-18300	Analyzed	11/25/2008 12:44

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	56	0.35	E	2,3,7,8-TCDF-13C	2.00	74
Total TCDF	810.0	-----	0.35		2,3,7,8-TCDD-13C	2.00	69
					1,2,3,7,8-PeCDF-13C	2.00	62
2,3,7,8-TCDD	10.0	-----	0.23		2,3,4,7,8-PeCDF-13C	2.00	60
Total TCDD	660.0	-----	0.23		1,2,3,7,8-PeCDD-13C	2.00	66
					1,2,3,4,7,8-HxCDF-13C	2.00	99
1,2,3,7,8-PeCDF	20.0	-----	0.63		1,2,3,6,7,8-HxCDF-13C	2.00	86
2,3,4,7,8-PeCDF	24.0	-----	1.10		2,3,4,6,7,8-HxCDF-13C	2.00	85
Total PeCDF	330.0	-----	0.88		1,2,3,7,8,9-HxCDF-13C	2.00	79
					1,2,3,4,7,8-HxCDD-13C	2.00	83
1,2,3,7,8-PeCDD	24.0	-----	0.94		1,2,3,6,7,8-HxCDD-13C	2.00	87
Total PeCDD	510.0	-----	0.94		1,2,3,4,6,7,8-HpCDF-13C	2.00	61
					1,2,3,4,7,8,9-HpCDF-13C	2.00	49
1,2,3,4,7,8-HxCDF	12.0	-----	1.20		1,2,3,4,6,7,8-HpCDD-13C	2.00	60
1,2,3,6,7,8-HxCDF	18.0	-----	1.90		OCDD-13C	4.00	40
2,3,4,6,7,8-HxCDF	9.9	-----	1.00				
1,2,3,7,8,9-HxCDF	3.2	-----	1.30		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	150.0	-----	1.40		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	14.0	-----	0.78		2,3,7,8-TCDD-37Cl4	0.20	75
1,2,3,6,7,8-HxCDD	27.0	-----	1.10				
1,2,3,7,8,9-HxCDD	17.0	-----	0.93				
Total HxCDD	540.0	-----	0.94				
1,2,3,4,6,7,8-HpCDF	200.0	-----	1.40		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	8.5	-----	2.00		Equivalence: 51 ng/Kg		
Total HpCDF	440.0	-----	1.70		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	180.0	-----	1.50				
Total HpCDD	370.0	-----	1.50				
OCDF	310.0	-----	1.20				
OCDD	840.0	-----	0.85				

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E = PCDE Interference

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Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP27-081104-0-1		
Lab Sample ID	1083915026		
Filename	U81113A_11		
Injected By	BAL		
Total Amount Extracted	13.8 g	Matrix	Soil
% Moisture	10.3	Dilution	NA
Dry Weight Extracted	12.4 g	Collected	11/04/2008
ICAL ID	U81002	Received	11/05/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/14/2008 00:07

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.18	-----	0.11	J	2,3,7,8-TCDF-13C	2.00	79
Total TCDF	0.61	-----	0.11	J	2,3,7,8-TCDD-13C	2.00	76
					1,2,3,7,8-PeCDF-13C	2.00	80
2,3,7,8-TCDD	ND	-----	0.14		2,3,4,7,8-PeCDF-13C	2.00	84
Total TCDD	2.20	-----	0.14		1,2,3,7,8-PeCDD-13C	2.00	91
					1,2,3,4,7,8-HxCDF-13C	2.00	75
1,2,3,7,8-PeCDF	ND	-----	0.22		1,2,3,6,7,8-HxCDF-13C	2.00	68
2,3,4,7,8-PeCDF	0.72	-----	0.24	J	2,3,4,6,7,8-HxCDF-13C	2.00	71
Total PeCDF	6.20	-----	0.23		1,2,3,7,8,9-HxCDF-13C	2.00	73
					1,2,3,4,7,8-HxCDD-13C	2.00	86
1,2,3,7,8-PeCDD	0.66	-----	0.34	J	1,2,3,6,7,8-HxCDD-13C	2.00	68
Total PeCDD	3.70	-----	0.34	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	66
					1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	1.60	-----	0.18	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	0.90	-----	0.14	J	OCDD-13C	4.00	57
2,3,4,6,7,8-HxCDF	0.94	-----	0.16	J			
1,2,3,7,8,9-HxCDF	0.61	-----	0.20	BJ	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	16.00	-----	0.17		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.96	-----	0.16	J	2,3,7,8-TCDD-37Cl4	0.20	90
1,2,3,6,7,8-HxCDD	3.10	-----	0.19	J			
1,2,3,7,8,9-HxCDD	1.90	-----	0.21	J			
Total HxCDD	20.00	-----	0.19				
1,2,3,4,6,7,8-HpCDF	20.00	-----	0.25		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.90	-----	0.31	J	Equivalence: 4.2 ng/Kg		
Total HpCDF	71.00	-----	0.28		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	98.00	-----	0.62				
Total HpCDD	170.00	-----	0.62				
OCDF	81.00	-----	0.36				
OCDD	1200.00	-----	0.49				

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP27-081104-3-4		
Lab Sample ID	1083915027		
Filename	R81111B17		
Injected By	CVS		
Total Amount Extracted	13.8 g	Matrix	Soil
% Moisture	21.6	Dilution	NA
Dry Weight Extracted	10.8 g	Collected	11/04/2008
ICAL ID	R81101GC1	Received	11/05/2008
CCal Filename(s)	R81111A25 & R81111B23	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/12/2008 14:08

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.061		2,3,7,8-TCDF-13C	2.00	67
Total TCDF	0.10	-----	0.061	J	2,3,7,8-TCDD-13C	2.00	67
					1,2,3,7,8-PeCDF-13C	2.00	67
2,3,7,8-TCDD	ND	-----	0.078		2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	ND	-----	0.078		1,2,3,7,8-PeCDD-13C	2.00	83
					1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	ND	-----	0.130		1,2,3,6,7,8-HxCDF-13C	2.00	85
2,3,4,7,8-PeCDF	-----	0.099	0.080	I	2,3,4,6,7,8-HxCDF-13C	2.00	77
Total PeCDF	ND	-----	0.100		1,2,3,7,8,9-HxCDF-13C	2.00	75
					1,2,3,4,7,8-HxCDD-13C	2.00	82
1,2,3,7,8-PeCDD	ND	-----	0.130		1,2,3,6,7,8-HxCDD-13C	2.00	74
Total PeCDD	ND	-----	0.130		1,2,3,4,6,7,8-HpCDF-13C	2.00	71
					1,2,3,4,7,8,9-HpCDF-13C	2.00	63
1,2,3,4,7,8-HxCDF	-----	0.130	0.096	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	81
1,2,3,6,7,8-HxCDF	0.15	-----	0.100	J	OCDD-13C	4.00	72
2,3,4,6,7,8-HxCDF	-----	0.130	0.100	I			
1,2,3,7,8,9-HxCDF	ND	-----	0.120		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.15	-----	0.100	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.120		2,3,7,8-TCDD-37Cl4	0.20	72
1,2,3,6,7,8-HxCDD	ND	-----	0.190				
1,2,3,7,8,9-HxCDD	0.18	-----	0.160	BJ			
Total HxCDD	0.18	-----	0.160	BJ			
1,2,3,4,6,7,8-HpCDF	-----	0.380	0.160	E	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.160		Equivalence: 0.034 ng/Kg		
Total HpCDF	ND	-----	0.160		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.210				
Total HpCDD	0.41	-----	0.210	BJ			
OCDF	-----	0.350	0.320	I			
OCDD	1.20	-----	0.410	BJ			

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Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP27-081104-4-5		
Lab Sample ID	1083915028		
Filename	U81113A_12		
Injected By	BAL		
Total Amount Extracted	14.8 g	Matrix	Soil
% Moisture	33.1	Dilution	NA
Dry Weight Extracted	9.93 g	Collected	11/04/2008
ICAL ID	U81002	Received	11/05/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/14/2008 00:54

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.16		2,3,7,8-TCDF-13C	2.00	72
Total TCDF	ND	-----	0.16		2,3,7,8-TCDD-13C	2.00	67
					1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	ND	-----	0.26		2,3,4,7,8-PeCDF-13C	2.00	78
Total TCDD	3.80	-----	0.26		1,2,3,7,8-PeCDD-13C	2.00	84
					1,2,3,4,7,8-HxCDF-13C	2.00	69
1,2,3,7,8-PeCDF	ND	-----	0.20		1,2,3,6,7,8-HxCDF-13C	2.00	62
2,3,4,7,8-PeCDF	ND	-----	0.16		2,3,4,6,7,8-HxCDF-13C	2.00	64
Total PeCDF	0.48	-----	0.18	BJ	1,2,3,7,8,9-HxCDF-13C	2.00	65
					1,2,3,4,7,8-HxCDD-13C	2.00	73
1,2,3,7,8-PeCDD	-----	0.29	0.25	I	1,2,3,6,7,8-HxCDD-13C	2.00	65
Total PeCDD	ND	-----	0.25		1,2,3,4,6,7,8-HpCDF-13C	2.00	59
					1,2,3,4,7,8,9-HpCDF-13C	2.00	55
1,2,3,4,7,8-HxCDF	0.33	-----	0.12	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	68
1,2,3,6,7,8-HxCDF	0.22	-----	0.16	J	OCDD-13C	4.00	50
2,3,4,6,7,8-HxCDF	0.25	-----	0.13	J			
1,2,3,7,8,9-HxCDF	ND	-----	0.14		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	5.10	-----	0.14		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.36	-----	0.16	J	2,3,7,8-TCDD-37Cl4	0.20	89
1,2,3,6,7,8-HxCDD	-----	0.66	0.36	I			
1,2,3,7,8,9-HxCDD	0.60	-----	0.17	BJ			
Total HxCDD	6.90	-----	0.23				
1,2,3,4,6,7,8-HpCDF	5.70	-----	0.20		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.30	-----	0.19	J	Equivalence: 0.65 ng/Kg		
Total HpCDF	14.00	-----	0.20		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	16.00	-----	0.27				
Total HpCDD	33.00	-----	0.27				
OCDF	13.00	-----	0.41				
OCDD	240.00	-----	0.51				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP27-081104-6-7		
Lab Sample ID	1083915029		
Filename	D81112A09		
Injected By	SMT		
Total Amount Extracted	13.5 g	Matrix	Soil
% Moisture	16.1	Dilution	NA
Dry Weight Extracted	11.3 g	Collected	11/04/2008
ICAL ID	D81103GC1	Received	11/05/2008
CCal Filename(s)	D81112A01 & D81112B01	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/12/2008 16:00

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.042		2,3,7,8-TCDF-13C	2.00	78
Total TCDF	0.069	-----	0.042	J	2,3,7,8-TCDD-13C	2.00	65
					1,2,3,7,8-PeCDF-13C	2.00	69
2,3,7,8-TCDD	ND	-----	0.052		2,3,4,7,8-PeCDF-13C	2.00	69
Total TCDD	ND	-----	0.052		1,2,3,7,8-PeCDD-13C	2.00	65
					1,2,3,4,7,8-HxCDF-13C	2.00	74
1,2,3,7,8-PeCDF	-----	0.080	0.054	I	1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	0.098	-----	0.046	J	2,3,4,6,7,8-HxCDF-13C	2.00	75
Total PeCDF	0.098	-----	0.050	BJ	1,2,3,7,8,9-HxCDF-13C	2.00	87
					1,2,3,4,7,8-HxCDD-13C	2.00	77
1,2,3,7,8-PeCDD	ND	-----	0.088		1,2,3,6,7,8-HxCDD-13C	2.00	67
Total PeCDD	ND	-----	0.088		1,2,3,4,6,7,8-HpCDF-13C	2.00	79
					1,2,3,4,7,8,9-HpCDF-13C	2.00	83
1,2,3,4,7,8-HxCDF	0.120	-----	0.042	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	88
1,2,3,6,7,8-HxCDF	-----	0.056	0.039	I	OCDD-13C	4.00	69 Y
2,3,4,6,7,8-HxCDF	-----	0.088	0.040	I			
1,2,3,7,8,9-HxCDF	-----	0.080	0.034	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.200	-----	0.039	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.053		2,3,7,8-TCDD-37Cl4	0.20	86
1,2,3,6,7,8-HxCDD	0.160	-----	0.034	J			
1,2,3,7,8,9-HxCDD	-----	0.091	0.041	I			
Total HxCDD	0.160	-----	0.043	BJ			
1,2,3,4,6,7,8-HpCDF	0.390	-----	0.046	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	-----	0.140	0.097	I	Equivalence: 0.096 ng/Kg		
Total HpCDF	0.390	-----	0.071	BJ	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	0.750	-----	0.098	BJ			
Total HpCDD	0.750	-----	0.098	BJ			
OCDF	-----	0.840	0.100	I			
OCDD	6.800	-----	0.170	BJ			

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EMPC = Estimated Maximum Possible Concentration
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NC = Not Calculated

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J = Value below calibration range
B = Less than 10x higher than method blank level
I = Interference present
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP34-081104-4-6		
Lab Sample ID	1083915030		
Filename	U81113A_13		
Injected By	BAL		
Total Amount Extracted	12.1 g	Matrix	Soil
% Moisture	15.9	Dilution	NA
Dry Weight Extracted	10.2 g	Collected	11/04/2008
ICAL ID	U81002	Received	11/05/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/14/2008 01:42

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.36	-----	0.13	J	2,3,7,8-TCDF-13C	2.00	77
Total TCDF	6.40	-----	0.13		2,3,7,8-TCDD-13C	2.00	71
					1,2,3,7,8-PeCDF-13C	2.00	71
2,3,7,8-TCDD	ND	-----	0.20		2,3,4,7,8-PeCDF-13C	2.00	73
Total TCDD	3.00	-----	0.20		1,2,3,7,8-PeCDD-13C	2.00	78
					1,2,3,4,7,8-HxCDF-13C	2.00	74
1,2,3,7,8-PeCDF	ND	-----	0.29		1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	1.50	-----	0.23	J	2,3,4,6,7,8-HxCDF-13C	2.00	67
Total PeCDF	16.00	-----	0.26		1,2,3,7,8,9-HxCDF-13C	2.00	68
					1,2,3,4,7,8-HxCDD-13C	2.00	76
1,2,3,7,8-PeCDD	-----	0.48	0.28	I	1,2,3,6,7,8-HxCDD-13C	2.00	66
Total PeCDD	3.60	-----	0.28	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	54
					1,2,3,4,7,8,9-HpCDF-13C	2.00	47
1,2,3,4,7,8-HxCDF	-----	0.29	0.16	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	60
1,2,3,6,7,8-HxCDF	0.51	-----	0.24	J	OCDD-13C	4.00	40
2,3,4,6,7,8-HxCDF	-----	0.67	0.20	I			
1,2,3,7,8,9-HxCDF	-----	0.25	0.19	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	9.40	-----	0.20		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.44	-----	0.24	J	2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	0.84	-----	0.22	J			
1,2,3,7,8,9-HxCDD	0.56	-----	0.28	BJ			
Total HxCDD	9.30	-----	0.25				
1,2,3,4,6,7,8-HpCDF	3.70	-----	0.22	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.34		Equivalence: 1.2 ng/Kg		
Total HpCDF	7.80	-----	0.28		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	9.50	-----	0.41				
Total HpCDD	18.00	-----	0.41				
OCDF	7.20	-----	0.63	J			
OCDD	61.00	-----	0.52				

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP34-081104-7.5-9.5		
Lab Sample ID	1083915031		
Filename	D81112A13		
Injected By	SMT		
Total Amount Extracted	13.1 g	Matrix	Soil
% Moisture	54.6	Dilution	NA
Dry Weight Extracted	5.94 g	Collected	11/04/2008
ICAL ID	D81103GC1	Received	11/05/2008
CCal Filename(s)	D81112A01 & D81112B01	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/12/2008 18:30

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.93	-----	0.086	J	2,3,7,8-TCDF-13C	2.00	86
Total TCDF	18.00	-----	0.086		2,3,7,8-TCDD-13C	2.00	76
					1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	-----	0.38	0.170	I	2,3,4,7,8-PeCDF-13C	2.00	75
Total TCDD	12.00	-----	0.170		1,2,3,7,8-PeCDD-13C	2.00	73
					1,2,3,4,7,8-HxCDF-13C	2.00	84
1,2,3,7,8-PeCDF	-----	0.64	0.380	I	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	1.30	-----	0.310	J	2,3,4,6,7,8-HxCDF-13C	2.00	78
Total PeCDF	9.10	-----	0.350		1,2,3,7,8,9-HxCDF-13C	2.00	94
					1,2,3,4,7,8-HxCDD-13C	2.00	81
1,2,3,7,8-PeCDD	1.10	-----	0.310	J	1,2,3,6,7,8-HxCDD-13C	2.00	71
Total PeCDD	15.00	-----	0.310		1,2,3,4,6,7,8-HpCDF-13C	2.00	83
					1,2,3,4,7,8,9-HpCDF-13C	2.00	91
1,2,3,4,7,8-HxCDF	-----	0.64	0.190	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	94
1,2,3,6,7,8-HxCDF	-----	1.20	0.260	E	OCDD-13C	4.00	74 Y
2,3,4,6,7,8-HxCDF	0.86	-----	0.230	J			
1,2,3,7,8,9-HxCDF	0.32	-----	0.180	BJ	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	6.40	-----	0.220	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.92	-----	0.280	J	2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	2.20	-----	0.280	J			
1,2,3,7,8,9-HxCDD	-----	1.20	0.390	I			
Total HxCDD	25.00	-----	0.320				
1,2,3,4,6,7,8-HpCDF	-----	11.00	0.180	E	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.69	-----	0.190	J	Equivalence: 2.3 ng/Kg		
Total HpCDF	14.00	-----	0.180		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	28.00	-----	0.300				
Total HpCDD	55.00	-----	0.300				
OCDF	24.00	-----	0.430				
OCDD	280.00	-----	0.440				

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Anatek Labs, Inc.

Client's Sample ID	DP34-081104-1-3		
Lab Sample ID	1083915032		
Filename	U81113A_07		
Injected By	BAL		
Total Amount Extracted	13.4 g	Matrix	Soil
% Moisture	11.2	Dilution	NA
Dry Weight Extracted	11.9 g	Collected	11/04/2008
ICAL ID	U81002	Received	11/05/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Extracted	11/06/2008
Method Blank ID	BLANK-18170	Analyzed	11/13/2008 20:57

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.20	-----	0.19		2,3,7,8-TCDF-13C	2.00	86
Total TCDF	23.00	-----	0.19		2,3,7,8-TCDD-13C	2.00	80
					1,2,3,7,8-PeCDF-13C	2.00	85
2,3,7,8-TCDD	ND	-----	0.23		2,3,4,7,8-PeCDF-13C	2.00	86
Total TCDD	17.00	-----	0.23		1,2,3,7,8-PeCDD-13C	2.00	93
					1,2,3,4,7,8-HxCDF-13C	2.00	84
1,2,3,7,8-PeCDF	-----	1.6	0.38	E	1,2,3,6,7,8-HxCDF-13C	2.00	64
2,3,4,7,8-PeCDF	6.00	-----	0.35		2,3,4,6,7,8-HxCDF-13C	2.00	68
Total PeCDF	55.00	-----	0.36		1,2,3,7,8,9-HxCDF-13C	2.00	76
					1,2,3,4,7,8-HxCDD-13C	2.00	87
1,2,3,7,8-PeCDD	2.00	-----	0.82	J	1,2,3,6,7,8-HxCDD-13C	2.00	72
Total PeCDD	29.00	-----	0.82		1,2,3,4,6,7,8-HpCDF-13C	2.00	63
					1,2,3,4,7,8,9-HpCDF-13C	2.00	59
1,2,3,4,7,8-HxCDF	1.80	-----	0.50	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	70
1,2,3,6,7,8-HxCDF	-----	7.7	0.36	E	OCDD-13C	4.00	49
2,3,4,6,7,8-HxCDF	-----	2.4	0.41	I			
1,2,3,7,8,9-HxCDF	0.79	-----	0.33	BJ	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	38.00	-----	0.40		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	2.40	-----	0.55	J	2,3,7,8-TCDD-37Cl4	0.20	96
1,2,3,6,7,8-HxCDD	5.40	-----	0.30				
1,2,3,7,8,9-HxCDD	3.00	-----	0.45	J			
Total HxCDD	63.00	-----	0.43				
1,2,3,4,6,7,8-HpCDF	26.00	-----	0.45		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.70	-----	0.88	J	Equivalence: 7.1 ng/Kg		
Total HpCDF	81.00	-----	0.67		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	75.00	-----	0.26				
Total HpCDD	140.00	-----	0.26				
OCDF	85.00	-----	0.53				
OCDD	550.00	-----	0.50				

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-18168	Matrix	Solid
Filename	D81112A07	Dilution	NA
Total Amount Extracted	12.4 g	Extracted	11/06/2008
ICAL ID	D81103GC1	Analyzed	11/12/2008 14:33
CCal Filename(s)	D81112A01 & D81112B01	Injected By	SMT

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	0.045		2,3,7,8-TCDF-13C	2.00	74	
Total TCDF	0.048	-----	0.045	J	2,3,7,8-TCDD-13C	2.00	62	
					1,2,3,7,8-PeCDF-13C	2.00	63	
2,3,7,8-TCDD	ND	-----	0.086		2,3,4,7,8-PeCDF-13C	2.00	65	
Total TCDD	ND	-----	0.086		1,2,3,7,8-PeCDD-13C	2.00	62	
					1,2,3,4,7,8-HxCDF-13C	2.00	73	
1,2,3,7,8-PeCDF	ND	-----	0.079		1,2,3,6,7,8-HxCDF-13C	2.00	64	
2,3,4,7,8-PeCDF	0.082	-----	0.040	J	2,3,4,6,7,8-HxCDF-13C	2.00	69	
Total PeCDF	0.082	-----	0.059	J	1,2,3,7,8,9-HxCDF-13C	2.00	81	
					1,2,3,4,7,8-HxCDD-13C	2.00	71	
1,2,3,7,8-PeCDD	ND	-----	0.075		1,2,3,6,7,8-HxCDD-13C	2.00	63	
Total PeCDD	ND	-----	0.075		1,2,3,4,6,7,8-HpCDF-13C	2.00	75	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	79	
1,2,3,4,7,8-HxCDF	0.065	-----	0.036	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	80	
1,2,3,6,7,8-HxCDF	-----	0.058	0.041	I	OCDD-13C	4.00	65	Y
2,3,4,6,7,8-HxCDF	-----	0.069	0.040	I				
1,2,3,7,8,9-HxCDF	-----	0.110	0.043	I	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	0.110	-----	0.040	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	ND	-----	0.064		2,3,7,8-TCDD-37Cl4	0.20	69	
1,2,3,6,7,8-HxCDD	ND	-----	0.070					
1,2,3,7,8,9-HxCDD	-----	0.086	0.066	I				
Total HxCDD	ND	-----	0.067					
1,2,3,4,6,7,8-HpCDF	0.140	-----	0.073	J	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	0.160	-----	0.093	J	Equivalence: 0.051 ng/Kg			
Total HpCDF	0.300	-----	0.083	J	(Using ITE Factors)			
1,2,3,4,6,7,8-HpCDD	-----	0.200	0.120	I				
Total HpCDD	0.240	-----	0.120	J				
OCDF	-----	0.190	0.098	I				
OCDD	0.630	-----	0.140	J				

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Tel: 612-607-1700
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Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-18170	Matrix	Solid
Filename	D81112A08	Dilution	NA
Total Amount Extracted	13.1 g	Extracted	11/06/2008
ICAL ID	D81031GC2	Analyzed	11/12/2008 15:05
CCal Filename(s)	D81112A02 & D81112B02	Injected By	SMT

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	0.043		2,3,7,8-TCDF-13C	2.00	55	
Total TCDF	ND	-----	0.043		2,3,7,8-TCDD-13C	2.00	49	
					1,2,3,7,8-PeCDF-13C	2.00	76	
2,3,7,8-TCDD	ND	-----	0.076		2,3,4,7,8-PeCDF-13C	2.00	81	
Total TCDD	ND	-----	0.076		1,2,3,7,8-PeCDD-13C	2.00	81	
					1,2,3,4,7,8-HxCDF-13C	2.00	76	
1,2,3,7,8-PeCDF	0.12	-----	0.075	J	1,2,3,6,7,8-HxCDF-13C	2.00	65	
2,3,4,7,8-PeCDF	-----	0.091	0.070	I	2,3,4,6,7,8-HxCDF-13C	2.00	71	
Total PeCDF	0.12	-----	0.072	J	1,2,3,7,8,9-HxCDF-13C	2.00	84	
					1,2,3,4,7,8-HxCDD-13C	2.00	71	
1,2,3,7,8-PeCDD	-----	0.130	0.083	I	1,2,3,6,7,8-HxCDD-13C	2.00	62	
Total PeCDD	ND	-----	0.083		1,2,3,4,6,7,8-HpCDF-13C	2.00	83	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	88	
1,2,3,4,7,8-HxCDF	-----	0.097	0.047	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	78	Y
1,2,3,6,7,8-HxCDF	-----	0.098	0.047	I	OCDD-13C	4.00	71	Y
2,3,4,6,7,8-HxCDF	-----	0.094	0.052	I				
1,2,3,7,8,9-HxCDF	0.11	-----	0.056	J	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	0.11	-----	0.050	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	-----	0.100	0.050	I	2,3,7,8-TCDD-37Cl4	0.20	54	
1,2,3,6,7,8-HxCDD	-----	0.110	0.066	I				
1,2,3,7,8,9-HxCDD	0.10	-----	0.061	J				
Total HxCDD	0.10	-----	0.059	J				
1,2,3,4,6,7,8-HpCDF	0.15	-----	0.057	J	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	-----	0.140	0.087	I	Equivalence: 0.032 ng/Kg			
Total HpCDF	0.15	-----	0.072	J	(Using ITE Factors)			
1,2,3,4,6,7,8-HpCDD	0.24	-----	0.079	J				
Total HpCDD	0.42	-----	0.079	J				
OCDF	-----	0.350	0.150	I				
OCDD	0.69	-----	0.110	J				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
I = Interference present
Y = Calculated using average of daily RFs

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-18300	Matrix	Solid
Filename	U81124A_08	Dilution	NA
Total Amount Extracted	10.2 g	Extracted	11/19/2008
ICAL ID	U81123	Analyzed	11/25/2008 00:08
CCal Filename(s)	U81123A_27 & U81124A_16	Injected By	BAL

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.14		2,3,7,8-TCDF-13C	2.00	77
Total TCDF	0.61	-----	0.14	J	2,3,7,8-TCDD-13C	2.00	82
					1,2,3,7,8-PeCDF-13C	2.00	90
2,3,7,8-TCDD	ND	-----	0.18		2,3,4,7,8-PeCDF-13C	2.00	92
Total TCDD	ND	-----	0.18		1,2,3,7,8-PeCDD-13C	2.00	104
					1,2,3,4,7,8-HxCDF-13C	2.00	88
1,2,3,7,8-PeCDF	ND	-----	0.19		1,2,3,6,7,8-HxCDF-13C	2.00	84
2,3,4,7,8-PeCDF	ND	-----	0.14		2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	ND	-----	0.17		1,2,3,7,8,9-HxCDF-13C	2.00	82
					1,2,3,4,7,8-HxCDD-13C	2.00	85
1,2,3,7,8-PeCDD	ND	-----	0.18		1,2,3,6,7,8-HxCDD-13C	2.00	83
Total PeCDD	ND	-----	0.18		1,2,3,4,6,7,8-HpCDF-13C	2.00	80
					1,2,3,4,7,8,9-HpCDF-13C	2.00	70
1,2,3,4,7,8-HxCDF	ND	-----	0.16		1,2,3,4,6,7,8-HpCDD-13C	2.00	87
1,2,3,6,7,8-HxCDF	ND	-----	0.14		OCDD-13C	4.00	68
2,3,4,6,7,8-HxCDF	ND	-----	0.16				
1,2,3,7,8,9-HxCDF	ND	-----	0.20		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.17		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.15		2,3,7,8-TCDD-37Cl4	0.20	77
1,2,3,6,7,8-HxCDD	ND	-----	0.16				
1,2,3,7,8,9-HxCDD	ND	-----	0.15				
Total HxCDD	ND	-----	0.15				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.16		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.26		Equivalence: 0.00100 ng/Kg		
Total HpCDF	ND	-----	0.21		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.25				
Total HpCDD	ND	-----	0.25				
OCDF	0.44	-----	0.34	J			
OCDD	0.56	-----	0.26	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-18169		
Filename	D81112A03	Matrix	Solid
Total Amount Extracted	12.4 g	Dilution	NA
ICAL ID	D81103GC1	Extracted	11/06/2008
CCal Filename(s)	D81112A01 & D81112B01	Analyzed	11/12/2008 12:04
Method Blank ID	BLANK-18168	Injected By	SMT

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	0.20	0.23	114	2,3,7,8-TCDF-13C	2.00	85	
Total TCDF				2,3,7,8-TCDD-13C	2.00	70	
				1,2,3,7,8-PeCDF-13C	2.00	72	
2,3,7,8-TCDD	0.20	0.22	111	2,3,4,7,8-PeCDF-13C	2.00	74	
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	70	
				1,2,3,4,7,8-HxCDF-13C	2.00	84	
1,2,3,7,8-PeCDF	1.00	1.22	122	1,2,3,6,7,8-HxCDF-13C	2.00	72	
2,3,4,7,8-PeCDF	1.00	1.15	115	2,3,4,6,7,8-HxCDF-13C	2.00	79	
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	89	
				1,2,3,4,7,8-HxCDD-13C	2.00	80	
1,2,3,7,8-PeCDD	1.00	1.10	110	1,2,3,6,7,8-HxCDD-13C	2.00	72	
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	82	
				1,2,3,4,7,8,9-HpCDF-13C	2.00	86	
1,2,3,4,7,8-HxCDF	1.00	1.05	105	1,2,3,4,6,7,8-HpCDD-13C	2.00	84	
1,2,3,6,7,8-HxCDF	1.00	1.10	110	OCDD-13C	4.00	70	Y
2,3,4,6,7,8-HxCDF	1.00	1.07	107				
1,2,3,7,8,9-HxCDF	1.00	1.04	104	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	1.00	1.10	110	2,3,7,8-TCDD-37Cl4	0.20	78	
1,2,3,6,7,8-HxCDD	1.00	1.10	110				
1,2,3,7,8,9-HxCDD	1.00	1.08	108				
Total HxCDD							
1,2,3,4,6,7,8-HpCDF	1.00	1.06	106				
1,2,3,4,7,8,9-HpCDF	1.00	1.16	116				
Total HpCDF							
1,2,3,4,6,7,8-HpCDD	1.00	1.04	104				
Total HpCDD							
OCDF	2.00	2.59	130				
OCDD	2.00	2.29	114				

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-18171		
Filename	U81113A_03	Matrix	Solid
Total Amount Extracted	11.4 g	Dilution	NA
ICAL ID	U81002	Extracted	11/06/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Analyzed	11/13/2008 17:49
Method Blank ID	BLANK-18170	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.19	94	2,3,7,8-TCDF-13C	2.00	68
Total TCDF				2,3,7,8-TCDD-13C	2.00	67
				1,2,3,7,8-PeCDF-13C	2.00	77
2,3,7,8-TCDD	0.20	0.20	100	2,3,4,7,8-PeCDF-13C	2.00	82
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	90
				1,2,3,4,7,8-HxCDF-13C	2.00	72
1,2,3,7,8-PeCDF	1.00	0.98	98	1,2,3,6,7,8-HxCDF-13C	2.00	68
2,3,4,7,8-PeCDF	1.00	0.93	93	2,3,4,6,7,8-HxCDF-13C	2.00	70
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	72
				1,2,3,4,7,8-HxCDD-13C	2.00	83
1,2,3,7,8-PeCDD	1.00	0.92	92	1,2,3,6,7,8-HxCDD-13C	2.00	71
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	66
				1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	1.00	0.94	94	1,2,3,4,6,7,8-HpCDD-13C	2.00	77
1,2,3,6,7,8-HxCDF	1.00	0.95	95	OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	1.00	0.94	94			
1,2,3,7,8,9-HxCDF	1.00	0.94	94	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.98	98	2,3,7,8-TCDD-37Cl4	0.20	72
1,2,3,6,7,8-HxCDD	1.00	1.00	100			
1,2,3,7,8,9-HxCDD	1.00	0.98	98			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.00	1.03	103			
1,2,3,4,7,8,9-HpCDF	1.00	1.08	108			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.00	0.91	91			
Total HpCDD						
OCDF	2.00	2.14	107			
OCDD	2.00	2.13	107			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-18301		
Filename	U81124A_05	Matrix	Solid
Total Amount Extracted	10.7 g	Dilution	NA
ICAL ID	U81123	Extracted	11/19/2008
CCal Filename(s)	U81123A_27 & U81124A_16	Analyzed	11/24/2008 21:45
Method Blank ID	BLANK-18300	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.19	95	2,3,7,8-TCDF-13C	2.00	82
Total TCDF				2,3,7,8-TCDD-13C	2.00	83
				1,2,3,7,8-PeCDF-13C	2.00	86
2,3,7,8-TCDD	0.20	0.19	93	2,3,4,7,8-PeCDF-13C	2.00	90
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	100
				1,2,3,4,7,8-HxCDF-13C	2.00	87
1,2,3,7,8-PeCDF	1.00	0.96	96	1,2,3,6,7,8-HxCDF-13C	2.00	84
2,3,4,7,8-PeCDF	1.00	0.95	95	2,3,4,6,7,8-HxCDF-13C	2.00	84
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	82
				1,2,3,4,7,8-HxCDD-13C	2.00	81
1,2,3,7,8-PeCDD	1.00	0.87	87	1,2,3,6,7,8-HxCDD-13C	2.00	85
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	82
				1,2,3,4,7,8,9-HpCDF-13C	2.00	74
1,2,3,4,7,8-HxCDF	1.00	0.91	91	1,2,3,4,6,7,8-HpCDD-13C	2.00	91
1,2,3,6,7,8-HxCDF	1.00	0.97	97	OCDD-13C	4.00	64
2,3,4,6,7,8-HxCDF	1.00	0.96	96			
1,2,3,7,8,9-HxCDF	1.00	0.94	94	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.97	97	2,3,7,8-TCDD-37Cl4	0.20	81
1,2,3,6,7,8-HxCDD	1.00	0.96	96			
1,2,3,7,8,9-HxCDD	1.00	0.95	95			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.00	0.95	95			
1,2,3,4,7,8,9-HpCDF	1.00	1.03	103			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.00	0.90	90			
Total HpCDD						
OCDF	2.00	2.00	100			
OCDD	2.00	1.95	98			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Spiked Sample Report

Client - Anatek Labs, Inc.

Client's Sample ID	DP40-081104-1-2-MS		
Lab Sample ID	1083915008-MS		
Filename	R81111B01	Matrix	Soil
Total Amount Extracted	13.1 g	Dilution	NA
ICAL ID	R81101GC1	Extracted	11/06/2008
CCal Filename(s)	R81111A25 & R81111B23	Analyzed	11/12/2008 05:13
Method Blank ID	BLANK-18168	Injected By	CVS

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.19	96	2,3,7,8-TCDF-13C	2.00	64
				2,3,7,8-TCDD-13C	2.00	68
				1,2,3,7,8-PeCDF-13C	2.00	62
2,3,7,8-TCDD	0.20	0.20	98	2,3,4,7,8-PeCDF-13C	2.00	65
				1,2,3,7,8-PeCDD-13C	2.00	76
				1,2,3,4,7,8-HxCDF-13C	2.00	73
1,2,3,7,8-PeCDF	1.00	1.06	106	1,2,3,6,7,8-HxCDF-13C	2.00	73
2,3,4,7,8-PeCDF	1.00	1.02	102	2,3,4,6,7,8-HxCDF-13C	2.00	63
				1,2,3,7,8,9-HxCDF-13C	2.00	66
				1,2,3,4,7,8-HxCDD-13C	2.00	68
1,2,3,7,8-PeCDD	1.00	0.93	93	1,2,3,6,7,8-HxCDD-13C	2.00	67
				1,2,3,4,6,7,8-HpCDF-13C	2.00	61
				1,2,3,4,7,8,9-HpCDF-13C	2.00	55
1,2,3,4,7,8-HxCDF	1.00	1.01	101	1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	1.00	1.05	105	OCDD-13C	4.00	72
2,3,4,6,7,8-HxCDF	1.00	1.03	103			
1,2,3,7,8,9-HxCDF	1.00	0.99	99	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.02	102	2,3,7,8-TCDD-37Cl4	0.20	71
1,2,3,6,7,8-HxCDD	1.00	1.07	107			
1,2,3,7,8,9-HxCDD	1.00	1.08	108			
1,2,3,4,6,7,8-HpCDF	1.00	1.26	126			
1,2,3,4,7,8,9-HpCDF	1.00	1.08	108			
1,2,3,4,6,7,8-HpCDD	1.00	4.11	411			
OCDF	2.00	3.00	150			
OCDD	2.00	35.46	1773			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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Method 8290 Spiked Sample Report

Client - Anatek Labs, Inc.

Client's Sample ID	DP40-081104-1-2-MSD		
Lab Sample ID	1083915008-MSD		
Filename	R81111B02	Matrix	Soil
Total Amount Extracted	12.8 g	Dilution	NA
ICAL ID	R81101GC2	Extracted	11/06/2008
CCal Filename(s)	R81111A26 & R81112A02	Analyzed	11/12/2008 06:03
Method Blank ID	BLANK-18168	Injected By	CVS

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.20	98	2,3,7,8-TCDF-13C	2.00	68
				2,3,7,8-TCDD-13C	2.00	82
				1,2,3,7,8-PeCDF-13C	2.00	67
2,3,7,8-TCDD	0.20	0.20	99	2,3,4,7,8-PeCDF-13C	2.00	71
				1,2,3,7,8-PeCDD-13C	2.00	85
				1,2,3,4,7,8-HxCDF-13C	2.00	68
1,2,3,7,8-PeCDF	1.00	1.13	113	1,2,3,6,7,8-HxCDF-13C	2.00	61
2,3,4,7,8-PeCDF	1.00	1.05	105	2,3,4,6,7,8-HxCDF-13C	2.00	75
				1,2,3,7,8,9-HxCDF-13C	2.00	80
				1,2,3,4,7,8-HxCDD-13C	2.00	76
1,2,3,7,8-PeCDD	1.00	0.98	98	1,2,3,6,7,8-HxCDD-13C	2.00	71
				1,2,3,4,6,7,8-HpCDF-13C	2.00	60
				1,2,3,4,7,8,9-HpCDF-13C	2.00	61
1,2,3,4,7,8-HxCDF	1.00	1.07	107	1,2,3,4,6,7,8-HpCDD-13C	2.00	67
1,2,3,6,7,8-HxCDF	1.00	1.11	111	OCDD-13C	4.00	61
2,3,4,6,7,8-HxCDF	1.00	1.09	109			
1,2,3,7,8,9-HxCDF	1.00	1.08	108	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.06	106	2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	1.00	1.17	117			
1,2,3,7,8,9-HxCDD	1.00	1.11	111			
1,2,3,4,6,7,8-HpCDF	1.00	1.34	134			
1,2,3,4,7,8,9-HpCDF	1.00	1.18	118			
1,2,3,4,6,7,8-HpCDD	1.00	3.70	370			
OCDF	2.00	3.33	167			
OCDD	2.00	31.93	1597			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Spiked Sample Report

Client - Anatek Labs, Inc.

Client's Sample ID	DP38-081104-6-7-MS		
Lab Sample ID	1083915020-MS		
Filename	U81113A_15	Matrix	Soil
Total Amount Extracted	15.2 g	Dilution	NA
ICAL ID	U81002	Extracted	11/06/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Analyzed	11/14/2008 03:17
Method Blank ID	BLANK-18170	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.22	110	2,3,7,8-TCDF-13C	2.00	8 P
				2,3,7,8-TCDD-13C	2.00	7 P
				1,2,3,7,8-PeCDF-13C	2.00	7 P
2,3,7,8-TCDD	0.20	0.22	108	2,3,4,7,8-PeCDF-13C	2.00	8 P
				1,2,3,7,8-PeCDD-13C	2.00	8 P
				1,2,3,4,7,8-HxCDF-13C	2.00	6 P
1,2,3,7,8-PeCDF	1.00	0.99	99	1,2,3,6,7,8-HxCDF-13C	2.00	6 P
2,3,4,7,8-PeCDF	1.00	1.04	104	2,3,4,6,7,8-HxCDF-13C	2.00	6 P
				1,2,3,7,8,9-HxCDF-13C	2.00	7 P
				1,2,3,4,7,8-HxCDD-13C	2.00	6 P
1,2,3,7,8-PeCDD	1.00	1.06	106	1,2,3,6,7,8-HxCDD-13C	2.00	6 P
				1,2,3,4,6,7,8-HpCDF-13C	2.00	4 P
				1,2,3,4,7,8,9-HpCDF-13C	2.00	4 P
1,2,3,4,7,8-HxCDF	1.00	0.95	95	1,2,3,4,6,7,8-HpCDD-13C	2.00	6 P
1,2,3,6,7,8-HxCDF	1.00	0.97	97	OCDD-13C	4.00	4 P
2,3,4,6,7,8-HxCDF	1.00	1.00	100			
1,2,3,7,8,9-HxCDF	1.00	0.98	98	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.08	108	2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	1.00	1.14	114			
1,2,3,7,8,9-HxCDD	1.00	1.12	112			
1,2,3,4,6,7,8-HpCDF	1.00	1.22	122			
1,2,3,4,7,8,9-HpCDF	1.00	1.26	126			
1,2,3,4,6,7,8-HpCDD	1.00	1.14	114			
OCDF	2.00	2.59	130			
OCDD	2.00	3.87	194			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = Recovery outside target range

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Spiked Sample Report

Client - Anatek Labs, Inc.

Client's Sample ID	DP38-081104-6-7-MSD		
Lab Sample ID	1083915020-MSD		
Filename	U81113A_16	Matrix	Soil
Total Amount Extracted	15.2 g	Dilution	NA
ICAL ID	U81002	Extracted	11/06/2008
CCal Filename(s)	U81113A_02 & U81113A_18	Analyzed	11/14/2008 04:04
Method Blank ID	BLANK-18170	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.21	107	2,3,7,8-TCDF-13C	2.00	6 P
				2,3,7,8-TCDD-13C	2.00	6 P
				1,2,3,7,8-PeCDF-13C	2.00	7 P
2,3,7,8-TCDD	0.20	0.21	107	2,3,4,7,8-PeCDF-13C	2.00	7 P
				1,2,3,7,8-PeCDD-13C	2.00	8 P
				1,2,3,4,7,8-HxCDF-13C	2.00	6 P
1,2,3,7,8-PeCDF	1.00	1.02	102	1,2,3,6,7,8-HxCDF-13C	2.00	6 P
2,3,4,7,8-PeCDF	1.00	1.03	103	2,3,4,6,7,8-HxCDF-13C	2.00	6 P
				1,2,3,7,8,9-HxCDF-13C	2.00	7 P
				1,2,3,4,7,8-HxCDD-13C	2.00	7 P
1,2,3,7,8-PeCDD	1.00	1.05	105	1,2,3,6,7,8-HxCDD-13C	2.00	6 P
				1,2,3,4,6,7,8-HpCDF-13C	2.00	5 P
				1,2,3,4,7,8,9-HpCDF-13C	2.00	5 P
1,2,3,4,7,8-HxCDF	1.00	0.95	95	1,2,3,4,6,7,8-HpCDD-13C	2.00	6 P
1,2,3,6,7,8-HxCDF	1.00	1.04	104	OCDD-13C	4.00	4 P
2,3,4,6,7,8-HxCDF	1.00	1.01	101			
1,2,3,7,8,9-HxCDF	1.00	1.02	102	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.09	109	2,3,7,8-TCDD-37Cl4	0.20	79
1,2,3,6,7,8-HxCDD	1.00	1.14	114			
1,2,3,7,8,9-HxCDD	1.00	1.18	118			
1,2,3,4,6,7,8-HpCDF	1.00	1.18	118			
1,2,3,4,7,8,9-HpCDF	1.00	1.18	118			
1,2,3,4,6,7,8-HpCDD	1.00	1.04	104			
OCDF	2.00	2.56	128			
OCDD	2.00	3.22	161			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = Recovery outside target range

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Spike Sample Results

Client - Anatek Labs, Inc.

Client Sample ID	DP40-081104-1-2			Dry Weights	
Lab Sample ID	1083915008	Sample Filename	R81111B05	Sample Amount	11.4 g
MS ID	1083915008-MS	MS Filename	R81111B01	MS Amount	12.3 g
MSD ID	1083915008-MSD	MSD Filename	R81111B02	MSD Amount	11.9 g

Analyte	Sample Conc. ng/Kg	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	Background Subtracted MS % Rec.	MSD % Rec.	RPD
2,3,7,8-TCDF	0.365	0.20	0.19	0.20	2.3	94	96	2.5
2,3,7,8-TCDD	0.199	0.20	0.20	0.20	0.8	97	98	0.8
1,2,3,7,8-PeCDF	0.337	1.00	1.06	1.13	6.6	105	113	6.6
2,3,4,7,8-PeCDF	0.493	1.00	1.02	1.05	3.3	101	105	3.3
1,2,3,7,8-PeCDD	0.000	1.00	0.93	0.98	4.9	93	97	5.0
1,2,3,4,7,8-HxCDF	0.532	1.00	1.01	1.07	6.0	100	107	6.1
1,2,3,6,7,8-HxCDF	0.380	1.00	1.05	1.11	4.8	105	110	4.9
2,3,4,6,7,8-HxCDF	0.467	1.00	1.03	1.09	6.1	102	109	6.2
1,2,3,7,8,9-HxCDF	0.000	1.00	0.99	1.08	9.1	98	108	9.1
1,2,3,4,7,8-HxCDD	1.125	1.00	1.02	1.06	4.3	100	105	4.4
1,2,3,6,7,8-HxCDD	3.961	1.00	1.07	1.17	8.8	102	112	9.4
1,2,3,7,8,9-HxCDD	2.429	1.00	1.08	1.11	3.3	105	108	3.4
1,2,3,4,6,7,8-HpCDF	0.000	1.00	1.26	1.34	6.8	106	115	8.5
1,2,3,4,7,8,9-HpCDF	0.837	1.00	1.08	1.18	9.4	107	117	9.5
1,2,3,4,6,7,8-HpCDD	249.729	1.00	4.11	3.70	10.6	104	72	37.0
OCDF	84.310	2.00	3.00	3.33	10.4	98	116	16.7
OCDD	2630.278	2.00	35.46	31.93	10.5	156	26	141.9

Definitions

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

Pace Analytical Services, Inc.
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Minneapolis, MN 55414

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Method 8290 Spike Sample Results

Client - Anatek Labs, Inc.

Client Sample ID	DP38-081104-6-7			Dry Weights	
Lab Sample ID	1083915020	Sample Filename	U81113A_14	Sample Amount	3.65 g
MS ID	1083915020-MS	MS Filename	U81113A_15	MS Amount	3.7 g
MSD ID	1083915020-MSD	MSD Filename	U81113A_16	MSD Amount	3.6 g

Analyte	Sample Conc. ng/Kg	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	Background Subtracted MS % Rec.	MSD % Rec.	RPD
2,3,7,8-TCDF	0.000	0.20	0.22	0.21	3.1	106	103	3.2
2,3,7,8-TCDD	0.000	0.20	0.22	0.21	0.6	108	107	0.6
1,2,3,7,8-PeCDF	0.000	1.00	0.99	1.02	3.1	99	102	3.1
2,3,4,7,8-PeCDF	0.000	1.00	1.04	1.03	1.3	104	103	1.3
1,2,3,7,8-PeCDD	0.000	1.00	1.06	1.05	1.3	106	105	1.3
1,2,3,4,7,8-HxCDF	0.000	1.00	0.95	0.95	0.5	95	95	0.5
1,2,3,6,7,8-HxCDF	0.000	1.00	0.97	1.04	6.3	97	104	6.3
2,3,4,6,7,8-HxCDF	0.000	1.00	1.00	1.01	0.7	100	101	0.7
1,2,3,7,8,9-HxCDF	0.000	1.00	0.98	1.02	3.6	98	102	3.6
1,2,3,4,7,8-HxCDD	0.000	1.00	1.08	1.09	1.5	108	109	1.5
1,2,3,6,7,8-HxCDD	0.000	1.00	1.14	1.14	0.6	114	114	0.6
1,2,3,7,8,9-HxCDD	0.000	1.00	1.12	1.18	5.7	112	118	5.7
1,2,3,4,6,7,8-HpCDF	0.000	1.00	1.22	1.18	2.7	120	116	2.7
1,2,3,4,7,8,9-HpCDF	0.000	1.00	1.26	1.18	6.3	126	118	6.3
1,2,3,4,6,7,8-HpCDD	10.538	1.00	1.14	1.04	8.7	110	100	9.0
OCDF	18.427	2.00	2.59	2.56	1.1	126	125	1.1
OCDD	96.582	2.00	3.87	3.22	18.2	176	144	20.1

Definitions

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

CCI Analytical Laboratories Report

CCI
ANALYTICAL
LABORATORIES
A Division of DataChem Laboratories, Inc.

CERTIFICATE OF ANALYSIS

CLIENT: ANATEK LABS
1282 ALTURAS DR
MOSCOW, ID 83843

DATE: 11/24/2008
CCIL JOB #: 0811095
DATE RECEIVED: 11/14/2008
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: JUSTIN DOTY
CLIENT PROJECT ID: PITC
CLIENT SAMPLE ID: 11/4/2008 081105018-10
CCIL SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	ND(<5)	MG/KG	11/19/2008	EBS
>C8-C10 Aromatics	NWEPH	ND(<5)	MG/KG	11/18/2008	EBS
>C10-C12 Aliphatics	NWEPH	ND(<5)	MG/KG	11/19/2008	EBS
>C12-C16 Aliphatics	NWEPH	ND(<5)	MG/KG	11/19/2008	EBS
>C16-C21 Aliphatics	NWEPH	11	MG/KG	11/19/2008	EBS
>C21-C34 Aliphatics	NWEPH	180	MG/KG	11/19/2008	EBS
>C10-C12 Aromatics	NWEPH	ND(<5)	MG/KG	11/18/2008	EBS
>C12-C16 Aromatics	NWEPH	ND(<5)	MG/KG	11/18/2008	EBS
>C16-C21 Aromatics	NWEPH	10	MG/KG	11/18/2008	EBS
>C21-C34 Aromatics	NWEPH	160	MG/KG	11/18/2008	EBS
Total Aliphatics	NWEPH	200	MG/KG	11/19/2008	EBS
Total Aromatics	NWEPH	180	MG/KG	11/18/2008	EBS
Chromium (VI)	EPA-7196	ND(<5.0)	MG/KG	11/17/2008	BAM

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

NOTE: TOTAL ALIPHATICS AND AROMATICS ARE BASED ON EC RANGE "ND" RESULTS SUMMED AT 1/2 OF REPORTING LIMIT

APPROVED BY:



8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

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ANALYTICAL
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CERTIFICATE OF ANALYSIS

CLIENT: ANATEK LABS
1282 ALTURAS DR
MOSCOW, ID 83843

DATE: 11/24/2008
CCIL JOB #: 0811095
DATE RECEIVED: 11/14/2008
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: JUSTIN DOTY
CLIENT PROJECT ID: PITC
CLIENT SAMPLE ID: 11/4/2008 081105018-14
CCIL SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	ND(<5)	MG/KG	11/19/2008	EBS
>C8-C10 Aromatics	NWEPH	ND(<5)	MG/KG	11/18/2008	EBS
>C10-C12 Aliphatics	NWEPH	ND(<5)	MG/KG	11/19/2008	EBS
>C12-C16 Aliphatics	NWEPH	ND(<5)	MG/KG	11/19/2008	EBS
>C16-C21 Aliphatics	NWEPH	9	MG/KG	11/19/2008	EBS
>C21-C34 Aliphatics	NWEPH	110	MG/KG	11/19/2008	EBS
>C10-C12 Aromatics	NWEPH	ND(<5)	MG/KG	11/18/2008	EBS
>C12-C16 Aromatics	NWEPH	ND(<5)	MG/KG	11/18/2008	EBS
>C16-C21 Aromatics	NWEPH	8	MG/KG	11/18/2008	EBS
>C21-C34 Aromatics	NWEPH	96	MG/KG	11/18/2008	EBS
Total Aliphatics	NWEPH	120	MG/KG	11/19/2008	EBS
Total Aromatics	NWEPH	100	MG/KG	11/18/2008	EBS

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

NOTE: TOTAL ALIPHATICS AND AROMATICS ARE BASED ON EC RANGE "ND" RESULTS SUMMED AT 1/2 OF REPORTING LIMIT

APPROVED BY:



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CERTIFICATE OF ANALYSIS

CLIENT: ANATEK LABS
1282 ALTURAS DR
MOSCOW, ID 83843

DATE: 11/24/2008
CCIL JOB #: 0811095
DATE RECEIVED: 11/14/2008
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: JUSTIN DOTY
CLIENT PROJECT ID: PITC
CLIENT SAMPLE ID: 11/4/2008 081105018-20
CCIL SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	ND(<15)*	MG/KG	11/19/2008	EBS
>C8-C10 Aromatics	NWEPH	ND(<15)*	MG/KG	11/18/2008	EBS
>C10-C12 Aliphatics	NWEPH	ND(<15)*	MG/KG	11/19/2008	EBS
>C12-C16 Aliphatics	NWEPH	ND(<15)*	MG/KG	11/19/2008	EBS
>C16-C21 Aliphatics	NWEPH	22	MG/KG	11/19/2008	EBS
>C21-C34 Aliphatics	NWEPH	220	MG/KG	11/19/2008	EBS
>C10-C12 Aromatics	NWEPH	ND(<15)*	MG/KG	11/18/2008	EBS
>C12-C16 Aromatics	NWEPH	ND(<15)*	MG/KG	11/18/2008	EBS
>C16-C21 Aromatics	NWEPH	ND(<15)*	MG/KG	11/18/2008	EBS
>C21-C34 Aromatics	NWEPH	130	MG/KG	11/18/2008	EBS
Total Aliphatics	NWEPH	260	MG/KG	11/19/2008	EBS
Total Aromatics	NWEPH	150	MG/KG	11/18/2008	EBS

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

NOTE: TOTAL ALIPHATICS AND AROMATICS ARE BASED ON EC RANGE "ND" RESULTS SUMMED AT 1/2 OF REPORTING LIMIT

APPROVED BY:



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1282 ALTURAS DR
MOSCOW, ID 83843

DATE: 11/24/2008
CCIL JOB #: 0811095
DATE RECEIVED: 11/14/2008
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: JUSTIN DOTY
CLIENT PROJECT ID: PITC

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

CCIL SAMPLE ID	METHOD	SUR ID	% RECV
0811095-01	NWEPH	C25	109
0811095-01	NWEPH	p-Terphenyl	88
0811095-02	NWEPH	C25	114
0811095-02	NWEPH	p-Terphenyl	88
0811095-03	NWEPH	C25	110
0811095-03	NWEPH	p-Terphenyl	88

APPROVED BY:



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SVL Analytical Report

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

W8K0325

Anatek Log-In #

Company Name:	ANATEK LABS	Project Manager:	JUSTIN DOTY
Address:	1282 ALTURAS DR	Project Name & # :	PI TC
City: MOSCOW	State: ID Zip: 83843	Email Address :	justin@anateklabs.com
Phone:	(208) 883-2839	Purchase Order #:	
Fax:	(208) 882-9246	Sampler Name & phone:	

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

✓ Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
x Mail
x Fax
x Email

Provide Sample Description / **List Analyses Requested** / **Note Special Instructions/Comments**

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TOC
	081105018-001	11/4/08	SOIL			x
	081105018-002	11/4/08	SOIL			x
	081105018-005	11/4/08	SOIL			x
	081105018-007	11/4/08	SOIL			x
	081105018-009	11/4/08	SOIL			x
	081105018-020	11/4/08	SOIL			x
	081105018-027	11/4/08	SOIL			x
	081105018-028	11/4/08	SOIL			x
	081105018-031	11/4/08	SOIL			x
	081105018-032	11/4/08	SOIL			x

Note Special Instructions/Comments: SVL

	Printed Name	Signature	Company	Date	Time
Relinquished by	Justin Doty		Anatek	11/13/08	12:45
Received by	C FLORES	C Flores	SVL	11/14/08	14:30
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): 11.2°C
Preservative:
Date & Time:
Inspected By:

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
081105018-001	W8K0325-01	Soil	04-Nov-08 00:00	14-Nov-2008
081105018-002	W8K0325-02	Soil	04-Nov-08 00:00	14-Nov-2008
081105018-005	W8K0325-03	Soil	04-Nov-08 00:00	14-Nov-2008
081105018-007	W8K0325-04	Soil	04-Nov-08 00:00	14-Nov-2008
081105018-009	W8K0325-05	Soil	04-Nov-08 00:00	14-Nov-2008
081105018-020	W8K0325-06	Soil	04-Nov-08 00:00	14-Nov-2008
081105018-027	W8K0325-07	Soil	04-Nov-08 00:00	14-Nov-2008
081105018-028	W8K0325-08	Soil	04-Nov-08 00:00	14-Nov-2008
081105018-031	W8K0325-09	Soil	04-Nov-08 00:00	14-Nov-2008
081105018-032	W8K0325-10	Soil	04-Nov-08 00:00	14-Nov-2008

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

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Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-001**
SVL Sample ID: **W8K0325-01 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
USDA HB60(24)	**Total Organic Carbon**	0.35	%	0.030			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-002**
SVL Sample ID: **W8K0325-02 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
USDA HB60(24)	**Total Organic Carbon**	0.23	%	0.030			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Anatek Labs (ID)
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Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-005**
SVL Sample ID: **W8K0325-03 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
USDA HB60(24)	**Total Organic Carbon**	0.28	%	0.030			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-007**
SVL Sample ID: **W8K0325-04 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
USDA HB60(24)	**Total Organic Carbon**	4.3	%	0.060			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-009**
SVL Sample ID: **W8K0325-05 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
USDA HB60(24)	**Total Organic Carbon**	0.36	%	0.030			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-020**
SVL Sample ID: **W8K0325-06 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
USDA HB60(24)	**Total Organic Carbon**	34	%	0.60			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-027**
SVL Sample ID: **W8K0325-07 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
USDA HB60(24)	**Total Organic Carbon**	0.43	%	0.030			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-028**
SVL Sample ID: **W8K0325-08 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
SM 3500 Cr D	Hexavalent Chromium	< 0.010	mg/L	0.010	0.004		W847107	SJK	11/25/08 01:15	H7
USDA HB60(24)	**Total Organic Carbon**	0.48	%	0.030			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-031**
SVL Sample ID: **W8K0325-09 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
USDA HB60(24)	**Total Organic Carbon**	0.80	%	0.030			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Client Sample ID: **081105018-032**
SVL Sample ID: **W8K0325-10 (Soil)**

Sampled: 04-Nov-08 00:00
Received: 14-Nov-08
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
USDA HB60(24)	**Total Organic Carbon**	15	%	0.30			W848032	SJK	11/26/08 06:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Anatek Labs (ID)
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Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Classical Chemistry Parameters								
SM 3500 Cr D	Hexavalent Chromium	mg/L	<0.010	0.004	0.010	W847107	25-Nov-08	
USDA HB60(24)	Total Organic Carbon	%	<0.030		0.030	W848032	26-Nov-08	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Classical Chemistry Parameters									
SM 3500 Cr D	Hexavalent Chromium	mg/L	0.204	0.200	102	80 - 120	W847107	25-Nov-08	
USDA HB60(24)	Total Organic Carbon	%	28.9	28.7	101	80 - 120	W848032	26-Nov-08	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Classical Chemistry Parameters									
SM 3500 Cr D	Hexavalent Chromium	mg/L	<0.010	<0.010	UDL	20	W847107	25-Nov-08	
USDA HB60(24)	Total Organic Carbon	%	0.350	0.350	0.0	20	W848032	26-Nov-08	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Classical Chemistry Parameters										
SM 3500 Cr D	Hexavalent Chromium	mg/L	0.204	<0.010	0.200	102	75 - 125	W847107	25-Nov-08	
USDA HB60(24)	Total Organic Carbon	%	2.15	0.350	1.69	107	75 - 125	W848032	26-Nov-08	

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Anatek Labs (ID)
1282 Alturas Drive
Moscow, ID 83843

Project Name: metals
Work Order: **W8K0325**
Reported: 26-Nov-08 10:52

Notes and Definitions

H7	Sample analysis performed past standard holding time but within project-specific holding time.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

Troy Bussey

From: John Coddington [john@anateklabs.com]
Sent: Wednesday, November 26, 2008 4:06 PM
To: Troy Bussey
Subject: FW: W8K0325
Attachments: w8k0325-1.pdf; Anatek W8K0325-1.csv

Troy,

The results are reported as mg/L of sample extract. Their extraction multiplier is 8.333, which would make their reporting limit ~0.1 mg/Kg. Based on that, I hope the results are satisfactory.

John

John W. Coddington, Ph.D.
Laboratory Manager
Anatek Labs, Inc - Moscow Idaho
Voice: (208)883-2839
Fax: (208)882-9246
Cell: (208)301-1301

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From: Jim Hodge [mailto:jim@svl.net]
Sent: Wednesday, November 26, 2008 3:51 PM
To: John Coddington
Subject: RE:

John

We start with 3.0 grams of sample in 25ml so the conversion to mg/kgm would be times 8.333. I hope this is what you need.

Jim

From: John Coddington [mailto:john@anateklabs.com]
Sent: Wednesday, November 26, 2008 3:26 PM

To: Jim Hodge
Subject: RE:

Thanks Jim,

My client needs to know how that relates to the amount in the soil. In other words, corrected for the extraction multiplier.

John W. Coddington, Ph.D.
Laboratory Manager
Anatek Labs, Inc - Moscow Idaho
Voice: (208)883-2839
Fax: (208)882-9246
Cell: (208)301-1301

From: Melba Bencich [mailto:melba@svl.net]
Sent: Wednesday, November 26, 2008 3:02 PM
To: John Coddington
Subject: W8K0325

John,
The Hex Cr is reported as mg/L extract.

Thank you.
Melba
Melba Bencich
Melba Bencich
Document Control Supervisor
SVL Analytical, Inc.
(208)784-1258
(208)783-0891 (fax)

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PHASE 2 RI SOIL SAMPLING

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Data Quality Review
East Bay RI Phase 2 – June 2009

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, all reported matrix spike duplicate RPDs were within the acceptable range.[1,2] Thus, further data qualification beyond what was reported by the laboratories was not necessary.

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. As shown in the analytical reports, no constituents were detected in the laboratory method blanks and recoveries in blank spikes, matrix spikes, and surrogates were within the acceptable range, with the following exceptions.[3,4] Several chlorinated dibenzo-p-dioxins (CDD) and chlorinated dibenzofurans (CDF) congeners were detected in the laboratory method blanks, which can be attributed to background conditions as discussed in the Pace Analytical Services case narrative. Sample results similar to the corresponding blank levels were flagged "B" by the laboratory and further data qualification beyond what was reported by the laboratory was not necessary. In addition, matrix spike and surrogate recoveries for several CDD/CDF congeners were outside the acceptable range as discussed in the Pace Analytical Services case narrative and qualified by the laboratory. Thus, further data qualification beyond what was reported by the laboratory was not necessary for the CDD/CDF results. Surrogate recoveries for BTEX were low for one sample (MW25S-061209-6.5-7.5). As a result, the BTEX results for this sample (which were non-detect) were assigned a UJ flag.

3. Representativeness

Representativeness was assessed by evaluating the sample collection, handling, preservation, and analysis procedures. With one exception, all samples were collected, handled, preserved, and analyzed in accordance with the Sampling and Analysis Plan (SAP)/QAPP (GeoEngineers 2008), which was designed to obtain representative samples. The reported temperature range in the sample coolers exceeded the recommended temperature range for preservation (or in some cases, the temperature was not recorded by the laboratory). All samples except for those for CDD/CDF analyses were hand-delivered on ice to the lab on the same day of collection. Samples for CDD/CDF analyses were delivered on ice via express mail to the laboratory on the day following collection. Since the samples were collected in the summer, delivered on ice, and delivered promptly to the laboratories, no additional data qualification is necessary. In addition, all samples were extracted and analyzed within appropriate holding times listed in the SAP/QAPP.

4. Comparability

Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified by the laboratories.

5. Sensitivity

Sensitivity was assessed by comparing actual practical quantitation limits (PQLs) with PQL expectations. Because the laboratories selected to perform remedial investigation analyses were different than the presumptive laboratories at the time the SAP/QAPP was prepared, some of the SAP/QAPP PQL expectations were adjusted per personal correspondence between Troy Bussey of PIONEER and Steve Teel of the Washington State Department of Ecology (Ecology 2009). As shown in the following table,

---

[1] The approved Quality Assurance Project Plan (QAPP) (GeoEngineers 2008) did not specify expectations for RPDs; therefore, RPDs were evaluated based on control limits in the laboratory reports. When control limits were not provided by the laboratory, control limits from the Infrastructure Interim Action Work Plan (IAWP) (PIONEER Technologies Corporation [PIONEER] 2009) were utilized as appropriate.

[2] Control limit expectations for polychlorinated biphenyls (PCBs) were not defined in the laboratory reports, QAPP, or Infrastructure IAWP. The RPDs for PCBs, which ranged from 0.1% to 2.5%, were appropriate. Matrix spike duplicates were not prepared and analyzed by the laboratory for methods used to analyze total petroleum hydrocarbons in the gasoline range (TPH-G) and benzene, toluene, ethylbenzene, and xylenes (BTEX), and the arsenic and lead matrix spike RPDs were not presented in the analytical reports due to matrix interference.

[3] The approved QAPP (GeoEngineers 2008) did not specify expectations for recoveries with blank spikes, matrix spikes, and surrogates; therefore, recoveries were evaluated based on control limits in the laboratory reports. When control limits were not provided by the laboratory, control limits from the Infrastructure IAWP (PIONEER 2009) were utilized as appropriate.

[4] Control limit expectations for PCBs were not defined in the laboratory reports, QAPP, or Infrastructure IAWP. The blank spike recoveries (87.4% – 95.6%), the matrix spike recoveries (91.8% – 99.4%), and the surrogate recoveries (81.8% – 118%) for PCBs were appropriate. Matrix spikes for arsenic and lead were not presented in the analytical reports due to matrix interference.

the laboratories were able to achieve actual PQLs that were equal to or lower than the updated PQL expectations.

Constituent Type	Analytical Method	SAP/QAPP PQL Expectations (mg/kg)	Revised Target PQLs (Ecology 2009) (mg/kg)	Actual PQLs During This Investigation (mg/kg)
TPH in the Gasoline Range	Ecology NWTPH-Gx	5	5	5
TPH in the Diesel Range	Ecology NWTPH-Dx	5	25	25
TPH in the Heavy Oil Range	NWTPH-Dx	10	100	100
BTEX	USEPA SW846-8260/8021	0.001	0.1 – 0.5	0.05 – 0.1
Arsenic	USEPA SW846-6010/6020	5	0.25	0.25
Cadmium	USEPA SW846-6010/6020	0.2	0.25	0.25
Lead	USEPA SW846-6010/6020	2	0.25	0.25
Polycyclic Aromatic Hydrocarbons[(1)]	USEPA SW846-8270	0.005	0.01	0.01
Polychlorinated Biphenyls[(1)]	USEPA SW846-8082	0.004	0.025	0.025
Total CDD/CDFs TEQ[(2)]	USEPA SW846-8290	2.85E-05	5.0E-06	1.5E-07 – 3.7E-06

Notes:
TEQ: toxicity equivalency quotient
TPH: total petroleum hydrocarbons
USEPA: United States Environmental Protection Agency
(1) PQL values shown are for each constituent.
(2) Total PQL calculated using toxicity equivalency factors in Washington Administrative Code 173-340-708(8).

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 695 sample analyses were performed. All of the analyte results are useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory, subject to the qualifications noted in this document. No corrective action or additional data qualification is necessary.

References

Ecology 2009. Personal correspondence between Steve Teel and Troy Bussey regarding approval of proposed changes to practical quantitation limit expectations listed in IAWP, June 5.

GeoEngineers 2008. Remedial Investigation Work Plan, East Bay Redevelopment, October.

PIONEER 2009. East Bay Site: Interim Action Work Plan, May.

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF GASOLINE RANGE ORGANICS IN SOIL

Sample Identification	Date Analyzed	Percent Solids (%)	Benzene EPA 8021B (mg/kg)	Toluene EPA 8021B (mg/kg)	Ethylbenzene EPA 8021B (mg/kg)	m&p-Xylene EPA 8021B (mg/kg)	o-Xylene EPA 8021B (mg/kg)	Gasoline NWTPH-Gx (mg/kg)	Surrogate Recovery BFB (%)	Data Flags
Method Blank	6/17/2009	n/a	nd	nd	nd	nd	nd	nd	86.0	
DP28-061009-1-2	6/17/2009	83.7	nd	nd	nd	nd	nd	nd	102	
DP28-061009-3.5-5	6/17/2009	86.2	nd	nd	nd	nd	nd	nd	101	
DP37-061009-2-3.5	6/17/2009	77.9	nd	nd	nd	nd	nd	nd	89.8	
DP37-061009-6-7.5	6/17/2009	63.2	nd	nd	nd	nd	nd	nd	96.0	
DP39-061009-0.5-2	6/17/2009	95.3	nd	nd	nd	nd	nd	nd	102	
DP39-061009-3-5	6/17/2009	82.6	nd	nd	nd	nd	nd	nd	105	
LCS	6/17/2009	n/a	108%	114%	110%	104%	104%	94.9%	n/a	
090617-MS	6/17/2009	n/a	104%	101%	95.3%	110%	96.8%	108%	n/a	
Method Reporting Limits			0.05	0.10	0.10	0.10	0.10	5.0		

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Sample results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF FUEL IN SOIL

Sample Identification	Date Analyzed	Percent Solids (%)	Diesel Fuel #2 NWTPH-Dx (mg/kg)	Heavy Oil NWTPH-Dx (mg/kg)	Surrogate Recovery 2-FBP (%)	Data Flags
Method Blank	6/12/2009	n/a	nd	nd	72.1	
DP28-061009-1-2	6/12/2009	83.7	nd	nd	110	
DP28-061009-3.5-5	6/12/2009	86.2	nd	nd	115	
DP29-061009-7-8	6/12/2009	23.3	nd	nd	108	
DP29-061009-13-14	6/12/2009	20.9	nd	nd	67.7	
DP31-061009-3-4	6/12/2009	77.4	nd	nd	114	
DP35-061009-5-6	6/12/2009	95.3	nd	nd	80.2	
DP37-061009-2-3.5	6/12/2009	77.9	nd	nd	86.7	
DP37-061009-6-7.5	6/12/2009	63.2	nd	nd	89.7	
DP37-061009-6-7.5 Dup.	6/12/2009	63.2	nd	nd	94.5	
DP39-061009-0.5-2	6/12/2009	95.3	nd	nd	82.5	
DP39-061009-3-5	6/12/2009	82.6	nd	**440**	82.4	
LCS	6/12/2009	n/a	105%	n/a	n/a	
090612-MS	6/12/2009	n/a	121%	n/a	n/a	
090612-MSD	6/12/2009	n/a	110%	n/a	n/a	
Method Reporting Limits			25	100		

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Sample results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN SOIL BY EPA METHOD 8270

Sample Identification			Blank	DP26-061009-1 2	DP26-061009-3 4	DP28-061009-1 2	DP28-061009- 3.5-5	DP29-061009-1 2	DP29-061009-7 8
Percent Solids (%)			n/a	90.5	93.2	83.7	86.2	83.9	23.3
Date Extracted	CAS	MRL	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009
Date Anlayzed	Number	(mg/kg)	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009
Benzo(a)anthracene	56-55-3	0.01	nd	**0.07**	**0.02**	**0.03**	**0.06**	**0.23**	**0.05**
Benzo(a)pyrene	50-32-8	0.01	nd	**0.14**	**0.11**	nd	nd	**0.30**	**0.19**
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	nd	nd	nd	**0.13**	nd
Benzo(k)fluoranthene	207-08-9	0.01	nd	**0.02**	nd	**0.01**	**0.02**	**0.08**	**0.02**
Chrysene	218-01-9	0.01	nd	**0.04**	nd	nd	**0.05**	**0.23**	**0.05**
Dibenzo(a,h)anthracene	53-70-3	0.01	nd	**0.10**	nd	**0.10**	**0.10**	**0.12**	nd
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	**0.25**	**0.23**	**0.26**	**0.27**	**0.31**	nd
1-Methylnaphthalene	90-12-0	0.01	nd	**0.01**	**0.01**	nd	**0.01**	**0.01**	**0.05**
2-Methylnaphthalene	91-57-6	0.01	nd	**0.01**	**0.01**	**0.01**	**0.02**	**0.02**	**0.14**
Naphthalene	91-20-3	0.01	nd	**0.01**	**0.01**	**0.01**	**0.06**	**0.05**	**0.39**
Surrogate Recovery (%)									
2-Fluorophenol			117	127	121	121	123	121	116
Phenol-d6			126	140	133	134	134	130	127
Nitrobenzene-d5			83.3	110	107	109	100	106	106
2-Fluorobiphenol			102	90.4	88.4	90.2	84.8	89.3	88.2
2,4,6-Tribromophenol			124	70.3	128	117	135	124	123
Terphenyl-d14			108	101	100	103	94.9	103	99.1
Data Flags									

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Sample results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN SOIL BY EPA METHOD 8270

Sample Identification			DP29-061009-13-14	DP37-061009-2 3.5	DP39-061009-0.5-2	DP39-061009-3 5	LCS	090618-MS	090618-MSD
Percent Solids (%)			20.9	77.9	95.3	82.6	n/a	n/a	n/a
Date Extracted	CAS	MRL	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009
Date Anlayzed	Number	(mg/kg)	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009
Benzo(a)anthracene	56-55-3	0.01	**0.04**	**0.02**	**0.04**	**0.89**	105%	107%	106%
Benzo(a)pyrene	50-32-8	0.01	**0.18**	**0.12**	**0.14**	**0.81**	n/a	n/a	n/a
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	**0.01**	**1.14**	n/a	n/a	n/a
Benzo(k)fluoranthene	207-08-9	0.01	nd	nd	**0.02**	**0.39**	n/a	n/a	n/a
Chrysene	218-01-9	0.01	nd	nd	**0.04**	**0.94**	109%	113%	112%
Dibenzo(a,h)anthracene	53-70-3	0.01	**0.16**	nd	**0.10**	**0.19**	n/a	n/a	n/a
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	nd	**0.23**	**0.54**	75.8%	77.4%	72.6%
1-Methylnaphthalene	90-12-0	0.01	nd	nd	nd	**0.05**	n/a	n/a	n/a
2-Methylnaphthalene	91-57-6	0.01	nd	nd	nd	**0.05**	n/a	n/a	n/a
Naphthalene	91-20-3	0.01	nd	**0.05**	**0.01**	**0.08**	n/a	n/a	n/a
Surrogate Recovery (%)									
2-Fluorophenol			116	119	128	121	119	126	126
Phenol-d6			128	128	135	122	126	133	133
Nitrobenzene-d5			109	103	119	107	107	104	103
2-Fluorobiphenol			89.4	87.9	97.3	94.1	82.7	81.6	81.9
2,4,6-Tribromophenol			126	142	126	119	128	125	124
Terphenyl-d14			100	103	112	103	108	107	106
Data Flags									

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Sample results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF HEAVY METALS IN SOIL BY EPA METHOD 6020 A

Sample Identification	Date Analyzed	Percent Solids	Arsenic (As)	Cadmium (Cd)	Lead (Pb)
Chemical Abstract Number (CAS)			7440-38-2	7440-43-9	7439-92-1
Units		(%)	(mg/kg)	(mg/kg)	(mg/kg)
Method Blank	6/18/2009	n/a	nd	nd	nd
DP26-061009-1-2	6/18/2009	90.5	**9.75**	**0.37**	**13.4**
DP26-061009-7-8	6/18/2009	83.7	**3.81**	**0.30**	**2.42**
DP28-061009-1-2	6/18/2009	83.7	**6.06**	**2.58**	**131**
DP28-061009-3.5-5	6/18/2009	86.2	**3.84**	**0.47**	**7.60**
DP29-061009-7-8	6/18/2009	23.3	**3.57**	**0.32**	**32.4**
DP29-061009-3-4	6/18/2009	79.3	**5.89**	**0.69**	**8.69**
DP31-061009-3-4	6/18/2009	77.4	**7.26**	**0.39**	**3.09**
DP37-061009-2-3.5	6/18/2009	77.9	**3.94**	**0.46**	**10.5**
DP37-061009-6-7.5	6/18/2009	63.2	**6.74**	**1.23**	**8.17**
DP39-061009-0.5-2	6/18/2009	95.3	**4.94**	**0.47**	**15.3**
DP39-061009-3-5	6/18/2009	82.6	**3.31**	**0.52**	**17.5**
DP41-061009-3-4	6/18/2009	95.3	**3.14**	**0.35**	**3.41**
DP42-061009-1-2	6/18/2009	86.8	**2.97**	**0.4**	**12.1**
DP42-061009-5-6	6/18/2009	80.3	**4.15**	**0.56**	**13.7**
DP42-061009-7-8	6/18/2009	40.8	**3.66**	**0.57**	**2.54**
LCS	6/18/2009	n/a	104%	101%	104%
090618-MS	6/18/2009	n/a	MI	99.2%	MI
090618-MSD	6/18/2009	n/a	MI	97.9%	MI
Method Reporting Limits			0.25	0.25	0.25

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

"MI" indicates Matrix Interference

Sample results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by:

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF PCB's IN SOIL BY EPA METHOD 8082

Sample Identification	Date Analyzed	Percent Solids (%)	Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Surrogate Recovery TCMX (%)	Surrogate Recovery DCBP (%)	Data Flags
Method Blank	6/15/2009	n/a	nd	nd	nd	nd	nd	nd	115	118	
DP35-061009-5-6	6/15/2009	95.3	nd	nd	nd	nd	nd	nd	110	97.6	
DP37-061009-2-3.5	6/15/2009	77.9	nd	nd	nd	nd	nd	nd	85.5	81.8	
DP37-061009-2-3.5 Dup.	6/15/2009	77.9	nd	nd	nd	nd	nd	nd	114	98.7	
DP37-061009-6-7.5	6/15/2009	63.2	nd	nd	nd	nd	nd	nd	103	94.5	
LCS	6/15/2009	n/a	87.4	n/a	n/a	n/a	n/a	95.6	n/a	n/a	
090615-MS	6/15/2009	n/a	99.3	n/a	n/a	n/a	n/a	91.8	n/a	n/a	
090615-MSD	6/15/2009	n/a	99.4	n/a	n/a	n/a	n/a	94.1	n/a	n/a	
Method Reporting Limits			0.025	0.025	0.025	0.025	0.025	0.025			

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

All results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by: R. Lewis

525 McKenzie Rd SW

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

Samples Collected By: TB
Contact Number: ____

Client: PTC | Phone: 570-1700 | Project Name: East Bay PH2 RI | Project P.O.: ____
Address: 2612 Yelm Hwy SE, Ste B Olym, WA 98501 | Fax: ____ | Project Location: — | Contact Person: Troy Bussey
Email: bussey@kuspianet.com | Project Number: — | DAL Project No.: 090610-08

NOTE: HOLD ALL SAMPLES FOR POSSIBLE SUBSEQUENT ANALYSES. SEE RL EXPECTATIONS PREVIOUSLY EMAILED

Matrix Code:
WW = wastewater **GW** = groundwater **S** = soil or solid
SL = sludge **V** = vapor **O** = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	~~NWTPH~~/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)
DP26-061009-1-2	S	06/10/09	0900	1 4oz										X							X				
DP26-061009-3-4			0905	2 4oz										X											
DP26-061009-5-6			0910																						
DP26-061009-7-8			0915											TB							X				
DP26-061009-8-9			0920					TB																	
DP28-061009-1-2			1115	3 ENCORE 1 4oz	X	X		X						X							X				
DP28-061009-3.5-5			1120	3 ENCORE 2 4oz	X	X		X						X							X				
DP29-061009-1-2			1150	2 4oz										X											
DP29-061009-3-4			1155																		X				
DP29-061009-5.5-6.5			1200																						
DP29-061009-7-8			1205					X						X							X				
DP29-061009-8.5-9.5			1210	1 4oz																					
DP29-061009-13-14			1215	2 4oz				X						X											

Heavy Metals (EPA 7000 Series): As, Cd, and Pb only

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
[signature]	6/10/09 1700	[signature]	6/11/09 545
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other: ____

***Heavy Metals**: Please circle the desired analytes.

Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Total
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

Samples Collected By: TB
Contact Number:

Client: PTC | Phone: 570-1700 | Project Name: East Bay PH2 RI | Project P.O.:
Address: 2612 Yelm Highway SE, Suite B, Olympia, WA 98501 | Fax: | Project Location: | Contact Person: Troy Bussey
Email: bussey@tvsp ioneering.com | Project Number: | DAL Project No.: 090619-08

NOTE: HOLD ALL SAMPLES FOR POSSIBLE SUBSEQUENT ANALYSES. SEE RL EXPECTATIONS PREVIOUSLY EMAILED

Matrix Code:
WW = wastewater **GW** = groundwater **S** = soil or solid
SL = sludge **V** = vapor **O** = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	
DP31-061009-1-2	S	6/10/09	1040	2 4oz				X													X					As, Cd, Pb only
DP31-061009-3-4			1050					X													X					
DP31-061009-4.5-5.5			1100																							
DP35-061009-1-2			1000																							
DP35-061009-3-4			1020																							
DP35-061009-5-6			1030					X				X														
DP37-061009-0.5-2			1450	2 4oz 3 Encore																						
DP37-061009-2-3.5			1500		X	X		X				X		X							X					
DP37-061009-6-7.5			1510		X	X		X				X									X					
DP37-061009-9-11			1520																							
DP39-061009-0.5-2			1340		X	X		X						X							X					
DP39-061009-3-5			1350		X	X		X						X							X					

Relinquished by (Signature) Date/Time Received by (Signature) Date/Time
Troy Bussey 6/10/09 1700 Jim McCall 6/10/09 543
Relinquished by (Signature) Date/Time Received by (Signature) Date/Time

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other: _____

*__Heavy Metals__: Please circle the desired analytes.

Ag Al (As) Ba Be (Cd) Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni (Pb) Sb Se Tl V Zn - Total
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

Samples Collected By: TB
Contact Number:

Client: PTZ
Address: 2612 YELM HWY SE, SUITE B OLY, WA 98501
Phone: 570-1700
Fax:
Email: bussey@ecypioneer.com
Project Name: EAST BAY PH2 RI
Project Location:
Project Number:
Project P.O.:
Contact Person: TROY BUSSEY
DAL Project No.: 090610-08

NOTE: HOLD ALL SAMPLES FOR POSSIBLE ANALYSES, SEE RI EXPLORATIONS PREVIOUSLY COMPLETED

Matrix Code:
WW = wastewater **GW** = groundwater **S** = soil or solid
SL = sludge **V** = vapor **O** = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)
DP41-061009-1-2	S	6/10/09	1420	2 4oz																	✓ (As, Cd, Pb only)				
DP41-061009-3-4			1425	1 4oz																	X				
DP41-061009-5-6			1430	2 4oz																					
DP42-061009-1-2			1300																		X				
DP42-061009-3-4			1305																						
DP42-061009-5-6			1310	1 4oz																	X				
DP42-061009-7-8			1315	2 4oz																	X				

Relinquished by (Signature) Date/Time Received by (Signature) Date/Time
Troy Bussey 6/10/09 1700 Jim McCall 6/10/09 545

Relinquished by (Signature) Date/Time Received by (Signature) Date/Time

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other:

***Heavy Metals**: Please circle the desired analytes.

Ag Al (As) Ba Be (Cd) Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni (Pb) Sb Se Tl V Zn - Total
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

Pace Analytical™

www.pacelabs.com

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Report Prepared for:

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia WA 98501-4826

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

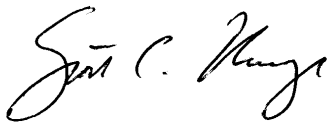
Pace Project #: 1097162
Sample Receipt Date: 06/12/2009
Client Project #: East Bay PH2 RI
Client Sub PO #: N/A
State Cert #: C218

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
July 1, 2009

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on twelve samples submitted by a representative of Pioneer Technologies Corporation. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise calculations. The samples were received outside of the recommended temperature range of 0-6 degrees Celsius.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 17-130%. With the exceptions of eleven low values, which were flagged "P" on the results tables, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained, or "E" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were generally recovered at 82-115%, with relative percent differences of 0.9-14.4%. These results indicate generally high degrees of accuracy and precision for these determinations. Somewhat variable background-subtracted results were obtained for selected congeners in the matrix spike samples, due to the levels of these compounds in the sample material.

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Appendix A

Sample Management

1097162

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Report No....1097162_8290

Company Name: PTC	Project Manager: TROY BUSSEY
Address: 2612 4Fm HWY 50, Suite B	Project Name & #: EAST BAY PH 2 RI
City: OLY State: WA Zip: 98501	Email Address: bussey@pspioneer.com
Phone: 360-570-1700	Purchase Order #: — CREDIT CARD
Fax: —	Sampler Name & phone: SAME

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

- [X] Normal
- [ ] Next Day*
- [ ] 2nd Day*
- [ ] Other*_____

*All rush order requests must be prior approved.

- [X] Phone Mail (Final)
- [ ] Fax
- [X] Email (PRelim)

Provide Sample Description / **List Analyses Requested**

Preservative: N/A

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Dioxins/Furans 8290								
001	DP26-061009-1-2	06/10/09 0900	SOIL	1	4oz	X								
002	DP26-061009-3-4	06/10/09 0905		1		X								
	DP26-061009-5-6	06/10/09 0910		1										
003	DP26-061009-7-8	06/10/09 0915		1		X								
	DP26-061009-8-9	06/10/09 0920		1										
	DP28-061009-1-2	06/10/09 1115		1										
	DP28-061009-3.5-5	06/10/09 1120		1										
	DP28-061009			1										
	DP29-061009-1-2	06/10/09 1150		1										
	DP29-061009-3-4	06/10/09 1155		1										
	DP29-061009-5.5-6.5	1200		1										
	DP29-061009-7-8	1205		1										
	DP29-061009-8.5-9.5	1210		1										

Note Special Instructions/Comments

1) PLEASE HOLD ALL SAMPLES FOR POSSIBLE ANALYSES

2) SEE RL EXPECTATIONS SENT PREVIOUSLY

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): 7.6
Preservative:
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY		PTC	6/11/09	1630
Received by					
Relinquished by					
Received by	SCOTT UNZE		Pace	6/12/09	0927
Relinquished by					
Received by					

⊕ Received broken. @ 06/12/09 ① Sample taken off hold per Nathan on 06/17/09. @ 06/17/09

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1097162

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Report No....1097162_8290

Company Name: PTC
Address: 2612 Yelm Hwy SE SteB
City: Olympia State: WA Zip: 98501
Phone: 360 570 1700
Fax: —

Project Manager: Troy Bussey
Project Name & #: East Bay PH2 RI
Email Address: Bussey t@vspioneer.com
Purchase Order #: Credit card
Sampler Name & phone: Same

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
X Mail (Final)
__ Fax
X Email (prelim)

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: N/A — Dioxin/Furans 8290
	DP29-061009-13-14	06/10/09 1215	Soil	1	402	
	DP31-061009-1-2	1040		1		X
004	DP31-061009-3-4	1050		1		X
	DP31-061009-4.5-5.5	1100		1		
	DP35-061009-1-2	1000		1		
	DP35-061009-3-4	1020		1		
	DP35-061009-5-6	1030		1		
	DP37-061009-0.5-2	1450		1		
	DP37-061009-2-3.5	1500		1		
	DP37-061009-6-7.5	1510		1		
	DP37-061009-9-11	1520		1		
005	DP39-061009-0.5-2	1340		1		X
006	DP39-061009-3-5	1350		1		X

Note Special Instructions/Comments

1) Please hold all samples for Possible Analyses.
2) See RI expectations sent previously

Inspection Checklist

	Y	N
Received Intact?		
Labels & Chains Agree?		
Containers Sealed?		
VOC Head Space?		

Temperature (°C): 7.6
Preservative:
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY		PTC	6/10/09	1630
Received by					
Relinquished by					
Received by	SCOTT UNZE		PTC	6/12/09	0927
Relinquished by					
Received by					

⊕ Received broken. @ 06/12/09

Report No....1097162_8290

1097162

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name: PTC	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE SteB	Project Name & #: East Bay Ph 2 RI
City: Olympia State: WA Zip: 98501	Email Address: bussey1@tspioneer.com
Phone: 360-570-1700	Purchase Order #: — Credit card
Fax: —	Sampler Name & phone: Same

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
X Mail (Final)
__ Fax
X Email (Prelim)

Provide Sample Description

List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: N/A Dioxin/Furans 8290
007	DP41-061009-1-2	06/10/09 1420	Soil	1	402	X
008	DP41-061009-3-4	1425		1		X
	DP41-061009-5-6	1430		1		
009	DP42-061009-1-2	1300		1		X
	DP42-061009-3-4	1305		1		[redacted]
010	DP42-061009-5-6	1310		1		X
011	DP42-061009-7-8	1315		1		X

Note Special Instructions/Comments

1) Please hold all samples for possible analyses

2) See RL expectations sent previously

Inspection Checklist

	Y	N
Received Intact?		
Labels & Chains Agree?		
Containers Sealed?		
VOC Head Space?		

Temperature (°C): 7.6
Preservative:
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Troy Bussey	[signature]	PTC	6/11/09	1630
Received by					
Relinquished by					
Received by	Scott Unze	[signature]	Pace	06/12/09	0927
Relinquished by					
Received by					

Sample Condition Upon Receipt

Pace Analytical

Client Name: Pioneer Tech Corp Project # 1094162

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8667 2411 8371

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ____ No X

Thermometer Used 80344042, 179425 Type of Ice: Wet Blue None ☐ Samples on Ice, cooling process has begun

Cooler Temperature 7.6 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: SCH 06/12/09

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☐Yes ☑No ☐N/A	10. 2 broken, 1 cracked jar
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☐Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☑No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☑No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Troy Bussey Date/Time: 06/12/09

Comments/ Resolution: Sample DP29-061009-1-2 removed from hold on 06/17/09.
- Samples "DP26-061009-5-6" and "DP31-061009-1-2" broken.
- Sample "DP32-061009-9-11" container cracked.
- Most ice melted, 2" of water on bottom of cooler.
- Proceed with analysis despite temp.
- WA Requirements ('05 WHO, MB, LODs)

Project Manager Review: NEW 6/12/0980 Date: 06/12/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP26-061009-1-2		
Lab Sample ID	1097162001		
Filename	F90624A_12		
Injected By	BAL		
Total Amount Extracted	11.0 g	Matrix	Soil
% Moisture	8.3	Dilution	NA
Dry Weight Extracted	10.1 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90623B_15 & F90624A_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/24/2009 14:22

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	5.7	-----	0.096		2,3,7,8-TCDF-13C	2.00	79
Total TCDF	98.0	-----	0.096		2,3,7,8-TCDD-13C	2.00	67
					1,2,3,7,8-PeCDF-13C	2.00	81
2,3,7,8-TCDD	1.4	-----	0.140		2,3,4,7,8-PeCDF-13C	2.00	88
Total TCDD	260.0	-----	0.140		1,2,3,7,8-PeCDD-13C	2.00	95
					1,2,3,4,7,8-HxCDF-13C	2.00	80
1,2,3,7,8-PeCDF	8.1	-----	0.180		1,2,3,6,7,8-HxCDF-13C	2.00	67
2,3,4,7,8-PeCDF	27.0	-----	0.077		2,3,4,6,7,8-HxCDF-13C	2.00	74
Total PeCDF	210.0	-----	0.130		1,2,3,7,8,9-HxCDF-13C	2.00	77
					1,2,3,4,7,8-HxCDD-13C	2.00	77
1,2,3,7,8-PeCDD	8.4	-----	0.110		1,2,3,6,7,8-HxCDD-13C	2.00	72
Total PeCDD	230.0	-----	0.110		1,2,3,4,6,7,8-HpCDF-13C	2.00	68
					1,2,3,4,7,8,9-HpCDF-13C	2.00	73
1,2,3,4,7,8-HxCDF	-----	100	0.500	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	73
1,2,3,6,7,8-HxCDF	18.0	-----	0.410		OCDD-13C	4.00	74
2,3,4,6,7,8-HxCDF	20.0	-----	0.380				
1,2,3,7,8,9-HxCDF	11.0	-----	0.450		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	400.0	-----	0.430		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	11.0	-----	0.360		2,3,7,8-TCDD-37Cl4	0.20	75
1,2,3,6,7,8-HxCDD	38.0	-----	0.410				
1,2,3,7,8,9-HxCDD	22.0	-----	0.460				
Total HxCDD	400.0	-----	0.410				
1,2,3,4,6,7,8-HpCDF	230.0	-----	0.570		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	19.0	-----	0.480		Equivalence: 45 ng/Kg		
Total HpCDF	800.0	-----	0.530		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	880.0	-----	0.210				
Total HpCDD	1600.0	-----	0.210				
OCDF	620.0	-----	0.230				
OCDD	9000.0	-----	0.210				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
E = PCDE Interference

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP26-061009-3-4		
Lab Sample ID	1097162002		
Filename	F90624A_07		
Injected By	BAL		
Total Amount Extracted	13.2 g	Matrix	Soil
% Moisture	21.8	Dilution	NA
Dry Weight Extracted	10.4 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90623B_15 & F90624A_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/24/2009 10:22

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	2.40	-----	0.11		2,3,7,8-TCDF-13C	2.00	70
Total TCDF	36.00	-----	0.11		2,3,7,8-TCDD-13C	2.00	61
					1,2,3,7,8-PeCDF-13C	2.00	74
2,3,7,8-TCDD	-----	0.34	0.15	I	2,3,4,7,8-PeCDF-13C	2.00	79
Total TCDD	57.00	-----	0.15		1,2,3,7,8-PeCDD-13C	2.00	85
					1,2,3,4,7,8-HxCDF-13C	2.00	75
1,2,3,7,8-PeCDF	1.70	-----	0.20	J	1,2,3,6,7,8-HxCDF-13C	2.00	64
2,3,4,7,8-PeCDF	2.40	-----	0.19	J	2,3,4,6,7,8-HxCDF-13C	2.00	70
Total PeCDF	24.00	-----	0.20		1,2,3,7,8,9-HxCDF-13C	2.00	75
					1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	2.20	-----	0.23	J	1,2,3,6,7,8-HxCDD-13C	2.00	68
Total PeCDD	47.00	-----	0.23		1,2,3,4,6,7,8-HpCDF-13C	2.00	66
					1,2,3,4,7,8,9-HpCDF-13C	2.00	66
1,2,3,4,7,8-HxCDF	-----	2.00	0.15	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	68
1,2,3,6,7,8-HxCDF	1.70	-----	0.11	J	OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	1.70	-----	0.11	J			
1,2,3,7,8,9-HxCDF	0.41	-----	0.14	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	15.00	-----	0.13		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.70	-----	0.15	J	2,3,7,8-TCDD-37Cl4	0.20	69
1,2,3,6,7,8-HxCDD	3.30	-----	0.21	J			
1,2,3,7,8,9-HxCDD	2.80	-----	0.19	J			
Total HxCDD	56.00	-----	0.18				
1,2,3,4,6,7,8-HpCDF	9.50	-----	0.18		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.59	-----	0.18	J	Equivalence: 4.9 ng/Kg		
Total HpCDF	25.00	-----	0.18		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	29.00	-----	0.13				
Total HpCDD	51.00	-----	0.13				
OCDF	29.00	-----	0.22				
OCDD	170.00	-----	0.17				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
E = PCDE Interference
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP26-061009-7-8		
Lab Sample ID	1097162003		
Filename	F90624A_08		
Injected By	BAL		
Total Amount Extracted	12.8 g	Matrix	Soil
% Moisture	19.3	Dilution	NA
Dry Weight Extracted	10.3 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90623B_15 & F90624A_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/24/2009 11:10

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.18	0.15	I	2,3,7,8-TCDF-13C	2.00	75
Total TCDF	0.64	-----	0.15	J	2,3,7,8-TCDD-13C	2.00	77
					1,2,3,7,8-PeCDF-13C	2.00	82
2,3,7,8-TCDD	ND	-----	0.17		2,3,4,7,8-PeCDF-13C	2.00	89
Total TCDD	14.00	-----	0.17		1,2,3,7,8-PeCDD-13C	2.00	98
					1,2,3,4,7,8-HxCDF-13C	2.00	81
1,2,3,7,8-PeCDF	-----	0.84	0.18	E	1,2,3,6,7,8-HxCDF-13C	2.00	70
2,3,4,7,8-PeCDF	ND	-----	0.13		2,3,4,6,7,8-HxCDF-13C	2.00	77
Total PeCDF	6.90	-----	0.15		1,2,3,7,8,9-HxCDF-13C	2.00	81
					1,2,3,4,7,8-HxCDD-13C	2.00	81
1,2,3,7,8-PeCDD	ND	-----	0.11		1,2,3,6,7,8-HxCDD-13C	2.00	76
Total PeCDD	22.00	-----	0.11		1,2,3,4,6,7,8-HpCDF-13C	2.00	72
					1,2,3,4,7,8,9-HpCDF-13C	2.00	78
1,2,3,4,7,8-HxCDF	-----	1.90	0.13	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	ND	-----	0.12		OCDD-13C	4.00	71
2,3,4,6,7,8-HxCDF	0.59	-----	0.10	J			
1,2,3,7,8,9-HxCDF	ND	-----	0.12		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	49.00	-----	0.12		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.16		2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	4.20	-----	0.17	J			
1,2,3,7,8,9-HxCDD	-----	0.46	0.12	I			
Total HxCDD	50.00	-----	0.15				
1,2,3,4,6,7,8-HpCDF	16.00	-----	0.33		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.93	-----	0.30	J	Equivalence: 2.3 ng/Kg		
Total HpCDF	90.00	-----	0.32		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	120.00	-----	0.13				
Total HpCDD	200.00	-----	0.13				
OCDF	74.00	-----	0.19				
OCDD	500.00	-----	0.14				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
E = PCDE Interference
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP31-061009-3-4		
Lab Sample ID	1097162004		
Filename	F90624B_05		
Injected By	BAL		
Total Amount Extracted	13.4 g	Matrix	Soil
% Moisture	23.3	Dilution	NA
Dry Weight Extracted	10.3 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90624A_16 & F90624B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/24/2009 21:35

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.35	-----	0.062	J	2,3,7,8-TCDF-13C	2.00	72
Total TCDF	0.58	-----	0.062	J	2,3,7,8-TCDD-13C	2.00	75
					1,2,3,7,8-PeCDF-13C	2.00	81
2,3,7,8-TCDD	ND	-----	0.110		2,3,4,7,8-PeCDF-13C	2.00	88
Total TCDD	ND	-----	0.110		1,2,3,7,8-PeCDD-13C	2.00	97
					1,2,3,4,7,8-HxCDF-13C	2.00	75
1,2,3,7,8-PeCDF	ND	-----	0.120		1,2,3,6,7,8-HxCDF-13C	2.00	66
2,3,4,7,8-PeCDF	ND	-----	0.100		2,3,4,6,7,8-HxCDF-13C	2.00	73
Total PeCDF	ND	-----	0.110		1,2,3,7,8,9-HxCDF-13C	2.00	78
					1,2,3,4,7,8-HxCDD-13C	2.00	76
1,2,3,7,8-PeCDD	ND	-----	0.093		1,2,3,6,7,8-HxCDD-13C	2.00	72
Total PeCDD	ND	-----	0.093		1,2,3,4,6,7,8-HpCDF-13C	2.00	69
					1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	-----	0.11	0.100	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	70
1,2,3,6,7,8-HxCDF	ND	-----	0.100		OCDD-13C	4.00	61
2,3,4,6,7,8-HxCDF	ND	-----	0.088				
1,2,3,7,8,9-HxCDF	ND	-----	0.097		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.67	-----	0.098	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.089		2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	ND	-----	0.072				
1,2,3,7,8,9-HxCDD	ND	-----	0.080				
Total HxCDD	0.26	-----	0.081	J			
1,2,3,4,6,7,8-HpCDF	0.93	-----	0.063	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.094		Equivalence: 0.20 ng/Kg		
Total HpCDF	1.70	-----	0.079	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	0.91	-----	0.140	BJ			
Total HpCDD	2.50	-----	0.140	J			
OCDF	1.60	-----	0.100	J			
OCDD	7.70	-----	0.190	BJ			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
B = Less than 10x higher than method blank level
I = Interference present

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP39-061009-0.5-2		
Lab Sample ID	1097162005		
Filename	F90624A_10		
Injected By	BAL		
Total Amount Extracted	11.0 g	Matrix	Soil
% Moisture	8.7	Dilution	NA
Dry Weight Extracted	10.1 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90623B_15 & F90624A_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/24/2009 12:46

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.91	-----	0.170	J	2,3,7,8-TCDF-13C	2.00	69
Total TCDF	7.70	-----	0.170		2,3,7,8-TCDD-13C	2.00	68
					1,2,3,7,8-PeCDF-13C	2.00	70
2,3,7,8-TCDD	ND	-----	0.180		2,3,4,7,8-PeCDF-13C	2.00	73
Total TCDD	7.80	-----	0.180		1,2,3,7,8-PeCDD-13C	2.00	80
					1,2,3,4,7,8-HxCDF-13C	2.00	75
1,2,3,7,8-PeCDF	0.84	-----	0.150	J	1,2,3,6,7,8-HxCDF-13C	2.00	60
2,3,4,7,8-PeCDF	1.40	-----	0.085	J	2,3,4,6,7,8-HxCDF-13C	2.00	67
Total PeCDF	15.00	-----	0.120		1,2,3,7,8,9-HxCDF-13C	2.00	69
					1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	1.30	-----	0.320	J	1,2,3,6,7,8-HxCDD-13C	2.00	63
Total PeCDD	12.00	-----	0.320		1,2,3,4,6,7,8-HpCDF-13C	2.00	55
					1,2,3,4,7,8,9-HpCDF-13C	2.00	51
1,2,3,4,7,8-HxCDF	-----	3.80	0.260	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	54
1,2,3,6,7,8-HxCDF	1.40	-----	0.350	J	OCDD-13C	4.00	43
2,3,4,6,7,8-HxCDF	1.50	-----	0.250	J			
1,2,3,7,8,9-HxCDF	ND	-----	0.380		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	25.00	-----	0.310		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.10	-----	0.320	J	2,3,7,8-TCDD-37Cl4	0.20	72
1,2,3,6,7,8-HxCDD	4.40	-----	0.310	J			
1,2,3,7,8,9-HxCDD	2.50	-----	0.300	J			
Total HxCDD	41.00	-----	0.310				
1,2,3,4,6,7,8-HpCDF	19.00	-----	0.410		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	-----	0.87	0.540	I	Equivalence: 4.3 ng/Kg		
Total HpCDF	42.00	-----	0.470		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	86.00	-----	0.320				
Total HpCDD	180.00	-----	0.320				
OCDF	48.00	-----	0.640				
OCDD	680.00	-----	0.450				

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I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP39-061009-3-5		
Lab Sample ID	1097162006		
Filename	F90630B_06		
Injected By	SMT		
Total Amount Extracted	12.2 g	Matrix	Soil
% Moisture	16.5	Dilution	5
Dry Weight Extracted	10.2 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90630A_14 & F90630B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/30/2009 18:44

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	0.40		2,3,7,8-TCDF-13C	2.00	77	
Total TCDF	15.0	-----	0.40		2,3,7,8-TCDD-13C	2.00	74	
					1,2,3,7,8-PeCDF-13C	2.00	51	
2,3,7,8-TCDD	ND	-----	0.56		2,3,4,7,8-PeCDF-13C	2.00	44	
Total TCDD	89.0	-----	0.56		1,2,3,7,8-PeCDD-13C	2.00	46	
					1,2,3,4,7,8-HxCDF-13C	2.00	130	
1,2,3,7,8-PeCDF	10.0	-----	0.40		1,2,3,6,7,8-HxCDF-13C	2.00	110	
2,3,4,7,8-PeCDF	6.9	-----	0.74		2,3,4,6,7,8-HxCDF-13C	2.00	89	
Total PeCDF	49.0	-----	0.57		1,2,3,7,8,9-HxCDF-13C	2.00	78	
					1,2,3,4,7,8-HxCDD-13C	2.00	82	
1,2,3,7,8-PeCDD	8.3	-----	0.31		1,2,3,6,7,8-HxCDD-13C	2.00	103	
Total PeCDD	110.0	-----	0.31		1,2,3,4,6,7,8-HpCDF-13C	2.00	41	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	33	P
1,2,3,4,7,8-HxCDF	-----	72.0	1.10	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	35	P
1,2,3,6,7,8-HxCDF	4.1	-----	1.00	J	OCDD-13C	4.00	20	P
2,3,4,6,7,8-HxCDF	8.6	-----	1.20					
1,2,3,7,8,9-HxCDF	ND	-----	3.10		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	98.0	-----	1.60		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	-----	6.9	1.40	I	2,3,7,8-TCDD-37Cl4	0.20	84	
1,2,3,6,7,8-HxCDD	15.0	-----	1.40					
1,2,3,7,8,9-HxCDD	-----	9.8	1.20	I				
Total HxCDD	210.0	-----	1.30					
1,2,3,4,6,7,8-HpCDF	60.0	-----	3.20		Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	ND	-----	5.30		Equivalence: 17 ng/Kg			
Total HpCDF	140.0	-----	4.20		(Using 2005 WHO Factors - Using PRL/2 where ND)			
1,2,3,4,6,7,8-HpCDD	220.0	-----	3.30					
Total HpCDD	440.0	-----	3.30					
OCDF	84.0	-----	3.80					
OCDD	1800.0	-----	4.50					

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NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
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P = Recovery outside target range
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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP41-061009-1-2		
Lab Sample ID	1097162007		
Filename	F90624A_11		
Injected By	BAL		
Total Amount Extracted	10.9 g	Matrix	Soil
% Moisture	5.7	Dilution	NA
Dry Weight Extracted	10.3 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90623B_15 & F90624A_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/24/2009 13:34

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.59	-----	0.20	J	2,3,7,8-TCDF-13C	2.00	75
Total TCDF	6.00	-----	0.20		2,3,7,8-TCDD-13C	2.00	76
					1,2,3,7,8-PeCDF-13C	2.00	79
2,3,7,8-TCDD	ND	-----	0.25		2,3,4,7,8-PeCDF-13C	2.00	83
Total TCDD	4.80	-----	0.25		1,2,3,7,8-PeCDD-13C	2.00	91
					1,2,3,4,7,8-HxCDF-13C	2.00	74
1,2,3,7,8-PeCDF	0.72	-----	0.19	J	1,2,3,6,7,8-HxCDF-13C	2.00	62
2,3,4,7,8-PeCDF	1.10	-----	0.16	J	2,3,4,6,7,8-HxCDF-13C	2.00	70
Total PeCDF	14.00	-----	0.18		1,2,3,7,8,9-HxCDF-13C	2.00	73
					1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	0.64	-----	0.15	J	1,2,3,6,7,8-HxCDD-13C	2.00	66
Total PeCDD	8.10	-----	0.15		1,2,3,4,6,7,8-HpCDF-13C	2.00	65
					1,2,3,4,7,8,9-HpCDF-13C	2.00	67
1,2,3,4,7,8-HxCDF	-----	4.80	0.26	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	64
1,2,3,6,7,8-HxCDF	1.20	-----	0.28	J	OCDD-13C	4.00	58
2,3,4,6,7,8-HxCDF	1.20	-----	0.26	J			
1,2,3,7,8,9-HxCDF	-----	0.53	0.23	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	39.00	-----	0.26		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.91	-----	0.20	J	2,3,7,8-TCDD-37Cl4	0.20	83
1,2,3,6,7,8-HxCDD	3.10	-----	0.24	J			
1,2,3,7,8,9-HxCDD	1.70	-----	0.25	J			
Total HxCDD	29.00	-----	0.23				
1,2,3,4,6,7,8-HpCDF	21.00	-----	0.37		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.90	-----	0.30	J	Equivalence: 3.2 ng/Kg		
Total HpCDF	87.00	-----	0.33		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	77.00	-----	0.20				
Total HpCDD	140.00	-----	0.20				
OCDF	110.00	-----	0.32				
OCDD	590.00	-----	0.47				

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NA = Not Applicable
NC = Not Calculated

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP41-061009-3-4		
Lab Sample ID	1097162008		
Filename	F90624B_06		
Injected By	BAL		
Total Amount Extracted	10.7 g	Matrix	Soil
% Moisture	4.2	Dilution	NA
Dry Weight Extracted	10.3 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90624A_16 & F90624B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/24/2009 22:23

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.21	-----	0.110	J	2,3,7,8-TCDF-13C	2.00	77
Total TCDF	0.41	-----	0.110	J	2,3,7,8-TCDD-13C	2.00	79
					1,2,3,7,8-PeCDF-13C	2.00	84
2,3,7,8-TCDD	ND	-----	0.110		2,3,4,7,8-PeCDF-13C	2.00	93
Total TCDD	ND	-----	0.110		1,2,3,7,8-PeCDD-13C	2.00	103
					1,2,3,4,7,8-HxCDF-13C	2.00	80
1,2,3,7,8-PeCDF	ND	-----	0.110		1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	ND	-----	0.096		2,3,4,6,7,8-HxCDF-13C	2.00	76
Total PeCDF	ND	-----	0.100		1,2,3,7,8,9-HxCDF-13C	2.00	82
					1,2,3,4,7,8-HxCDD-13C	2.00	84
1,2,3,7,8-PeCDD	ND	-----	0.100		1,2,3,6,7,8-HxCDD-13C	2.00	78
Total PeCDD	ND	-----	0.100		1,2,3,4,6,7,8-HpCDF-13C	2.00	76
					1,2,3,4,7,8,9-HpCDF-13C	2.00	78
1,2,3,4,7,8-HxCDF	ND	-----	0.100		1,2,3,4,6,7,8-HpCDD-13C	2.00	75
1,2,3,6,7,8-HxCDF	ND	-----	0.095		OCDD-13C	4.00	70
2,3,4,6,7,8-HxCDF	ND	-----	0.079				
1,2,3,7,8,9-HxCDF	ND	-----	0.080		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.28	-----	0.089	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.130		2,3,7,8-TCDD-37Cl4	0.20	82
1,2,3,6,7,8-HxCDD	ND	-----	0.120				
1,2,3,7,8,9-HxCDD	ND	-----	0.130				
Total HxCDD	0.49	-----	0.130	J			
1,2,3,4,6,7,8-HpCDF	0.31	-----	0.087	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.089		Equivalence: 0.19 ng/Kg		
Total HpCDF	0.48	-----	0.088	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	-----	1.1	0.170	I			
Total HpCDD	1.20	-----	0.170	BJ			
OCDF	1.10	-----	0.180	J			
OCDD	9.50	-----	0.170	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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Tel: 612-607-1700
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Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP42-061009-1-2		
Lab Sample ID	1097162009		
Filename	F90630B_08		
Injected By	SMT		
Total Amount Extracted	11.6 g	Matrix	Soil
% Moisture	12.6	Dilution	5
Dry Weight Extracted	10.2 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90630A_14 & F90630B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/30/2009 20:28

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	7.8	-----	0.68		2,3,7,8-TCDF-13C	2.00	84	
Total TCDF	88.0	-----	0.68		2,3,7,8-TCDD-13C	2.00	81	
					1,2,3,7,8-PeCDF-13C	2.00	67	
2,3,7,8-TCDD	1.4	-----	0.78		2,3,4,7,8-PeCDF-13C	2.00	63	
Total TCDD	130.0	-----	0.78		1,2,3,7,8-PeCDD-13C	2.00	66	
					1,2,3,4,7,8-HxCDF-13C	2.00	99	
1,2,3,7,8-PeCDF	7.2	-----	0.61		1,2,3,6,7,8-HxCDF-13C	2.00	87	
2,3,4,7,8-PeCDF	19.0	-----	0.42		2,3,4,6,7,8-HxCDF-13C	2.00	82	
Total PeCDF	130.0	-----	0.52		1,2,3,7,8,9-HxCDF-13C	2.00	73	
					1,2,3,4,7,8-HxCDD-13C	2.00	79	
1,2,3,7,8-PeCDD	7.5	-----	0.63		1,2,3,6,7,8-HxCDD-13C	2.00	79	
Total PeCDD	160.0	-----	0.63		1,2,3,4,6,7,8-HpCDF-13C	2.00	40	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	32	P
1,2,3,4,7,8-HxCDF	34.0	-----	1.30		1,2,3,4,6,7,8-HpCDD-13C	2.00	32	P
1,2,3,6,7,8-HxCDF	-----	94.0	0.65	E	OCDD-13C	4.00	18	P
2,3,4,6,7,8-HxCDF	14.0	-----	0.94					
1,2,3,7,8,9-HxCDF	8.4	-----	1.20		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	160.0	-----	1.00		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	6.9	-----	1.10		2,3,7,8-TCDD-37Cl4	0.20	84	
1,2,3,6,7,8-HxCDD	18.0	-----	1.60					
1,2,3,7,8,9-HxCDD	-----	10.0	1.10	I				
Total HxCDD	250.0	-----	1.30					
1,2,3,4,6,7,8-HpCDF	99.0	-----	2.00		Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	-----	8.9	3.00	I	Equivalence: 31 ng/Kg			
Total HpCDF	300.0	-----	2.50		(Using 2005 WHO Factors - Using PRL/2 where ND)			
1,2,3,4,6,7,8-HpCDD	470.0	-----	4.10					
Total HpCDD	860.0	-----	4.10					
OCDF	300.0	-----	7.20					
OCDD	5600.0	-----	4.50					

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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NC = Not Calculated

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P = Recovery outside target range
E = PCDE Interference
I = Interference present

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Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP42-061009-5-6		
Lab Sample ID	1097162010		
Filename	F90630B_07		
Injected By	SMT		
Total Amount Extracted	14.8 g	Matrix	Soil
% Moisture	31.4	Dilution	5
Dry Weight Extracted	10.2 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90630A_14 & F90630B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/30/2009 19:36

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	2.5		2,3,7,8-TCDF-13C	2.00	73	
Total TCDF	7.1	-----	2.5		2,3,7,8-TCDD-13C	2.00	72	
					1,2,3,7,8-PeCDF-13C	2.00	56	
2,3,7,8-TCDD	ND	-----	2.2		2,3,4,7,8-PeCDF-13C	2.00	52	
Total TCDD	ND	-----	2.2		1,2,3,7,8-PeCDD-13C	2.00	53	
					1,2,3,4,7,8-HxCDF-13C	2.00	106	
1,2,3,7,8-PeCDF	ND	-----	1.7		1,2,3,6,7,8-HxCDF-13C	2.00	81	
2,3,4,7,8-PeCDF	ND	-----	1.7		2,3,4,6,7,8-HxCDF-13C	2.00	80	
Total PeCDF	15.0	-----	1.7		1,2,3,7,8,9-HxCDF-13C	2.00	67	
					1,2,3,4,7,8-HxCDD-13C	2.00	89	
1,2,3,7,8-PeCDD	-----	2.0	1.8	I	1,2,3,6,7,8-HxCDD-13C	2.00	73	
Total PeCDD	16.0	-----	1.8		1,2,3,4,6,7,8-HpCDF-13C	2.00	37	P
					1,2,3,4,7,8,9-HpCDF-13C	2.00	28	P
1,2,3,4,7,8-HxCDF	ND	-----	3.4		1,2,3,4,6,7,8-HpCDD-13C	2.00	31	P
1,2,3,6,7,8-HxCDF	-----	25.0	3.5	E	OCDD-13C	4.00	17	P
2,3,4,6,7,8-HxCDF	ND	-----	3.2					
1,2,3,7,8,9-HxCDF	ND	-----	3.2		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	13.0	-----	3.3		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	ND	-----	3.4		2,3,7,8-TCDD-37Cl4	0.20	72	
1,2,3,6,7,8-HxCDD	4.0	-----	3.4	J				
1,2,3,7,8,9-HxCDD	ND	-----	2.7					
Total HxCDD	41.0	-----	3.1					
1,2,3,4,6,7,8-HpCDF	-----	27.0	8.2	I	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	ND	-----	9.9		Equivalence: 4.7 ng/Kg			
Total HpCDF	65.0	-----	9.0		(Using 2005 WHO Factors - Using PRL/2 where ND)			
1,2,3,4,6,7,8-HpCDD	70.0	-----	8.5					
Total HpCDD	120.0	-----	8.5					
OCDF	120.0	-----	17.0					
OCDD	530.0	-----	14.0					

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Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP42-061009-7-8		
Lab Sample ID	1097162011		
Filename	F90624B_07		
Injected By	BAL		
Total Amount Extracted	27.3 g	Matrix	Soil
% Moisture	63.0	Dilution	NA
Dry Weight Extracted	10.1 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90624A_16 & F90624B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/24/2009 23:11

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	32	-----	0.23		2,3,7,8-TCDF-13C	2.00	77
Total TCDF	540	-----	0.23		2,3,7,8-TCDD-13C	2.00	70
					1,2,3,7,8-PeCDF-13C	2.00	76
2,3,7,8-TCDD	12	-----	0.18		2,3,4,7,8-PeCDF-13C	2.00	81
Total TCDD	1000	-----	0.18		1,2,3,7,8-PeCDD-13C	2.00	86
					1,2,3,4,7,8-HxCDF-13C	2.00	81
1,2,3,7,8-PeCDF	42	-----	0.27		1,2,3,6,7,8-HxCDF-13C	2.00	67
2,3,4,7,8-PeCDF	51	-----	0.19		2,3,4,6,7,8-HxCDF-13C	2.00	72
Total PeCDF	660	-----	0.23		1,2,3,7,8,9-HxCDF-13C	2.00	73
					1,2,3,4,7,8-HxCDD-13C	2.00	77
1,2,3,7,8-PeCDD	39	-----	0.21		1,2,3,6,7,8-HxCDD-13C	2.00	69
Total PeCDD	1100	-----	0.21		1,2,3,4,6,7,8-HpCDF-13C	2.00	61
					1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	53	-----	0.78		1,2,3,4,6,7,8-HpCDD-13C	2.00	63
1,2,3,6,7,8-HxCDF	-----	99	0.69	E	OCDD-13C	4.00	58
2,3,4,6,7,8-HxCDF	83	-----	0.61				
1,2,3,7,8,9-HxCDF	16	-----	0.71		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	540	-----	0.70		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	42	-----	0.68		2,3,7,8-TCDD-37Cl4	0.20	80
1,2,3,6,7,8-HxCDD	140	-----	1.20				
1,2,3,7,8,9-HxCDD	80	-----	1.00				
Total HxCDD	2000	-----	0.97				
1,2,3,4,6,7,8-HpCDF	1200	-----	1.90		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	88	-----	1.10		Equivalence: 160 ng/Kg		
Total HpCDF	3000	-----	1.50		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	2500	-----	0.37				
Total HpCDD	4900	-----	0.37				
OCDF	5800	-----	0.60				
OCDD	16000	-----	0.38				

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E = PCDE Interference

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Minneapolis, MN 55414

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Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP29-061009-1-2		
Lab Sample ID	1097166004		
Filename	F90624B_11		
Injected By	BAL		
Total Amount Extracted	14.3 g	Matrix	Soil
% Moisture	16.9	Dilution	NA
Dry Weight Extracted	11.9 g	Collected	06/10/2009
ICAL ID	F90501	Received	06/12/2009
CCal Filename(s)	F90624A_16 & F90624B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/25/2009 02:22

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.42		2,3,7,8-TCDF-13C	2.00	71
Total TCDF	1.30	-----	0.42		2,3,7,8-TCDD-13C	2.00	69
					1,2,3,7,8-PeCDF-13C	2.00	65
2,3,7,8-TCDD	ND	-----	0.48		2,3,4,7,8-PeCDF-13C	2.00	68
Total TCDD	0.85	-----	0.48		1,2,3,7,8-PeCDD-13C	2.00	73
					1,2,3,4,7,8-HxCDF-13C	2.00	79
1,2,3,7,8-PeCDF	ND	-----	0.57		1,2,3,6,7,8-HxCDF-13C	2.00	68
2,3,4,7,8-PeCDF	ND	-----	0.45		2,3,4,6,7,8-HxCDF-13C	2.00	72
Total PeCDF	ND	-----	0.51		1,2,3,7,8,9-HxCDF-13C	2.00	69
					1,2,3,4,7,8-HxCDD-13C	2.00	71
1,2,3,7,8-PeCDD	1.80	-----	0.53	J	1,2,3,6,7,8-HxCDD-13C	2.00	68
Total PeCDD	5.30	-----	0.53		1,2,3,4,6,7,8-HpCDF-13C	2.00	49
					1,2,3,4,7,8,9-HpCDF-13C	2.00	43
1,2,3,4,7,8-HxCDF	ND	-----	0.65		1,2,3,4,6,7,8-HpCDD-13C	2.00	41
1,2,3,6,7,8-HxCDF	ND	-----	0.64		OCDD-13C	4.00	27 P
2,3,4,6,7,8-HxCDF	ND	-----	0.61				
1,2,3,7,8,9-HxCDF	ND	-----	0.62		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	2.10	-----	0.63	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	2.80	-----	0.58	J	2,3,7,8-TCDD-37Cl4	0.20	83
1,2,3,6,7,8-HxCDD	2.10	-----	0.67	J			
1,2,3,7,8,9-HxCDD	1.80	-----	0.94	J			
Total HxCDD	41.00	-----	0.73				
1,2,3,4,6,7,8-HpCDF	6.40	-----	0.92		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.87		Equivalence: 3.5 ng/Kg		
Total HpCDF	6.40	-----	0.89		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	52.00	-----	1.00				
Total HpCDD	130.00	-----	1.00				
OCDF	20.00	-----	2.50				
OCDD	210.00	-----	2.80				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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P = Recovery outside target range

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Tel: 612-607-1700
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Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-20384	Matrix	Solid
Filename	F90624A_04	Dilution	NA
Total Amount Extracted	10.2 g	Extracted	06/19/2009
ICAL ID	F90501	Analyzed	06/24/2009 07:58
CCal Filename(s)	F90623B_15 & F90624A_16	Injected By	BAL

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.130		2,3,7,8-TCDF-13C	2.00	72
Total TCDF	ND	-----	0.130		2,3,7,8-TCDD-13C	2.00	70
					1,2,3,7,8-PeCDF-13C	2.00	76
2,3,7,8-TCDD	ND	-----	0.170		2,3,4,7,8-PeCDF-13C	2.00	81
Total TCDD	ND	-----	0.170		1,2,3,7,8-PeCDD-13C	2.00	87
					1,2,3,4,7,8-HxCDF-13C	2.00	74
1,2,3,7,8-PeCDF	ND	-----	0.093		1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	ND	-----	0.067		2,3,4,6,7,8-HxCDF-13C	2.00	69
Total PeCDF	ND	-----	0.080		1,2,3,7,8,9-HxCDF-13C	2.00	73
					1,2,3,4,7,8-HxCDD-13C	2.00	75
1,2,3,7,8-PeCDD	ND	-----	0.120		1,2,3,6,7,8-HxCDD-13C	2.00	69
Total PeCDD	ND	-----	0.120		1,2,3,4,6,7,8-HpCDF-13C	2.00	67
					1,2,3,4,7,8,9-HpCDF-13C	2.00	69
1,2,3,4,7,8-HxCDF	ND	-----	0.079		1,2,3,4,6,7,8-HpCDD-13C	2.00	69
1,2,3,6,7,8-HxCDF	ND	-----	0.082		OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	ND	-----	0.081				
1,2,3,7,8,9-HxCDF	ND	-----	0.097		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.085		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.140		2,3,7,8-TCDD-37Cl4	0.20	78
1,2,3,6,7,8-HxCDD	ND	-----	0.130				
1,2,3,7,8,9-HxCDD	ND	-----	0.130				
Total HxCDD	ND	-----	0.130				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.070		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.130		Equivalence: 0.20 ng/Kg		
Total HpCDF	ND	-----	0.100		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	0.13	-----	0.098	J			
Total HpCDD	0.13	-----	0.098	J			
OCDF	-----	0.16	0.110	I			
OCDD	0.89	-----	0.230	J			

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-20385		
Filename	F90624A_01	Matrix	Solid
Total Amount Extracted	10.2 g	Dilution	NA
ICAL ID	F90501	Extracted	06/19/2009
CCal Filename(s)	F90623B_15 & F90624A_16	Analyzed	06/24/2009 05:34
Method Blank ID	BLANK-20384	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.21	104	2,3,7,8-TCDF-13C	2.00	68
Total TCDF				2,3,7,8-TCDD-13C	2.00	62
				1,2,3,7,8-PeCDF-13C	2.00	73
2,3,7,8-TCDD	0.20	0.22	110	2,3,4,7,8-PeCDF-13C	2.00	77
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	77
				1,2,3,4,7,8-HxCDF-13C	2.00	71
1,2,3,7,8-PeCDF	1.00	1.04	104	1,2,3,6,7,8-HxCDF-13C	2.00	61
2,3,4,7,8-PeCDF	1.00	1.01	101	2,3,4,6,7,8-HxCDF-13C	2.00	67
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	71
				1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	1.00	0.89	89	1,2,3,6,7,8-HxCDD-13C	2.00	65
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	65
				1,2,3,4,7,8,9-HpCDF-13C	2.00	68
1,2,3,4,7,8-HxCDF	1.00	0.98	98	1,2,3,4,6,7,8-HpCDD-13C	2.00	64
1,2,3,6,7,8-HxCDF	1.00	1.04	104	OCDD-13C	4.00	59
2,3,4,6,7,8-HxCDF	1.00	1.02	102			
1,2,3,7,8,9-HxCDF	1.00	1.02	102	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.02	102	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	1.00	1.04	104			
1,2,3,7,8,9-HxCDD	1.00	1.05	105			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.00	1.06	106			
1,2,3,4,7,8,9-HpCDF	1.00	1.01	101			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.00	1.04	104			
Total HpCDD						
OCDF	2.00	2.29	115			
OCDD	2.00	2.20	110			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Spiked Sample Report

Client - Pioneer Technologies Corporation

Client's Sample ID	DP26-061009-1-2-MS		
Lab Sample ID	1097162001-MS		
Filename	F90624A_13	Matrix	Soil
Total Amount Extracted	11.0 g	Dilution	NA
ICAL ID	F90501	Extracted	06/19/2009
CCal Filename(s)	F90623B_15 & F90624A_16	Analyzed	06/24/2009 15:10
Method Blank ID	BLANK-20384	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.29	143	2,3,7,8-TCDF-13C	2.00	71
				2,3,7,8-TCDD-13C	2.00	71
				1,2,3,7,8-PeCDF-13C	2.00	76
2,3,7,8-TCDD	0.20	0.23	117	2,3,4,7,8-PeCDF-13C	2.00	83
				1,2,3,7,8-PeCDD-13C	2.00	91
				1,2,3,4,7,8-HxCDF-13C	2.00	72
1,2,3,7,8-PeCDF	1.00	1.15	115	1,2,3,6,7,8-HxCDF-13C	2.00	61
2,3,4,7,8-PeCDF	1.00	1.27	127	2,3,4,6,7,8-HxCDF-13C	2.00	66
				1,2,3,7,8,9-HxCDF-13C	2.00	71
				1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	1.00	1.09	109	1,2,3,6,7,8-HxCDD-13C	2.00	67
				1,2,3,4,6,7,8-HpCDF-13C	2.00	64
				1,2,3,4,7,8,9-HpCDF-13C	2.00	67
1,2,3,4,7,8-HxCDF	1.00	2.02	202	1,2,3,4,6,7,8-HpCDD-13C	2.00	67
1,2,3,6,7,8-HxCDF	1.00	1.27	127	OCDD-13C	4.00	69
2,3,4,6,7,8-HxCDF	1.00	1.29	129			
1,2,3,7,8,9-HxCDF	1.00	1.17	117	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.16	116	2,3,7,8-TCDD-37Cl4	0.20	78
1,2,3,6,7,8-HxCDD	1.00	1.42	142			
1,2,3,7,8,9-HxCDD	1.00	1.31	131			
1,2,3,4,6,7,8-HpCDF	1.00	3.39	339			
1,2,3,4,7,8,9-HpCDF	1.00	1.33	133			
1,2,3,4,6,7,8-HpCDD	1.00	10.26	1026			
OCDF	2.00	8.43	422			
OCDD	2.00	92.36	4618			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Spiked Sample Report

Client - Pioneer Technologies Corporation

Client's Sample ID	DP26-061009-1-2-MSD		
Lab Sample ID	1097162001-MSD		
Filename	F90624A_14	Matrix	Soil
Total Amount Extracted	11.0 g	Dilution	NA
ICAL ID	F90501	Extracted	06/19/2009
CCal Filename(s)	F90623B_15 & F90624A_16	Analyzed	06/24/2009 15:58
Method Blank ID	BLANK-20384	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.27	135	2,3,7,8-TCDF-13C	2.00	76
				2,3,7,8-TCDD-13C	2.00	78
				1,2,3,7,8-PeCDF-13C	2.00	84
2,3,7,8-TCDD	0.20	0.22	110	2,3,4,7,8-PeCDF-13C	2.00	92
				1,2,3,7,8-PeCDD-13C	2.00	101
				1,2,3,4,7,8-HxCDF-13C	2.00	78
1,2,3,7,8-PeCDF	1.00	1.11	111	1,2,3,6,7,8-HxCDF-13C	2.00	66
2,3,4,7,8-PeCDF	1.00	1.22	122	2,3,4,6,7,8-HxCDF-13C	2.00	72
				1,2,3,7,8,9-HxCDF-13C	2.00	74
				1,2,3,4,7,8-HxCDD-13C	2.00	75
1,2,3,7,8-PeCDD	1.00	1.04	104	1,2,3,6,7,8-HxCDD-13C	2.00	71
				1,2,3,4,6,7,8-HpCDF-13C	2.00	70
				1,2,3,4,7,8,9-HpCDF-13C	2.00	75
1,2,3,4,7,8-HxCDF	1.00	1.86	186	1,2,3,4,6,7,8-HpCDD-13C	2.00	74
1,2,3,6,7,8-HxCDF	1.00	1.20	120	OCDD-13C	4.00	74
2,3,4,6,7,8-HxCDF	1.00	1.23	123			
1,2,3,7,8,9-HxCDF	1.00	1.12	112	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.15	115	2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	1.00	1.38	138			
1,2,3,7,8,9-HxCDD	1.00	1.29	129			
1,2,3,4,6,7,8-HpCDF	1.00	3.06	306			
1,2,3,4,7,8,9-HpCDF	1.00	1.24	124			
1,2,3,4,6,7,8-HpCDD	1.00	8.88	888			
OCDF	2.00	8.06	403			
OCDD	2.00	83.39	4170			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Spike Sample Results

Client - Pioneer Technologies Corporation

Client Sample ID	DP26-061009-1-2			Dry Weights	
Lab Sample ID	1097162001	Sample Filename	F90624A_12	Sample Amount	10.1 g
MS ID	1097162001-MS	MS Filename	F90624A_13	MS Amount	10.1 g
MSD ID	1097162001-MSD	MSD Filename	F90624A_14	MSD Amount	10.1 g

Analyte	Sample Conc. ng/Kg	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	Background Subtracted MS % Rec.	MSD % Rec.	RPD
2,3,7,8-TCDF	5.747	0.20	0.29	0.27	5.6	114	106	7.2
2,3,7,8-TCDD	1.427	0.20	0.23	0.22	6.3	110	102	6.8
1,2,3,7,8-PeCDF	8.076	1.00	1.15	1.11	3.8	107	103	4.2
2,3,4,7,8-PeCDF	27.395	1.00	1.27	1.22	4.0	99	94	5.4
1,2,3,7,8-PeCDD	8.381	1.00	1.09	1.04	4.2	100	96	4.6
1,2,3,4,7,8-HxCDF	0.000	1.00	2.02	1.86	8.2	99	82	18.5
1,2,3,6,7,8-HxCDF	18.195	1.00	1.27	1.20	5.8	109	102	7.0
2,3,4,6,7,8-HxCDF	20.280	1.00	1.29	1.23	4.4	108	103	5.4
1,2,3,7,8,9-HxCDF	11.043	1.00	1.17	1.12	4.9	106	100	5.6
1,2,3,4,7,8-HxCDD	11.246	1.00	1.16	1.15	1.3	105	103	1.5
1,2,3,6,7,8-HxCDD	38.409	1.00	1.42	1.38	2.8	103	99	4.2
1,2,3,7,8,9-HxCDD	22.365	1.00	1.31	1.29	0.9	108	107	1.2
1,2,3,4,6,7,8-HpCDF	232.763	1.00	3.39	3.06	10.3	105	70	39.8
1,2,3,4,7,8,9-HpCDF	18.613	1.00	1.33	1.24	6.4	114	106	7.6
1,2,3,4,6,7,8-HpCDD	883.318	1.00	10.26	8.88	14.4	138	0	200.0
OCDF	624.768	2.00	8.43	8.06	4.5	108	87	21.6
OCDD	9049.695	2.00	92.36	83.39	10.2	70	0	200.0

Definitions

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

Samples Collected By: TB
Contact Number:

Client: PTC | Phone: 570-1700 | Project Name: ~~EAST~~ BAY PH 2 RI/FS | Project P.O.:
Address: 2612 4th Ave W, Suite B, Olympia, WA 98502 | Fax: | Project Location: | Contact Person: Troy Bussey
Email: bussey1@usplanet.com | Project Number: | DAL Project No.: 090610-08

* please hold all samples for possible analyses

Matrix Code:
WW = wastewater **GW** = groundwater **S** = soil or solid
SL = sludge **V** = vapor **O** = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	~~BTEX~~/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	SAMPLE CONTAINER NOTE: 3 ounces / SAMPLE ID
MW21S-061209-0.5-1.5	S	06/12/09	0800	1-4oz										X												
MW21S-061209-2.5-4			0810	2-4oz	X	X																				
MW21S-061209-4.5-6			0820																							
MW23S-061209-1.5-3			0950																							
MW23S-061209-5-6			1010		X	X		X						X							X					
MW23S-061209-9-10.5			1005		X	X		X						X							X					
MW24S-061209-1-2.5			1140																							
MW24S-061209-3-4.5			1150																							
MW24S-061209-6.5-8			1200		X	X		X						X							X					
MW24S-061209-9-10			1210		X	X		X						X							X					
MW25S-061209-1-2.5			1300	1-4oz																						
MW25S-061209-3.5-5			1310	2-4oz																						
MW25S-061209-6.5-7.5			1320	2-4oz	X	X		X						X							X					

Relinquished by (Signature): Troy Bussey | Date/Time: 06/12/09 1630 | Received by (Signature): Jim McCall | Date/Time: 6/14/9 930

Relinquished by (Signature) | Date/Time | Received by (Signature) | Date/Time

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other:

rec'd 7C

***Heavy Metals**: Please circle the desired analytes.

Ag Al (As) Ba Be (Cd) Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni (Pb) Sb Se Tl V Zn - Total
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

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Email: DragonLab@comcast.net
Website: dragonlaboratory.com

Samples Collected By: TB
Contact Number:

Client: PTC
Address: 2612 Yelm Hwy SE Suite B, Olympia, WA 98501
Phone: 570-1700
Fax:
Email: busseyt@uspioneer.com
Project Name: East Bay PH2 RI
Project Location:
Project Number:
Project P.O.:
Contact Person: Troy Bussey
DAL Project No.: 090610-08

* please hold all samples for possible anayses

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	Sample container 3 Encores Pea Stones 1/1
MW25s-061209-10.5-12.5	S	6/12/09	1330	2-4oz	X	X		X						X							X					X
MW25s-061209-12.4-14	S	6/12/09	1340	2-4oz	X	X		X						X							X					NO ENCORE
MW22s-061209-0.5-2	S	6/12/09	1425	2-4oz																						
MW22s-061209-2.4	S	6/12/09	1430	2-4oz																						

Relinquished by (Signature): Troy Bussey — Date/Time: 6/12/09 1630
Received by (Signature): Jim Meade — Date/Time: 6/12/09 1630
Relinquished by (Signature): — Date/Time:
Received by (Signature): — Date/Time:

Received TC

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other:

*Heavy Metals: Please circle the desired analytes.

Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Total
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN SOIL BY EPA METHOD 8270

Sample Identification			Blank	MW21S-061209-0.5-1.5	MW23S-061209-5-6	MW23S-061209-9-10.5	MW24S-061209-6.5-8	MW24S-061209-6.5-8 Dup.	MW24S-061209-9-10	MW25S-061209-6.5-7.5
Percent Solids (%)			n/a	88.5	71.9	39.9	23.2	23.2	49.0	52.3
Date Extracted	CAS	MRL	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009
Date Anlayzed	Number	(mg/kg)	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009
Benzo(a)anthracene	56-55-3	0.01	nd	**0.03**	**0.03**	**0.33**	**0.50**	**0.50**	**0.08**	**0.33**
Benzo(a)pyrene	50-32-8	0.01	nd	**0.13**	**0.13**	**0.46**	**0.70**	**0.71**	**0.20**	**0.42**
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	nd	**0.34**	**0.42**	**0.44**	**0.02**	**0.35**
Benzo(k)fluoranthene	207-08-9	0.01	nd	nd	nd	**0.19**	**0.21**	**0.21**	**0.03**	**0.11**
Chrysene	218-01-9	0.01	nd	nd	nd	**0.43**	**0.58**	**0.58**	**0.06**	**0.48**
Dibenzo(a,h)anthracene	53-70-3	0.01	nd	nd	**0.12**	**0.19**	**0.21**	**0.21**	**0.14**	**0.15**
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	**0.26**	**0.28**	**0.55**	**0.60**	**0.60**	**0.36**	**0.45**
1-Methylnaphthalene	90-12-0	0.01	nd	**0.03**	nd	**0.14**	**0.02**	**0.02**	**0.02**	**0.01**
2-Methylnaphthalene	91-57-6	0.01	nd	**0.06**	nd	**0.14**	**0.04**	**0.04**	**0.03**	**0.03**
Naphthalene	91-20-3	0.01	nd	**0.05**	nd	nd	**0.05**	**0.05**	**0.15**	**0.19**
Surrogate Recovery (%)										
2-Fluorophenol			96.8	120	76.1	126	73.9	73.4	55.2	74.8
Phenol-d6			107	128	81.4	133	79.1	78.1	60	80.6
Nitrobenzene-d5			85.5	119	62.4	123	60.8	68.4	63.8	59.9
2-Fluorobiphenol			103	119	62.3	120	61.7	66.0	60.9	58.0
2,4,6-Tribromophenol			111	124	99.3	130	91.5	92.1	75.7	99.1
Terphenyl-d14			118	120	65.6	124	63.5	63.5	63.1	58.6
Data Flags										

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Sample results based on dry weight.
Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R Lewis

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN SOIL BY EPA METHOD 8270

Sample Identification			MW25S-061209-10.5-12	MW25S-061209-12.4-14	LCS	090618-MS	090618-MSD	MW24S-061209-6.5-8 Dup.
Percent Solids (%)			64.4	84.4	n/a	n/a	n/a	23.2
Date Extracted	CAS	MRL	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009	6/15/2009
Date Anlayzed	Number	(mg/kg)	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009
Benzo(a)anthracene	56-55-3	0.01	**0.07**	**0.02**	105%	107%	106%	**0.50**
Benzo(a)pyrene	50-32-8	0.01	nd	**0.12**	n/a	n/a	n/a	**0.71**
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	n/a	n/a	n/a	**0.44**
Benzo(k)fluoranthene	207-08-9	0.01	**0.02**	nd	n/a	n/a	n/a	**0.21**
Chrysene	218-01-9	0.01	**0.10**	nd	104%	113%	112%	**0.58**
Dibenzo(a,h)anthracene	53-70-3	0.01	nd	**0.10**	n/a	n/a	n/a	**0.21**
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	**0.34**	nd	75.8%	77.4%	72.6%	**0.60**
1-Methylnaphthalene	90-12-0	0.01	nd	nd	n/a	n/a	n/a	**0.02**
2-Methylnaphthalene	91-57-6	0.01	**0.02**	nd	n/a	n/a	n/a	**0.04**
Naphthalene	91-20-3	0.01	**0.02**	nd	n/a	n/a	n/a	**0.05**
Surrogate Recovery (%)								
2-Fluorophenol			76.9	66.1	119	126	126	73.4
Phenol-d6			82.0	70.7	126	133	133	78.1
Nitrobenzene-d5			63.1	67.1	107	104	103	68.4
2-Fluorobiphenol			61.5	65.0	82.7	81.6	81.9	66.0
2,4,6-Tribromophenol			95.9	84.6	128	125	124	92.1
Terphenyl-d14			63.0	69.7	108	107	106	63.5
Data Flags								

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Sample results based on dry weight.
Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R Lewis

DRAGON ANALYTICAL LABORATORY

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Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF FUEL IN SOIL

Sample Identification	Date Analyzed	Percent Solids (%)	Diesel NWTPH-Dx (mg/kg)	Heavy Oil NWTPH-Dx (mg/kg)	Surrogate Recovery 2-FBP (%)	Data Flags
Method Blank	6/15/2009	n/a	nd	nd	100	
MW23S-061209-5-6	6/15/2009	71.9	**1160**	nd	120	(1)
MW23S-061209-9-10.5	6/15/2009	39.9	nd	nd	112	
MW24S-061209-6.5-8	6/15/2009	23.2	nd	**494**	113	
MW24S-061209-9-10	6/15/2009	49.0	nd	**418**	110	
MW25S-061209-6.5-7.5	6/15/2009	52.3	nd	**2020**	99.3	
MW25S-061209-10.5-12	6/15/2009	64.4	nd	**1070**	101	
MW25S-061209-12.4-14	6/15/2009	84.4	nd	nd	98.3	
LCS	6/15/2009	n/a	105%	n/a	n/a	
090615-MS	6/15/2009	n/a	121%	n/a	n/a	
090615-MSD	6/15/2009	n/a	110%	n/a	n/a	
Method Reporting Limits			25	100		

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Sample results based on dry weight.

Comments and Explanations: (1) indicates atypical diesel pattern.

Analyst: T. McCall

Data reviewed by: R. Lewis

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF GASOLINE RANGE ORGANICS IN SOIL

Sample Identification	Date Analyzed	Percent Solids (%)	Benzene EPA 8021B (mg/kg)	Toluene EPA 8021B (mg/kg)	Ethylbenzene EPA 8021B (mg/kg)	m&p-Xylene EPA 8021B (mg/kg)	o-Xylene EPA 8021B (mg/kg)	Gasoline NWTPH-Gx (mg/kg)	Surrogate Recovery BFB (%)	Data Flags
Method Blank	6/16/2009	n/a	nd	nd	nd	nd	nd	nd	97.7	
Method Blank	6/17/2009	n/a	nd	nd	nd	nd	nd	nd	86.0	
MW21S-061209-2.5-4	6/16/2009	81.5	nd	nd	nd	nd	nd	nd	76.8	
MW23S-061209-5-6	6/16/2009	71.9	nd	nd	nd	nd	nd	nd	81.6	
MW23S-061209-9-10.5	6/16/2009	39.9	nd	nd	nd	nd	nd	nd	68.6	
MW24S-061209-6.5-8	6/16/2009	23.2	nd	nd	nd	nd	nd	nd	87.2	
MW24S-061209-9-10	6/16/2009	49.0	nd	nd	nd	nd	nd	nd	87.8	
MW25S-061209-6.5-7.5	6/17/2009	52.3	nd	nd	nd	nd	nd	nd	66.5	
MW25S-061209-10.5-12	6/17/2009	64.4	nd	nd	nd	nd	nd	nd	102	
MW25S-061209-12.4-14	6/17/2009	84.4	nd	nd	nd	nd	nd	nd	83.1	
090616-LCS	6/16/2009	n/a	108%	122%	120%	98.9%	105%	94.9%	n/a	
090617-MS	6/17/2009	n/a	104%	101%	95.2%	110%	97.3%	108%	n/a	
Method Reporting Limits			0.05	0.10	0.10	0.10	0.10	5.0		

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Sample results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R Lewis

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay PH2 RI

DAL Number: 090610-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF HEAVY METALS IN SOIL BY EPA METHOD 6020 A

Sample Identification	Date Analyzed	Percent Solids	Arsenic (As)	Cadmium (Cd)	Lead (Pb)
Chemical Abstract Number (CAS)			7440-38-2	7440-43-9	7439-92-1
Units		(%)	(mg/kg)	(mg/kg)	(mg/kg)
Method Blank	6/18/2009	n/a	nd	nd	nd
MW23S-061209-5-6	6/26/2009	71.9	**nd**	**0.65**	**0.46**
MW23S-061209-9-10.5	6/18/2009	39.9	**8.55**	**0.45**	**71.2**
MW24S-061209-6.5-8	6/18/2009	23.2	**1.76**	**0.76**	**53.5**
MW24S-061209-9-10	6/18/2009	49.0	**4.79**	**0.54**	**34.3**
MW25S-061209-6.5-7.5	6/18/2009	52.3	**4.10**	**0.75**	**108**
MW25S-061209-10.5-12	6/18/2009	64.4	**4.85**	**0.52**	**17.4**
MW25S-061209-12.4-14	6/18/2009	84.4	**3.07**	**0.32**	**2.54**
LCS	6/18/2009	n/a	104%	101%	104%
090618-MS	6/18/2009	n/a	MI	99.2%	MI
090618-MSD	6/18/2009	n/a	MI	97.9%	MI
Method Reporting Limits			0.25	0.25	0.25

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
"MI" indicates Matrix Interference
Sample results based on dry weight.
Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R Lewis

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia WA 98501-4826

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

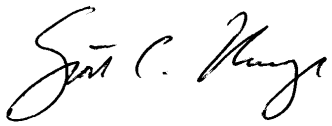
Pace Project #: 1097191
Sample Receipt Date: 06/13/2009
Client Project #: East Bay PH2 RI
Client Sub PO #: N/A
State Cert #: C218

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

Report Prepared Date:
July 1, 2009

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on seven samples submitted by a representative of Pioneer Technologies Corporation. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise calculations.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 20-111%. With the exceptions of eleven low values, which were flagged "P" on the results tables, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained, or "E" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. The levels reported for the affected congeners in the field samples were higher than the corresponding blank levels by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

A laboratory spike sample was also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 89-115%. These results indicate a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.

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Appendix A

Sample Management

Report No....1097191_8290

1097191

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name: PTC	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE	Project Name & #: East Bay PH2 RI
City: Olympia State: WA Zip: 98501	Email Address: bussey t@uspioneer.com
Phone: 360-570-1700	Purchase Order #: Credit card
Fax:	Sampler Name & phone: same

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

- [X] Normal
- [ ] Next Day*
- [ ] 2nd Day*
- [ ] Other*_____

*All rush order requests must be prior approved.

- [ ] Phone
- [X] Mail ~~(Final)~~
- [ ] Fax
- [X] Email ~~(confirm)~~

Provide Sample Description / **List Analyses Requested**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: N/A — Dioxin/furan 8290								
	[redacted]		Soil	1	4oz									
	MW21S-061209-0.5-1.5	6/12/09 0800		1									001	
	MW21S-061209-2.5-4	0810		1									002	
	MW21S-061209-4.5-6	0820		1									003	
	MW23S-061209-1.5-3	0950		1									004	
	MW23S-061209-5-6	1000		1		X							005	
	MW23S-061209-9-10.5	1005		1									006	
	MW24S-061209-1-2.5	1140		1		X							007	
	MW24S-061209-3-4.5	1150		1		X							008	
	MW24S-061209-6.5-8	1200		1		X							009	
	MW24S-061209-9-10	1210		1		X							010	
	MW25S-061209-1-2.5	1300		1									011	
	MW25S-061209-3.5-5	1310		1									012	

Note Special Instructions/Comments

1. please hold all samples for possible analyses
2. See RL expectations sent previously

	Printed Name	Signature	Company	Date	Time
Relinquished by	Troy Bussey		PTC	6/12/09	1630
Received by	Alex Kulze		Race	6/13/09	0955
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): 5.0

Preservative:

Date & Time:

Inspected By:

Report No....1097191_8290

1097191

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name: PTC	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE	Project Name & #: East Bay PH2 RI
City: Olympia State: WA Zip: 98501	Email Address: bussey@auspioneer.com
Phone: 360-570-1700	Purchase Order #: credit card
Fax:	Sampler Name & phone: same

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
X Mail (final)
__ Fax
X Email (prelim)

Provide Sample Description

List Analyses Requested

Preservative: N/A

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Dioxin/Furans 8290								
	MW25S-061209-6.5-7.5	6/12/09 1320	Soil	1	4oz						013			
	MW25S-061209-10.5-12	6/12/09 1330		1	4oz						014			
	MW25S-061209-12.5-14	6/12/09 1340		1	4oz						015			
	MW30S-061209-0.5-2	6/12/09 1425		1	4oz	X					016			
	MW30S-061209-2-4	6/12/09 1430		1	4oz	X					017			

Note Special Instructions/Comments

1) please hold all samples for possible analyses
2) see RL expectations sent previously

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): 5.0
Preservative:
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Troy Bussey		PTC	6/12/09	1630
Received by	Alex Kulas		Pace	6/13/09	0955
Relinquished by					
Received by					
Relinquished by					
Received by					

Pace Analytical

Sample Condition Upon Receipt

Client Name: Anatek Labs Inc Project # 1097191

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8667-2411 9389

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ____ No ☑

Thermometer Used ~~003440~~2, 179425 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.0 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: MC 6/13/09

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☐No ☑N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: SL		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 06/15/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW23S-061209-5-6		
Lab Sample ID	1097191005		
Filename	F90624B_12		
Injected By	BAL		
Total Amount Extracted	15.1 g	Matrix	Soil
% Moisture	26.7	Dilution	NA
Dry Weight Extracted	11.1 g	Collected	06/12/2009
ICAL ID	F90501	Received	06/13/2009
CCal Filename(s)	F90624A_16 & F90624B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/25/2009 03:10

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	0.48		2,3,7,8-TCDF-13C	2.00	75	
Total TCDF	ND	-----	0.48		2,3,7,8-TCDD-13C	2.00	74	
					1,2,3,7,8-PeCDF-13C	2.00	68	
2,3,7,8-TCDD	ND	-----	0.64		2,3,4,7,8-PeCDF-13C	2.00	68	
Total TCDD	ND	-----	0.64		1,2,3,7,8-PeCDD-13C	2.00	75	
					1,2,3,4,7,8-HxCDF-13C	2.00	86	
1,2,3,7,8-PeCDF	-----	1.9	0.69	E	1,2,3,6,7,8-HxCDF-13C	2.00	76	
2,3,4,7,8-PeCDF	ND	-----	0.66		2,3,4,6,7,8-HxCDF-13C	2.00	78	
Total PeCDF	2.1	-----	0.68	J	1,2,3,7,8,9-HxCDF-13C	2.00	74	
					1,2,3,4,7,8-HxCDD-13C	2.00	82	
1,2,3,7,8-PeCDD	ND	-----	0.42		1,2,3,6,7,8-HxCDD-13C	2.00	75	
Total PeCDD	1.0	-----	0.42	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	45	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	29	P
1,2,3,4,7,8-HxCDF	ND	-----	0.71		1,2,3,4,6,7,8-HpCDD-13C	2.00	35	P
1,2,3,6,7,8-HxCDF	ND	-----	0.71		OCDD-13C	4.00	20	P
2,3,4,6,7,8-HxCDF	ND	-----	0.62					
1,2,3,7,8,9-HxCDF	ND	-----	0.72		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	7.1	-----	0.69		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	ND	-----	0.64		2,3,7,8-TCDD-37Cl4	0.20	80	
1,2,3,6,7,8-HxCDD	ND	-----	0.92					
1,2,3,7,8,9-HxCDD	ND	-----	0.61					
Total HxCDD	3.2	-----	0.73	J				
1,2,3,4,6,7,8-HpCDF	3.5	-----	0.68	J	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	ND	-----	0.80		Equivalence: 1.1 ng/Kg			
Total HpCDF	9.9	-----	0.74		(Using 2005 WHO Factors - Using PRL/2 where ND)			
1,2,3,4,6,7,8-HpCDD	13.0	-----	1.60					
Total HpCDD	25.0	-----	1.60					
OCDF	10.0	-----	4.80					
OCDD	95.0	-----	4.30					

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
P = Recovery outside target range
E = PCDE Interference

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW24S-061209-1-2.5		
Lab Sample ID	1097191007		
Filename	F90624B_13		
Injected By	BAL		
Total Amount Extracted	10.5 g	Matrix	Soil
% Moisture	7.8	Dilution	NA
Dry Weight Extracted	9.69 g	Collected	06/12/2009
ICAL ID	F90501	Received	06/13/2009
CCal Filename(s)	F90624A_16 & F90624B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/25/2009 03:58

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.48		2,3,7,8-TCDF-13C	2.00	66
Total TCDF	ND	-----	0.48		2,3,7,8-TCDD-13C	2.00	67
					1,2,3,7,8-PeCDF-13C	2.00	66
2,3,7,8-TCDD	ND	-----	0.33		2,3,4,7,8-PeCDF-13C	2.00	68
Total TCDD	ND	-----	0.33		1,2,3,7,8-PeCDD-13C	2.00	72
					1,2,3,4,7,8-HxCDF-13C	2.00	70
1,2,3,7,8-PeCDF	ND	-----	0.42		1,2,3,6,7,8-HxCDF-13C	2.00	60
2,3,4,7,8-PeCDF	ND	-----	0.36		2,3,4,6,7,8-HxCDF-13C	2.00	65
Total PeCDF	1.40	-----	0.39	J	1,2,3,7,8,9-HxCDF-13C	2.00	66
					1,2,3,4,7,8-HxCDD-13C	2.00	64
1,2,3,7,8-PeCDD	ND	-----	0.36		1,2,3,6,7,8-HxCDD-13C	2.00	64
Total PeCDD	ND	-----	0.36		1,2,3,4,6,7,8-HpCDF-13C	2.00	48
					1,2,3,4,7,8,9-HpCDF-13C	2.00	43
1,2,3,4,7,8-HxCDF	ND	-----	0.46		1,2,3,4,6,7,8-HpCDD-13C	2.00	42
1,2,3,6,7,8-HxCDF	ND	-----	0.47		OCDD-13C	4.00	26 P
2,3,4,6,7,8-HxCDF	ND	-----	0.43				
1,2,3,7,8,9-HxCDF	ND	-----	0.55		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	3.00	-----	0.48	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.50		2,3,7,8-TCDD-37Cl4	0.20	76
1,2,3,6,7,8-HxCDD	1.10	-----	0.67	J			
1,2,3,7,8,9-HxCDD	0.68	-----	0.49	J			
Total HxCDD	4.80	-----	0.55	J			
1,2,3,4,6,7,8-HpCDF	5.00	-----	0.68	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.69		Equivalence: 1.2 ng/Kg		
Total HpCDF	5.00	-----	0.68	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	30.00	-----	0.94				
Total HpCDD	76.00	-----	0.94				
OCDF	11.00	-----	2.80				
OCDD	280.00	-----	2.30				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
P = Recovery outside target range

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW24S-061209-3-4.5		
Lab Sample ID	1097191008		
Filename	F90624B_14		
Injected By	BAL		
Total Amount Extracted	10.9 g	Matrix	Soil
% Moisture	7.6	Dilution	NA
Dry Weight Extracted	10.1 g	Collected	06/12/2009
ICAL ID	F90501	Received	06/13/2009
CCal Filename(s)	F90624A_16 & F90624B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/25/2009 04:46

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	2.00	-----	0.27		2,3,7,8-TCDF-13C	2.00	79	
Total TCDF	19.00	-----	0.27		2,3,7,8-TCDD-13C	2.00	62	
					1,2,3,7,8-PeCDF-13C	2.00	77	
2,3,7,8-TCDD	-----	0.47	0.13	I	2,3,4,7,8-PeCDF-13C	2.00	77	
Total TCDD	24.00	-----	0.13		1,2,3,7,8-PeCDD-13C	2.00	85	
					1,2,3,4,7,8-HxCDF-13C	2.00	78	
1,2,3,7,8-PeCDF	-----	0.70	0.31	I	1,2,3,6,7,8-HxCDF-13C	2.00	66	
2,3,4,7,8-PeCDF	2.50	-----	0.24	J	2,3,4,6,7,8-HxCDF-13C	2.00	71	
Total PeCDF	20.00	-----	0.27		1,2,3,7,8,9-HxCDF-13C	2.00	68	
					1,2,3,4,7,8-HxCDD-13C	2.00	72	
1,2,3,7,8-PeCDD	2.30	-----	0.28	J	1,2,3,6,7,8-HxCDD-13C	2.00	68	
Total PeCDD	30.00	-----	0.28		1,2,3,4,6,7,8-HpCDF-13C	2.00	48	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	36	P
1,2,3,4,7,8-HxCDF	-----	1.40	0.30	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	42	
1,2,3,6,7,8-HxCDF	2.00	-----	0.37	J	OCDD-13C	4.00	23	P
2,3,4,6,7,8-HxCDF	2.10	-----	0.34	J				
1,2,3,7,8,9-HxCDF	0.48	-----	0.43	J	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	17.00	-----	0.36		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	1.70	-----	0.80	J	2,3,7,8-TCDD-37Cl4	0.20	75	
1,2,3,6,7,8-HxCDD	4.80	-----	0.40	J				
1,2,3,7,8,9-HxCDD	3.40	-----	0.43	J				
Total HxCDD	58.00	-----	0.54					
1,2,3,4,6,7,8-HpCDF	25.00	-----	0.66		Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	1.70	-----	1.10	J	Equivalence: 6.1 ng/Kg			
Total HpCDF	78.00	-----	0.86		(Using 2005 WHO Factors - Using PRL/2 where ND)			
1,2,3,4,6,7,8-HpCDD	83.00	-----	0.84					
Total HpCDD	150.00	-----	0.84					
OCDF	110.00	-----	1.50					
OCDD	610.00	-----	1.70					

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
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NC = Not Calculated

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P = Recovery outside target range
I = Interference present

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW24S-061209-6.5-8		
Lab Sample ID	1097191009		
Filename	F90630B_10		
Injected By	SMT		
Total Amount Extracted	20.8 g	Matrix	Soil
% Moisture	77.0	Dilution	NA
Dry Weight Extracted	4.78 g	Collected	06/12/2009
ICAL ID	F90501	Received	06/13/2009
CCal Filename(s)	F90630A_14 & F90630B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/30/2009 22:14

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	210	-----	1.2		2,3,7,8-TCDF-13C	2.00	85	
Total TCDF	2800	-----	1.2		2,3,7,8-TCDD-13C	2.00	78	
					1,2,3,7,8-PeCDF-13C	2.00	64	
2,3,7,8-TCDD	76	-----	1.4		2,3,4,7,8-PeCDF-13C	2.00	59	
Total TCDD	5700	-----	1.4		1,2,3,7,8-PeCDD-13C	2.00	58	
					1,2,3,4,7,8-HxCDF-13C	2.00	111	
1,2,3,7,8-PeCDF	120	-----	1.4		1,2,3,6,7,8-HxCDF-13C	2.00	104	
2,3,4,7,8-PeCDF	360	-----	1.3		2,3,4,6,7,8-HxCDF-13C	2.00	94	
Total PeCDF	2200	-----	1.3		1,2,3,7,8,9-HxCDF-13C	2.00	81	
					1,2,3,4,7,8-HxCDD-13C	2.00	74	
1,2,3,7,8-PeCDD	390	-----	2.2		1,2,3,6,7,8-HxCDD-13C	2.00	105	
Total PeCDD	6500	-----	2.2		1,2,3,4,6,7,8-HpCDF-13C	2.00	40	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	33	P
1,2,3,4,7,8-HxCDF	430	-----	4.1		1,2,3,4,6,7,8-HpCDD-13C	2.00	33	P
1,2,3,6,7,8-HxCDF	-----	2000	3.4	E	OCDD-13C	4.00	25	P
2,3,4,6,7,8-HxCDF	250	-----	4.0					
1,2,3,7,8,9-HxCDF	120	-----	4.1		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	1100	-----	3.9		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	260	-----	3.0		2,3,7,8-TCDD-37Cl4	0.20	81	
1,2,3,6,7,8-HxCDD	550	-----	2.4					
1,2,3,7,8,9-HxCDD	400	-----	5.7					
Total HxCDD	8700	-----	3.7					
1,2,3,4,6,7,8-HpCDF	2000	-----	16.0		Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	190	-----	20.0		Equivalence: 980 ng/Kg			
Total HpCDF	7800	-----	18.0		(Using 2005 WHO Factors - Using PRL/2 where ND)			
1,2,3,4,6,7,8-HpCDD	13000	-----	24.0					
Total HpCDD	23000	-----	24.0					
OCDF	7400	-----	10.0					
OCDD	85000	-----	15.0					

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P = Recovery outside target range
E = PCDE Interference

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Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW24S-061209-9-10		
Lab Sample ID	1097191010		
Filename	F90630B_09		
Injected By	SMT		
Total Amount Extracted	19.9 g	Matrix	Soil
% Moisture	76.0	Dilution	NA
Dry Weight Extracted	4.77 g	Collected	06/12/2009
ICAL ID	F90501	Received	06/13/2009
CCal Filename(s)	F90630A_14 & F90630B_16	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/30/2009 21:21

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	32.0	-----	1.2		2,3,7,8-TCDF-13C	2.00	83
Total TCDF	590.0	-----	1.2		2,3,7,8-TCDD-13C	2.00	75
					1,2,3,7,8-PeCDF-13C	2.00	61
2,3,7,8-TCDD	10.0	-----	1.2		2,3,4,7,8-PeCDF-13C	2.00	60
Total TCDD	700.0	-----	1.2		1,2,3,7,8-PeCDD-13C	2.00	63
					1,2,3,4,7,8-HxCDF-13C	2.00	82
1,2,3,7,8-PeCDF	25.0	-----	1.5		1,2,3,6,7,8-HxCDF-13C	2.00	89
2,3,4,7,8-PeCDF	31.0	-----	1.2		2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	240.0	-----	1.3		1,2,3,7,8,9-HxCDF-13C	2.00	75
					1,2,3,4,7,8-HxCDD-13C	2.00	65
1,2,3,7,8-PeCDD	39.0	-----	1.3		1,2,3,6,7,8-HxCDD-13C	2.00	92
Total PeCDD	730.0	-----	1.3		1,2,3,4,6,7,8-HpCDF-13C	2.00	48
					1,2,3,4,7,8,9-HpCDF-13C	2.00	38 P
1,2,3,4,7,8-HxCDF	17.0	-----	1.7		1,2,3,4,6,7,8-HpCDD-13C	2.00	40
1,2,3,6,7,8-HxCDF	15.0	-----	1.5		OCDD-13C	4.00	24 P
2,3,4,6,7,8-HxCDF	16.0	-----	1.8				
1,2,3,7,8,9-HxCDF	6.2	-----	2.4	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	180.0	-----	1.8		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	20.0	-----	2.9		2,3,7,8-TCDD-37Cl4	0.20	77
1,2,3,6,7,8-HxCDD	31.0	-----	3.0				
1,2,3,7,8,9-HxCDD	28.0	-----	2.7				
Total HxCDD	680.0	-----	2.8				
1,2,3,4,6,7,8-HpCDF	70.0	-----	3.8		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	8.6	-----	6.3	J	Equivalence: 80 ng/Kg		
Total HpCDF	190.0	-----	5.1		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	240.0	-----	7.4				
Total HpCDD	450.0	-----	7.4				
OCDF	170.0	-----	12.0				
OCDD	780.0	-----	11.0				

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Minneapolis, MN 55414

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Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW22S-061209-0.5-2		
Lab Sample ID	1097191016		
Filename	F90630A_06		
Injected By	AE		
Total Amount Extracted	12.5 g	Matrix	Soil
% Moisture	13.7	Dilution	NA
Dry Weight Extracted	10.8 g	Collected	06/12/2009
ICAL ID	F90501	Received	06/13/2009
CCal Filename(s)	F90629A_16 & F90630A_14	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/30/2009 04:53

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.49	0.31	I	2,3,7,8-TCDF-13C	2.00	73
Total TCDF	2.30	-----	0.31		2,3,7,8-TCDD-13C	2.00	67
					1,2,3,7,8-PeCDF-13C	2.00	68
2,3,7,8-TCDD	ND	-----	0.23		2,3,4,7,8-PeCDF-13C	2.00	70
Total TCDD	3.20	-----	0.23		1,2,3,7,8-PeCDD-13C	2.00	76
					1,2,3,4,7,8-HxCDF-13C	2.00	77
1,2,3,7,8-PeCDF	ND	-----	0.40		1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	-----	0.41	0.38	I	2,3,4,6,7,8-HxCDF-13C	2.00	70
Total PeCDF	5.00	-----	0.39		1,2,3,7,8,9-HxCDF-13C	2.00	71
					1,2,3,4,7,8-HxCDD-13C	2.00	76
1,2,3,7,8-PeCDD	0.55	-----	0.35	J	1,2,3,6,7,8-HxCDD-13C	2.00	69
Total PeCDD	1.40	-----	0.35	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	58
					1,2,3,4,7,8,9-HpCDF-13C	2.00	53
1,2,3,4,7,8-HxCDF	1.20	-----	0.36	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	55
1,2,3,6,7,8-HxCDF	0.91	-----	0.34	J	OCDD-13C	4.00	41
2,3,4,6,7,8-HxCDF	0.96	-----	0.34	J			
1,2,3,7,8,9-HxCDF	ND	-----	0.44		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	13.00	-----	0.37		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.58	0.47	I	2,3,7,8-TCDD-37Cl4	0.20	75
1,2,3,6,7,8-HxCDD	3.00	-----	0.55	J			
1,2,3,7,8,9-HxCDD	1.80	-----	0.55	J			
Total HxCDD	20.00	-----	0.52				
1,2,3,4,6,7,8-HpCDF	17.00	-----	0.36		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.85	-----	0.61	J	Equivalence: 2.6 ng/Kg		
Total HpCDF	18.00	-----	0.49		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	64.00	-----	0.60				
Total HpCDD	120.00	-----	0.60				
OCDF	55.00	-----	1.50				
OCDD	540.00	-----	1.20				

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Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW22S-061209-2-4		
Lab Sample ID	1097191017		
Filename	F90630A_07		
Injected By	AE		
Total Amount Extracted	12.5 g	Matrix	Soil
% Moisture	12.0	Dilution	NA
Dry Weight Extracted	11.0 g	Collected	06/12/2009
ICAL ID	F90501	Received	06/13/2009
CCal Filename(s)	F90629A_16 & F90630A_14	Extracted	06/19/2009
Method Blank ID	BLANK-20384	Analyzed	06/30/2009 05:43

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.30	-----	0.16	J	2,3,7,8-TCDF-13C	2.00	66
Total TCDF	0.30	-----	0.16	J	2,3,7,8-TCDD-13C	2.00	68
					1,2,3,7,8-PeCDF-13C	2.00	70
2,3,7,8-TCDD	ND	-----	0.15		2,3,4,7,8-PeCDF-13C	2.00	72
Total TCDD	ND	-----	0.15		1,2,3,7,8-PeCDD-13C	2.00	80
					1,2,3,4,7,8-HxCDF-13C	2.00	74
1,2,3,7,8-PeCDF	ND	-----	0.15		1,2,3,6,7,8-HxCDF-13C	2.00	62
2,3,4,7,8-PeCDF	ND	-----	0.14		2,3,4,6,7,8-HxCDF-13C	2.00	67
Total PeCDF	0.21	-----	0.15	J	1,2,3,7,8,9-HxCDF-13C	2.00	70
					1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	ND	-----	0.16		1,2,3,6,7,8-HxCDD-13C	2.00	67
Total PeCDD	ND	-----	0.16		1,2,3,4,6,7,8-HpCDF-13C	2.00	65
					1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	ND	-----	0.17		1,2,3,4,6,7,8-HpCDD-13C	2.00	63
1,2,3,6,7,8-HxCDF	ND	-----	0.22		OCDD-13C	4.00	48
2,3,4,6,7,8-HxCDF	ND	-----	0.15				
1,2,3,7,8,9-HxCDF	ND	-----	0.19		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.37	-----	0.18	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.19		2,3,7,8-TCDD-37Cl4	0.20	81
1,2,3,6,7,8-HxCDD	ND	-----	0.18				
1,2,3,7,8,9-HxCDD	ND	-----	0.25				
Total HxCDD	ND	-----	0.21				
1,2,3,4,6,7,8-HpCDF	0.37	-----	0.26	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.31		Equivalence: 0.30 ng/Kg		
Total HpCDF	1.00	-----	0.28	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	1.40	-----	0.36	J			
Total HpCDD	1.40	-----	0.36	J			
OCDF	1.10	-----	0.69	J			
OCDD	9.60	-----	0.65				

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EMPC = Estimated Maximum Possible Concentration
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NA = Not Applicable
NC = Not Calculated

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Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-20384	Matrix	Solid
Filename	F90624A_04	Dilution	NA
Total Amount Extracted	10.2 g	Extracted	06/19/2009
ICAL ID	F90501	Analyzed	06/24/2009 07:58
CCal Filename(s)	F90623B_15 & F90624A_16	Injected By	BAL

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.130		2,3,7,8-TCDF-13C	2.00	72
Total TCDF	ND	-----	0.130		2,3,7,8-TCDD-13C	2.00	70
					1,2,3,7,8-PeCDF-13C	2.00	76
2,3,7,8-TCDD	ND	-----	0.170		2,3,4,7,8-PeCDF-13C	2.00	81
Total TCDD	ND	-----	0.170		1,2,3,7,8-PeCDD-13C	2.00	87
					1,2,3,4,7,8-HxCDF-13C	2.00	74
1,2,3,7,8-PeCDF	ND	-----	0.093		1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	ND	-----	0.067		2,3,4,6,7,8-HxCDF-13C	2.00	69
Total PeCDF	ND	-----	0.080		1,2,3,7,8,9-HxCDF-13C	2.00	73
					1,2,3,4,7,8-HxCDD-13C	2.00	75
1,2,3,7,8-PeCDD	ND	-----	0.120		1,2,3,6,7,8-HxCDD-13C	2.00	69
Total PeCDD	ND	-----	0.120		1,2,3,4,6,7,8-HpCDF-13C	2.00	67
					1,2,3,4,7,8,9-HpCDF-13C	2.00	69
1,2,3,4,7,8-HxCDF	ND	-----	0.079		1,2,3,4,6,7,8-HpCDD-13C	2.00	69
1,2,3,6,7,8-HxCDF	ND	-----	0.082		OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	ND	-----	0.081				
1,2,3,7,8,9-HxCDF	ND	-----	0.097		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.085		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.140		2,3,7,8-TCDD-37Cl4	0.20	78
1,2,3,6,7,8-HxCDD	ND	-----	0.130				
1,2,3,7,8,9-HxCDD	ND	-----	0.130				
Total HxCDD	ND	-----	0.130				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.070		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.130		Equivalence: 0.20 ng/Kg		
Total HpCDF	ND	-----	0.100		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	0.13	-----	0.098	J			
Total HpCDD	0.13	-----	0.098	J			
OCDF	-----	0.16	0.110	I			
OCDD	0.89	-----	0.230	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-20385		
Filename	F90624A_01	Matrix	Solid
Total Amount Extracted	10.2 g	Dilution	NA
ICAL ID	F90501	Extracted	06/19/2009
CCal Filename(s)	F90623B_15 & F90624A_16	Analyzed	06/24/2009 05:34
Method Blank ID	BLANK-20384	Injected By	BAL

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.21	104	2,3,7,8-TCDF-13C	2.00	68
Total TCDF				2,3,7,8-TCDD-13C	2.00	62
				1,2,3,7,8-PeCDF-13C	2.00	73
2,3,7,8-TCDD	0.20	0.22	110	2,3,4,7,8-PeCDF-13C	2.00	77
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	77
				1,2,3,4,7,8-HxCDF-13C	2.00	71
1,2,3,7,8-PeCDF	1.00	1.04	104	1,2,3,6,7,8-HxCDF-13C	2.00	61
2,3,4,7,8-PeCDF	1.00	1.01	101	2,3,4,6,7,8-HxCDF-13C	2.00	67
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	71
				1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	1.00	0.89	89	1,2,3,6,7,8-HxCDD-13C	2.00	65
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	65
				1,2,3,4,7,8,9-HpCDF-13C	2.00	68
1,2,3,4,7,8-HxCDF	1.00	0.98	98	1,2,3,4,6,7,8-HpCDD-13C	2.00	64
1,2,3,6,7,8-HxCDF	1.00	1.04	104	OCDD-13C	4.00	59
2,3,4,6,7,8-HxCDF	1.00	1.02	102			
1,2,3,7,8,9-HxCDF	1.00	1.02	102	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.02	102	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	1.00	1.04	104			
1,2,3,7,8,9-HxCDD	1.00	1.05	105			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.00	1.06	106			
1,2,3,4,7,8,9-HpCDF	1.00	1.01	101			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.00	1.04	104			
Total HpCDD						
OCDF	2.00	2.29	115			
OCDD	2.00	2.20	110			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

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2930 Westlake Ave N Suite 100
Seattle, WA 98109
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Dragon Analytical Laboratory
Attn: Tim McCall / Robert Lewis
2818 Madrona Beach Rd. NW
Olympia, WA 98502

RE: Pioneer-6-10-08A
Fremont Project No: CHM090707-4
DAL Project No: 090610-8A

July 15th 2009

Attn:

Enclosed are the analytical results for the ***Pioneer-6-10-08A*** soil samples delivered (FedEx) to Fremont Analytical on Tuesday, July 7th 2009.

The samples were received in good condition – in the proper containers, properly sealed and labeled. The samples were contained in 3 – 4oz. soil jars. . The samples were received in a cooler with gel ice, with a cooler temperature of 6.9°C, which is within the laboratory recommended cooler temperature range (<4°C - 10°C). The samples were analyzed and then stored in a refrigeration unit at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample analysis issues to report.

Examination of these samples was conducted for the presence of the following:

- ***Extractable Petroleum Hydrocarbons in Soil by NWEPH***

This application was performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical!

Sincerely,



Michael Dee
Sr. Chemist / Principal
mikedee@fremontanalytical.com

2930 Westlake Ave. N., Suite 100
Seattle, WA 98109

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Extractable Petroleum Hydrocarbons in Soil by NWEPH

Project: Pioneer - 6-10-08A
Client: Dragon Analytical Laboratory
Client Project #: 090610-08A
Lab Project #: CHM090707-4

NWEPH (mg/kg)	MRL	Method Blank	LCS	DP39-061009-3-5	MW23S-061209-5-6
Date Extracted		7/10/09	7/10/09	7/10/09	7/10/09
Date Analyzed		7/10/09	7/10/09	7/10/09	7/10/09
Matrix				Soil	Soil
Aromatic Hyrdrocarbon (Ranges)					
C8-C10	2.0	nd	115%	nd	nd
C10-C12	2.0	nd	103%	nd	nd
C12-C16	2.0	nd	101%	nd	nd
C16-C21	2.0	nd	135%	**35**	**16**
C21-C34	2.0	nd	101%	**180**	**43**
Aliphatic Hydrocarbon (Ranges)					
C8-C10	2.0	nd	83%	nd	nd
C10-C12	2.0	nd	145%	nd	nd
C12-C16	2.0	nd	130%	**17**	**46**
C16-C21	2.0	nd	110%	**54**	**140**
C21-C34	2.0	nd	104%	**1100**	**85**
Surrogate Recovery					
o-terphenyl		87%	132%	C	C
1-chlorooctadecane		102%	72%	C	C

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
* Instrument Detection Limit
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogate = 65% to 140%
LCS, LCSD = 85% to 150%
Surrogate Concentration = 10 mg/kg
Spike Concentration = 100 mg/kg

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Seattle, WA 98109

T: 206.352.3790
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Analysis of Extractable Petroleum Hydrocarbons in Soil by NWEPH

Project: Pioneer - 6-10-08A
Client: Dragon Analytical Laboratory
Client Project #: 090610-08A
Lab Project #: CHM090707-4

NWEPH (mg/kg)	MRL	MW23S-061209-5-6	RPD %	Duplicate MW25S-061209-6.5-7.5
Date Extracted		7/10/09		7/10/09
Date Analyzed		7/10/09		7/10/09
Matrix		Soil		Soil
Aromatic Hyrdrocarbon (Ranges)				
C8-C10	2.0	nd		nd
C10-C12	2.0	nd		**8.0**
C12-C16	2.0	nd		**17**
C16-C21	2.0	**18**	14%	**42**
C21-C34	2.0	**43**	0%	**160**
Aliphatic Hydrocarbon (Ranges)				
C8-C10	2.0	nd		nd
C10-C12	2.0	nd		nd
C12-C16	2.0	**45**	2%	**37**
C16-C21	2.0	**140**	0%	**200**
C21-C34	2.0	**90**	6%	**740**
Surrogate Recovery				
o-terphenyl		C		C
1-chlorooctadecane		C		C

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
* Instrument Detection Limit
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogate = 65% to 140%
LCS, LCSD = 85% to 150%
Surrogate Concentration = 10 mg/kg
Spike Concentration = 100 mg/kg

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

Page ____ of ____

Samples Collected By: _____
Contact Number: _____

Client: DRAGON
Address: See Above
Phone: _____
Fax: See Above
Email: _____
Project Name: PIONEER - 6-10-08A
Project Location: _____
Project Number: CHM090707-4
Project P.O.: _____
Contact Person: R LEWIS
DAL Project No.: 090610-08A

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	EPH
DP39-061009-3.5	S	6-10-09	1350	4oz JAR																						X
MW23S-061209-5.6	S	6-12-09	1010	↓																						X
MW25S-061209-6.5-7.5	S	6-12-09	1320	↓																						X

Relinquished by (Signature) _____ Date/Time 7-6-09 1700 Received by (Signature) _____ Date/Time _____
Relinquished by (Signature) _____ Date/Time _____ Received by (Signature) _____ Date/Time _____

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other: _____

*__Heavy Metals__: Please circle the desired analytes.

Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Total
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

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PARCEL 4/5 PRE-IA SOIL SAMPLING

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DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Brown and Caldwell
Project: East Bay
Project Number: 138130

DAL Project No.: 090916-03

ANALYTICAL RESULTS FOR THE ANALYSIS OF PCB's IN SOIL BY EPA METHOD 8082

Sample Identification	Date Analyzed	Percent Solids (%)	Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Surrogate Recovery TCMX (%)	Surrogate Recovery DCBP (%)	Data Flags
Method Blank	9/21/2009	n/a	nd	nd	nd	nd	nd	nd	nd	104	75.5	
DP43-090916-020	9/21/2009	42.7	nd	nd	nd	nd	nd	nd	nd	105	70.5	
DP43-090916-060	9/21/2009	74.2	nd	nd	nd	nd	nd	nd	nd	108	68.5	
DP43-090916-090	9/21/2009	68.2	nd	nd	nd	nd	nd	nd	nd	109	84.9	
DP45-090916-010	9/21/2009	93.8	nd	nd	nd	nd	nd	nd	nd	110	73.4	
DP45-090916-060	9/21/2009	57.0	nd	nd	nd	nd	nd	nd	nd	108	69.3	
DP45-090916-060 Dup	9/21/2009	57.0	nd	nd	nd	nd	nd	nd	nd	134	120	
DP45-090916-090	9/21/2009	72.0	nd	nd	nd	nd	nd	nd	nd	105	70.4	
DP44-090916-020	9/21/2009	84.5	nd	nd	nd	nd	nd	nd	nd	112	82.3	
DP44-090916-060	9/21/2009	68.2	nd	nd	nd	nd	nd	nd	nd	113	83.3	
DP44-090916-090	9/21/2009	55.9	nd	nd	nd	nd	nd	nd	nd	108	68.7	
LCS	9/21/2009	n/a	102%	n/a	n/a	n/a	n/a	n/a	82.9%	103	68.4	
090921-MS	9/21/2009	n/a	99.1%	n/a	n/a	n/a	n/a	n/a	81.4%	108	80.1	
090921-MSD	9/21/2009	n/a	99.0%	n/a	n/a	n/a	n/a	n/a	103%	134	134	
Method Reporting Limits			0.05	0.05	0.05	0.05	0.05	0.05	0.05			

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
All results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R. Lewis

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Brown and Caldwell
724 Columbia St. NW Ste. 420
Olympia, WA 98502

Sampled By: JLJ

DAL Project No.: 090916-03

Project Name: East Bay
Project No.: 138130
P.O. No.: 138130
Date Collected: **9/16/2009**
Date Received: **9/16/2009**
Temperature Received (°C): **6**
Report Date: **9/24/2009**

Preparation Method: US EPA 3550
Analytical Method: US EPA 8270
Date Prepared: 9/22/2009
Date Analyzed: 9/22/2009
Analyst: TM
Data Reviewed: RL

Units: mg/Kg
Matrix: Soil
Reporting Limits: Standard
Injection Volume: 2.0 uL
Instrument ID: Agilent 0551
Lab Data File: 09092213.D

ANALYTICAL RESULTS

Sample Identification	CAS No.	MRL	Method Blank	DP43-090916-020	DP43-090916-060	DP43-090916-090	DP45-090916-010	DP45-090916-060	DP45-090916-060 Dup.	DP45-090916-090	DP44-090916-020	DP44-090916-060	DP44-090916-090
Percent Solids (%)			n/a	42.7	74.2	68.2	93.8	57.0	57.0	72.0	84.5	68.2	55.9
Acenaphthene	83-32-9	0.25	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthylene	208-96-8	0.25	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene	120-12-7	0.50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)anthracene	56-55-3	0.05	nd	nd	nd	**0.06**	nd	nd	nd	nd	nd	nd	**0.13**
Benzo(a)pyrene	50-32-8	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**0.11**
Benzo(b)fluoranthene	205-99-2	0.50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	191-24-2	0.50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)fluoranthene	207-08-9	0.50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	218-01-9	0.50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)anthracene	53-70-3	0.25	nd	nd	nd	**0.29**	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	206-44-0	1.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene	86-73-7	1.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ideno(1,2,3-cd)pyrene	193-39-5	0.10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1-Methylnaphtahlene	90-12-0	0.25	nd	nd	nd	**0.60**	nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene	91-57-6	0.25	nd	nd	nd	**0.75**	nd	nd	nd	nd	nd	nd	nd
Naphthalene	91-20-3	0.25	nd	nd	nd	**0.25**	nd	nd	nd	nd	nd	nd	nd
Phenanthrene	85-01-8	0.05	nd	nd	nd	**0.31**	nd	nd	nd	nd	nd	nd	**0.27**
Pyrene	129-00-0	0.05	nd	nd	nd	**0.32**	nd	nd	nd	nd	nd	nd	nd
Dilution Factor			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Data Flags													

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limi
"n/a" indicates not applicable

Comments and Explanations: (1) *n*-nitrosodiphenylamine decomposes to diphenylamine.

DRAGON ANALYTICAL LABORATORY

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Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
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Olympia, WA 98502

Sampled By: JLJ

DAL Project No.: 090916-03

Project Name: East Bay
Project No.: 138130
P.O. No.: 138130
Date Collected: **9/16/2009**
Date Received: **9/16/2009**
Temperature Received (°C): **6**
Report Date: **9/24/2009**

QUALITY CONTROL RESULTS

SURROGATE ROCOVERY

Surrogate Recovery (%)	Limits (%)	Method Blank	DP43-090916-020	DP43-090916-060	DP43-090916-090	DP45-090916-010	DP45-090916-060	DP45-090916-060 Dup	DP45-090916-090	DP44-090916-020	DP44-090916-060	DP44-090916-090
2-Fluorophenol	15-110	65.5	103	97.5	89.5	81.3	91.8	84.7	85.3	81.2	70.6	85.7
Phenol-d_6	15-110	80.1	92.6	109	99.8	89.0	100	102	104	98.2	85.3	95.4
Nitrobenzene-d_5	30-130	101	90.6	114	110	112	99.9	108	98.5	112	109	108
2-Fluorobiphenyl	30-130	111	91.7	105	113	102	109	103	113	100	112	113
2,4,6-Tribromophenol	15-110	48.2	75.4	68.7	67.4	57.1	66.4	62.2	67.2	61.4	53.8	64.9
Terphenyl-d_{14}	30-130	140	136	140	127	135	131	122	139	139	130	120

LABORATORY CONTROL SAMPLE AND MATRIX SPIKE

QC Batch ID: 081210-SVOC
MS/MSD Sample ID: 081210-SVOC MS/MSD
LCS Sample ID: 081210-SVOC LCS

Analyte	MS/MSD Limits (%)	MS/MSD Level (ug/L)	Sample Conc. (ug/L)	MS Recovery (ug/L)	MS Percent Recovery	MSD Recovery (ug/L)	MSD Percent Recovery	MS/MSD RPD Limits	RPD	LCS Limits (%)	LCS Level (ug/L)	LCS Recovery (ug/L)	LCS Percent Recovery
Acenaphthene	40-140	10.0	1.00	8.29	82.9%	8.25	82.5%	≤ 20%	0.22	40-140	10.0	8.92	89.2%
2-Chlorophenol	30-130	10.0	1.00	9.54	95.4%	9.75	97.5%	≤ 20%	1.07	30-130	10.0	10.7	107%
1,4-Dichlorobenzene	40-140	10.0	1.00	9.92	99.2%	10.0	100%	≤ 20%	0.41	40-140	10.0	10.9	109%
2,4-Dinitrotoluene	40-140	10.0	1.00	9.32	93.2%	9.51	95.1%	≤ 20%	0.96	40-140	10.0	10.9	109%
3-Methyl-4-chloropheno	30-130	10.0	1.00	10.4	104%	10.4	104%	≤ 20%	0.00	30-130	10.0	11.7	117%
4-Nitrophenol	30-130	10.0	1.00	9.50	95.0%	9.61	96.1%	≤ 20%	0.56	30-130	10.0	9.04	90.4%
n-Nitroso-*di*-*n*-propylamine	40-140	10.0	1.00	10.3	103%	10.2	102%	≤ 20%	0.55	40-140	10.0	11.2	112%
Pentachlorophenol	30-130	10.0	1.00	7.37	73.7%	7.73	77.3%	≤ 20%	1.92	30-130	10.0	8.41	84.1%
Phenol	30-130	10.0	1.00	11.2	112%	11.4	114%	≤ 20%	0.91	30-130	10.0	10.4	104%
Pyrene	40-140	10.0	1.00	10.9	109%	10.8	108%	≤ 20%	0.49	40-140	10.0	12.7	127%
1,2,4-Trichlorobenzene	40-140	10.0	1.00	9.58	95.8%	9.55	95.5%	≤ 20%	0.31	40-140	10.0	10.5	105%

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limi
"n/a" indicates not applicable

Comments and Explanations: (1)*n*-nitrosodiphenylamine decomposes to diphenylamine.

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Josh Johnson
Brown and Caldwell
724 Columbia Street NW
Suite 420
Olympia WA 98501

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

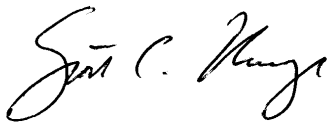
Pace Project #: 10112699
Sample Receipt Date: 09/17/2009
Client Project #: 138130 Parcel 4/5
Client Sub PO #: 138130
State Cert #: C218

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

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The results relate only to the samples included in this report.

Report Prepared Date:
October 5, 2009

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on nine samples submitted by a representative of Brown and Caldwell. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 37-124%. With the exception of one low value, which was flagged "P" on the results table, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained, or "E" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 92-128%, with relative percent differences of 0.0-7.3%. These results indicate high degrees of accuracy and precision for these determinations.

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Appendix A

Sample Management

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10112699

Page: of 1269591

Section A Required Client Information:

Company: BROWN AND CALDWELL
Address: 724 COLUMBIA ST NW, STE 400 OLYMPIA, WA 98501
Email To: JJOHNSON@BRWNCALD.COM
Phone: 360-943-7525 Fax: 360-943-7513
Requested Due Date/TAT: 15 DAY

Section B Required Project Information:

Report To: JOSH JOHNSON
Copy To:
Purchase Order No.: 138130
Project Name: PARCEL 4 / 5
Project Number: 138130

Section C Invoice Information:

Attention: JOSH JOHNSON
Company Name: BROWN & CALDWELL
Address: SAME
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER WA DOE

Site Location STATE: WA

Report No.: 1012699 8290

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8290 Dioxin/Furan	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	DP43-090916-020	SL	G			9/16/09	8:30	60	1	X								Y	X		10112699001
2	DP43-090916-060						8:30														002
3	DP43-090916-090						8:30														003
4	DP45-090916-010						9:15														004
5	DP45-090916-060						9:15														005
6	DP45-090916-090						9:15														006
7	DP44-090916-020						9:45														007
8	DP44-090916-060						9:45														008
9	DP44-090916-090						9:45														009
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Brown & Caldwell	9/16/09	1245	JHunter/Pace	9/17/09	1010	5-2	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown+Caldwell **Project #** 10112699

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8694 6070 3890

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☐ yes ☐ no

Optional: Proj. Due Date, Proj. Name

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

Thermometer Used 80344042 or (179425) **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5-2 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and initials of person examining contents: 9/17/09 SH

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: SL		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: (D) **Date:** 09/18/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Brown and Caldwell

Client's Sample ID	DP43-090916-020		
Lab Sample ID	10112699001		
Filename	F91002B_14		
Injected By	BAL		
Total Amount Extracted	13.5 g	Matrix	Solid
% Moisture	21.9	Dilution	NA
Dry Weight Extracted	10.5 g	Collected	09/16/2009 08:30
ICAL ID	F90817	Received	09/17/2009 10:10
CCal Filename(s)	F91002B_02 & F91002B_18	Extracted	09/30/2009 17:00
Method Blank ID	BLANK-21556	Analyzed	10/03/2009 05:29

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.41	-----	0.19	J	2,3,7,8-TCDF-13C	2.00	94
Total TCDF	5.20	-----	0.19		2,3,7,8-TCDD-13C	2.00	92
					1,2,3,7,8-PeCDF-13C	2.00	100
2,3,7,8-TCDD	ND	-----	0.20		2,3,4,7,8-PeCDF-13C	2.00	101
Total TCDD	2.90	-----	0.20		1,2,3,7,8-PeCDD-13C	2.00	112
					1,2,3,4,7,8-HxCDF-13C	2.00	84
1,2,3,7,8-PeCDF	ND	-----	0.11		1,2,3,6,7,8-HxCDF-13C	2.00	72
2,3,4,7,8-PeCDF	-----	0.23	0.21	I	2,3,4,6,7,8-HxCDF-13C	2.00	78
Total PeCDF	2.20	-----	0.16	J	1,2,3,7,8,9-HxCDF-13C	2.00	86
					1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	0.22	-----	0.18	J	1,2,3,6,7,8-HxCDD-13C	2.00	79
Total PeCDD	3.80	-----	0.18	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	65
					1,2,3,4,7,8,9-HpCDF-13C	2.00	70
1,2,3,4,7,8-HxCDF	-----	0.17	0.14	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	69
1,2,3,6,7,8-HxCDF	ND	-----	0.12		OCDD-13C	4.00	66
2,3,4,6,7,8-HxCDF	ND	-----	0.12				
1,2,3,7,8,9-HxCDF	ND	-----	0.13		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.65	-----	0.13	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.21		2,3,7,8-TCDD-37Cl4	0.20	100
1,2,3,6,7,8-HxCDD	0.26	-----	0.18	J			
1,2,3,7,8,9-HxCDD	0.23	-----	0.20	J			
Total HxCDD	6.20	-----	0.20				
1,2,3,4,6,7,8-HpCDF	0.36	-----	0.16	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.25		Equivalence: 0.52 ng/Kg		
Total HpCDF	0.36	-----	0.21	BJ	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	2.80	-----	0.25	BJ			
Total HpCDD	6.40	-----	0.25	B			
OCDF	0.95	-----	0.24	J			
OCDD	31.00	-----	0.33				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
B = Less than 10x higher than method blank level
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Brown and Caldwell

Client's Sample ID	DP43-090916-060		
Lab Sample ID	10112699002		
Filename	F91002B_13		
Injected By	BAL		
Total Amount Extracted	14.0 g	Matrix	Solid
% Moisture	26.7	Dilution	NA
Dry Weight Extracted	10.2 g	Collected	09/16/2009 08:30
ICAL ID	F90817	Received	09/17/2009 10:10
CCal Filename(s)	F91002B_02 & F91002B_18	Extracted	09/30/2009 17:00
Method Blank ID	BLANK-21556	Analyzed	10/03/2009 04:43

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.21		2,3,7,8-TCDF-13C	2.00	88
Total TCDF	ND	-----	0.21		2,3,7,8-TCDD-13C	2.00	87
					1,2,3,7,8-PeCDF-13C	2.00	96
2,3,7,8-TCDD	ND	-----	0.23		2,3,4,7,8-PeCDF-13C	2.00	97
Total TCDD	0.65	-----	0.23	J	1,2,3,7,8-PeCDD-13C	2.00	107
					1,2,3,4,7,8-HxCDF-13C	2.00	84
1,2,3,7,8-PeCDF	ND	-----	0.18		1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	ND	-----	0.20		2,3,4,6,7,8-HxCDF-13C	2.00	77
Total PeCDF	0.20	-----	0.19	J	1,2,3,7,8,9-HxCDF-13C	2.00	82
					1,2,3,4,7,8-HxCDD-13C	2.00	93
1,2,3,7,8-PeCDD	ND	-----	0.22		1,2,3,6,7,8-HxCDD-13C	2.00	74
Total PeCDD	ND	-----	0.22		1,2,3,4,6,7,8-HpCDF-13C	2.00	61
					1,2,3,4,7,8,9-HpCDF-13C	2.00	66
1,2,3,4,7,8-HxCDF	ND	-----	0.16		1,2,3,4,6,7,8-HpCDD-13C	2.00	62
1,2,3,6,7,8-HxCDF	ND	-----	0.17		OCDD-13C	4.00	61
2,3,4,6,7,8-HxCDF	ND	-----	0.13				
1,2,3,7,8,9-HxCDF	ND	-----	0.18		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.42	-----	0.16	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.21		2,3,7,8-TCDD-37Cl4	0.20	100
1,2,3,6,7,8-HxCDD	ND	-----	0.24				
1,2,3,7,8,9-HxCDD	ND	-----	0.21				
Total HxCDD	1.20	-----	0.22	J			
1,2,3,4,6,7,8-HpCDF	-----	0.18	0.18	I	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.23		Equivalence: 0.36 ng/Kg		
Total HpCDF	0.55	-----	0.20	BJ	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	1.70	-----	0.25	BJ			
Total HpCDD	3.80	-----	0.25	BJ			
OCDF	-----	0.84	0.31	I			
OCDD	24.00	-----	0.31	B			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
B = Less than 10x higher than method blank level
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Brown and Caldwell

Client's Sample ID	DP43-090916-090		
Lab Sample ID	10112699003		
Filename	F91002B_12		
Injected By	BAL		
Total Amount Extracted	13.0 g	Matrix	Solid
% Moisture	17.7	Dilution	NA
Dry Weight Extracted	10.7 g	Collected	09/16/2009 08:30
ICAL ID	F90817	Received	09/17/2009 10:10
CCal Filename(s)	F91002B_02 & F91002B_18	Extracted	09/30/2009 17:00
Method Blank ID	BLANK-21556	Analyzed	10/03/2009 03:58

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.29	0.26	I	2,3,7,8-TCDF-13C	2.00	100
Total TCDF	6.80	-----	0.26		2,3,7,8-TCDD-13C	2.00	93
					1,2,3,7,8-PeCDF-13C	2.00	114
2,3,7,8-TCDD	ND	-----	0.35		2,3,4,7,8-PeCDF-13C	2.00	116
Total TCDD	2.90	-----	0.35		1,2,3,7,8-PeCDD-13C	2.00	124
					1,2,3,4,7,8-HxCDF-13C	2.00	99
1,2,3,7,8-PeCDF	1.40	-----	0.23	J	1,2,3,6,7,8-HxCDF-13C	2.00	72
2,3,4,7,8-PeCDF	1.10	-----	0.19	J	2,3,4,6,7,8-HxCDF-13C	2.00	74
Total PeCDF	16.00	-----	0.21		1,2,3,7,8,9-HxCDF-13C	2.00	83
					1,2,3,4,7,8-HxCDD-13C	2.00	100
1,2,3,7,8-PeCDD	0.46	-----	0.22	J	1,2,3,6,7,8-HxCDD-13C	2.00	74
Total PeCDD	5.10	-----	0.22		1,2,3,4,6,7,8-HpCDF-13C	2.00	53
					1,2,3,4,7,8,9-HpCDF-13C	2.00	54
1,2,3,4,7,8-HxCDF	0.80	-----	0.14	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	50
1,2,3,6,7,8-HxCDF	0.58	-----	0.16	J	OCDD-13C	4.00	37 P
2,3,4,6,7,8-HxCDF	0.54	-----	0.32	J			
1,2,3,7,8,9-HxCDF	-----	0.23	0.17	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	21.00	-----	0.20		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.54	-----	0.16	J	2,3,7,8-TCDD-37Cl4	0.20	108
1,2,3,6,7,8-HxCDD	1.70	-----	0.17	J			
1,2,3,7,8,9-HxCDD	0.74	-----	0.23	J			
Total HxCDD	14.00	-----	0.19				
1,2,3,4,6,7,8-HpCDF	11.00	-----	0.54		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.82	-----	0.67	J	Equivalence: 2.2 ng/Kg		
Total HpCDF	39.00	-----	0.60		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	41.00	-----	0.45				
Total HpCDD	85.00	-----	0.45				
OCDF	34.00	-----	0.67				
OCDD	400.00	-----	0.52				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
P = Recovery outside target range
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Brown and Caldwell

Client's Sample ID	DP45-090916-010		
Lab Sample ID	10112699004		
Filename	F91003A_07		
Injected By	BAL		
Total Amount Extracted	11.9 g	Matrix	Solid
% Moisture	8.6	Dilution	NA
Dry Weight Extracted	10.9 g	Collected	09/16/2009 09:15
ICAL ID	F90817	Received	09/17/2009 10:10
CCal Filename(s)	F91002B_18 & F91003A_16	Extracted	09/30/2009 17:00
Method Blank ID	BLANK-21556	Analyzed	10/03/2009 13:50

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.90	-----	0.310		2,3,7,8-TCDF-13C	2.00	93
Total TCDF	27.00	-----	0.310		2,3,7,8-TCDD-13C	2.00	91
					1,2,3,7,8-PeCDF-13C	2.00	98
2,3,7,8-TCDD	0.52	-----	0.250	J	2,3,4,7,8-PeCDF-13C	2.00	98
Total TCDD	63.00	-----	0.250		1,2,3,7,8-PeCDD-13C	2.00	108
					1,2,3,4,7,8-HxCDF-13C	2.00	85
1,2,3,7,8-PeCDF	1.50	-----	0.150	J	1,2,3,6,7,8-HxCDF-13C	2.00	75
2,3,4,7,8-PeCDF	2.30	-----	0.140	J	2,3,4,6,7,8-HxCDF-13C	2.00	79
Total PeCDF	21.00	-----	0.140		1,2,3,7,8,9-HxCDF-13C	2.00	87
					1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	2.10	-----	0.260	J	1,2,3,6,7,8-HxCDD-13C	2.00	78
Total PeCDD	63.00	-----	0.260		1,2,3,4,6,7,8-HpCDF-13C	2.00	69
					1,2,3,4,7,8,9-HpCDF-13C	2.00	77
1,2,3,4,7,8-HxCDF	-----	2.7	0.120	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	1.60	-----	0.110	J	OCDD-13C	4.00	80
2,3,4,6,7,8-HxCDF	1.30	-----	0.130	J			
1,2,3,7,8,9-HxCDF	0.65	-----	0.120	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	16.00	-----	0.120		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.80	-----	0.110	J	2,3,7,8-TCDD-37Cl4	0.20	99
1,2,3,6,7,8-HxCDD	4.90	-----	0.150				
1,2,3,7,8,9-HxCDD	3.20	-----	0.260	J			
Total HxCDD	72.00	-----	0.170				
1,2,3,4,6,7,8-HpCDF	17.00	-----	0.190		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.70	-----	0.150	J	Equivalence: 6.1 ng/Kg		
Total HpCDF	43.00	-----	0.170		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	75.00	-----	0.230				
Total HpCDD	130.00	-----	0.230				
OCDF	61.00	-----	0.080				
OCDD	750.00	-----	0.100				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Brown and Caldwell

Client's Sample ID	DP45-090916-060		
Lab Sample ID	10112699005		
Filename	F91003A_08		
Injected By	BAL		
Total Amount Extracted	12.2 g	Matrix	Solid
% Moisture	16.3	Dilution	NA
Dry Weight Extracted	10.3 g	Collected	09/16/2009 09:15
ICAL ID	F90817	Received	09/17/2009 10:10
CCal Filename(s)	F91002B_18 & F91003A_16	Extracted	09/30/2009 17:00
Method Blank ID	BLANK-21556	Analyzed	10/03/2009 14:35

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.26	-----	0.065	J	2,3,7,8-TCDF-13C	2.00	93
Total TCDF	0.60	-----	0.065	BJ	2,3,7,8-TCDD-13C	2.00	90
					1,2,3,7,8-PeCDF-13C	2.00	98
2,3,7,8-TCDD	ND	-----	0.140		2,3,4,7,8-PeCDF-13C	2.00	98
Total TCDD	0.86	-----	0.140	J	1,2,3,7,8-PeCDD-13C	2.00	107
					1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	ND	-----	0.093		1,2,3,6,7,8-HxCDF-13C	2.00	76
2,3,4,7,8-PeCDF	ND	-----	0.140		2,3,4,6,7,8-HxCDF-13C	2.00	79
Total PeCDF	ND	-----	0.120		1,2,3,7,8,9-HxCDF-13C	2.00	88
					1,2,3,4,7,8-HxCDD-13C	2.00	93
1,2,3,7,8-PeCDD	ND	-----	0.130		1,2,3,6,7,8-HxCDD-13C	2.00	79
Total PeCDD	0.27	-----	0.130	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	69
					1,2,3,4,7,8,9-HpCDF-13C	2.00	78
1,2,3,4,7,8-HxCDF	-----	1.4	0.075	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	ND	-----	0.090		OCDD-13C	4.00	77
2,3,4,6,7,8-HxCDF	ND	-----	0.130				
1,2,3,7,8,9-HxCDF	ND	-----	0.091		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.15	-----	0.097	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.200		2,3,7,8-TCDD-37Cl4	0.20	102
1,2,3,6,7,8-HxCDD	0.52	-----	0.200	J			
1,2,3,7,8,9-HxCDD	0.18	-----	0.120	J			
Total HxCDD	3.70	-----	0.180	J			
1,2,3,4,6,7,8-HpCDF	1.50	-----	0.110	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.130		Equivalence: 0.71 ng/Kg		
Total HpCDF	6.90	-----	0.120		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	31.00	-----	0.180				
Total HpCDD	49.00	-----	0.180				
OCDF	9.60	-----	0.120	J			
OCDD	350.00	-----	0.160				

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Brown and Caldwell

Client's Sample ID	DP45-090916-090		
Lab Sample ID	10112699006		
Filename	F91003A_09		
Injected By	BAL		
Total Amount Extracted	12.8 g	Matrix	Solid
% Moisture	16.9	Dilution	NA
Dry Weight Extracted	10.6 g	Collected	09/16/2009 09:15
ICAL ID	F90817	Received	09/17/2009 10:10
CCal Filename(s)	F91002B_18 & F91003A_16	Extracted	09/30/2009 17:00
Method Blank ID	BLANK-21556	Analyzed	10/03/2009 15:21

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.38	-----	0.130	J	2,3,7,8-TCDF-13C	2.00	93
Total TCDF	3.20	-----	0.130		2,3,7,8-TCDD-13C	2.00	91
					1,2,3,7,8-PeCDF-13C	2.00	98
2,3,7,8-TCDD	ND	-----	0.130		2,3,4,7,8-PeCDF-13C	2.00	99
Total TCDD	6.00	-----	0.130		1,2,3,7,8-PeCDD-13C	2.00	108
					1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	0.45	-----	0.230	J	1,2,3,6,7,8-HxCDF-13C	2.00	75
2,3,4,7,8-PeCDF	0.85	-----	0.190	J	2,3,4,6,7,8-HxCDF-13C	2.00	79
Total PeCDF	8.90	-----	0.210		1,2,3,7,8,9-HxCDF-13C	2.00	87
					1,2,3,4,7,8-HxCDD-13C	2.00	95
1,2,3,7,8-PeCDD	0.39	-----	0.200	J	1,2,3,6,7,8-HxCDD-13C	2.00	78
Total PeCDD	12.00	-----	0.200		1,2,3,4,6,7,8-HpCDF-13C	2.00	69
					1,2,3,4,7,8,9-HpCDF-13C	2.00	79
1,2,3,4,7,8-HxCDF	-----	4.7	0.350	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	78
1,2,3,6,7,8-HxCDF	0.75	-----	0.078	J	OCDD-13C	4.00	81
2,3,4,6,7,8-HxCDF	1.00	-----	0.062	J			
1,2,3,7,8,9-HxCDF	0.38	-----	0.110	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	11.00	-----	0.150		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.58	-----	0.140	J	2,3,7,8-TCDD-37Cl4	0.20	103
1,2,3,6,7,8-HxCDD	4.10	-----	0.180	J			
1,2,3,7,8,9-HxCDD	1.30	-----	0.190	J			
Total HxCDD	38.00	-----	0.170				
1,2,3,4,6,7,8-HpCDF	26.00	-----	0.250		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.80	-----	0.340	J	Equivalence: 4.0 ng/Kg		
Total HpCDF	100.00	-----	0.300		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	170.00	-----	0.590				
Total HpCDD	280.00	-----	0.590				
OCDF	140.00	-----	0.120				
OCDD	1600.00	-----	0.130				

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Brown and Caldwell

Client's Sample ID	DP44-090916-020		
Lab Sample ID	10112699007		
Filename	F91003A_10		
Injected By	BAL		
Total Amount Extracted	13.0 g	Matrix	Solid
% Moisture	14.6	Dilution	NA
Dry Weight Extracted	11.1 g	Collected	09/16/2009 09:45
ICAL ID	F90817	Received	09/17/2009 10:10
CCal Filename(s)	F91002B_18 & F91003A_16	Extracted	09/30/2009 17:00
Method Blank ID	BLANK-21556	Analyzed	10/03/2009 16:06

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.470	-----	0.058	J	2,3,7,8-TCDF-13C	2.00	95
Total TCDF	5.200	-----	0.058		2,3,7,8-TCDD-13C	2.00	91
					1,2,3,7,8-PeCDF-13C	2.00	101
2,3,7,8-TCDD	0.220	-----	0.090	J	2,3,4,7,8-PeCDF-13C	2.00	103
Total TCDD	5.900	-----	0.090		1,2,3,7,8-PeCDD-13C	2.00	112
					1,2,3,4,7,8-HxCDF-13C	2.00	88
1,2,3,7,8-PeCDF	-----	0.30	0.079	I	1,2,3,6,7,8-HxCDF-13C	2.00	76
2,3,4,7,8-PeCDF	0.340	-----	0.069	J	2,3,4,6,7,8-HxCDF-13C	2.00	80
Total PeCDF	3.600	-----	0.074	J	1,2,3,7,8,9-HxCDF-13C	2.00	88
					1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	0.540	-----	0.200	J	1,2,3,6,7,8-HxCDD-13C	2.00	81
Total PeCDD	9.300	-----	0.200		1,2,3,4,6,7,8-HpCDF-13C	2.00	69
					1,2,3,4,7,8,9-HpCDF-13C	2.00	79
1,2,3,4,7,8-HxCDF	0.240	-----	0.069	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	0.290	-----	0.096	J	OCDD-13C	4.00	78
2,3,4,6,7,8-HxCDF	0.300	-----	0.059	J			
1,2,3,7,8,9-HxCDF	0.078	-----	0.073	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	2.100	-----	0.074	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.410	-----	0.100	J	2,3,7,8-TCDD-37Cl4	0.20	102
1,2,3,6,7,8-HxCDD	0.700	-----	0.099	J			
1,2,3,7,8,9-HxCDD	0.690	-----	0.110	J			
Total HxCDD	11.000	-----	0.100				
1,2,3,4,6,7,8-HpCDF	1.100	-----	0.120	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.140		Equivalence: 1.3 ng/Kg		
Total HpCDF	2.700	-----	0.130	BJ	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	7.600	-----	0.080				
Total HpCDD	15.000	-----	0.080				
OCDF	2.800	-----	0.100	J			
OCDD	80.000	-----	0.140				

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NC = Not Calculated

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Brown and Caldwell

Client's Sample ID	DP44-090916-060		
Lab Sample ID	10112699008		
Filename	F91003A_11		
Injected By	BAL		
Total Amount Extracted	12.8 g	Matrix	Solid
% Moisture	21.4	Dilution	NA
Dry Weight Extracted	10.0 g	Collected	09/16/2009 09:45
ICAL ID	F90817	Received	09/17/2009 10:10
CCal Filename(s)	F91002B_18 & F91003A_16	Extracted	09/30/2009 17:00
Method Blank ID	BLANK-21556	Analyzed	10/03/2009 16:52

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.18	-----	0.050	J	2,3,7,8-TCDF-13C	2.00	89
Total TCDF	0.52	-----	0.050	BJ	2,3,7,8-TCDD-13C	2.00	87
					1,2,3,7,8-PeCDF-13C	2.00	95
2,3,7,8-TCDD	ND	-----	0.190		2,3,4,7,8-PeCDF-13C	2.00	96
Total TCDD	1.20	-----	0.190		1,2,3,7,8-PeCDD-13C	2.00	105
					1,2,3,4,7,8-HxCDF-13C	2.00	82
1,2,3,7,8-PeCDF	ND	-----	0.085		1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	ND	-----	0.090		2,3,4,6,7,8-HxCDF-13C	2.00	76
Total PeCDF	ND	-----	0.088		1,2,3,7,8,9-HxCDF-13C	2.00	85
					1,2,3,4,7,8-HxCDD-13C	2.00	91
1,2,3,7,8-PeCDD	ND	-----	0.140		1,2,3,6,7,8-HxCDD-13C	2.00	75
Total PeCDD	ND	-----	0.140		1,2,3,4,6,7,8-HpCDF-13C	2.00	67
					1,2,3,4,7,8,9-HpCDF-13C	2.00	77
1,2,3,4,7,8-HxCDF	ND	-----	0.065		1,2,3,4,6,7,8-HpCDD-13C	2.00	74
1,2,3,6,7,8-HxCDF	ND	-----	0.062		OCDD-13C	4.00	76
2,3,4,6,7,8-HxCDF	ND	-----	0.064				
1,2,3,7,8,9-HxCDF	ND	-----	0.058		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.13	-----	0.062	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.086		2,3,7,8-TCDD-37Cl4	0.20	98
1,2,3,6,7,8-HxCDD	-----	0.092	0.077	I			
1,2,3,7,8,9-HxCDD	-----	0.170	0.080	I			
Total HxCDD	1.30	-----	0.081	J			
1,2,3,4,6,7,8-HpCDF	0.40	-----	0.097	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.078		Equivalence: 0.26 ng/Kg		
Total HpCDF	1.20	-----	0.088	BJ	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	2.30	-----	0.095	BJ			
Total HpCDD	5.10	-----	0.095	B			
OCDF	0.92	-----	0.069	J			
OCDD	29.00	-----	0.180	B			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
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ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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J = Value below calibration range
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Minneapolis, MN 55414

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Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Brown and Caldwell

Client's Sample ID	DP44-090916-090		
Lab Sample ID	10112699009		
Filename	F91003A_12		
Injected By	BAL		
Total Amount Extracted	18.8 g	Matrix	Solid
% Moisture	46.2	Dilution	NA
Dry Weight Extracted	10.1 g	Collected	09/16/2009 09:45
ICAL ID	F90817	Received	09/17/2009 10:10
CCal Filename(s)	F91002B_18 & F91003A_16	Extracted	09/30/2009 17:00
Method Blank ID	BLANK-21556	Analyzed	10/03/2009 17:37

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.49	-----	0.081	J	2,3,7,8-TCDF-13C	2.00	94
Total TCDF	4.90	-----	0.081		2,3,7,8-TCDD-13C	2.00	89
					1,2,3,7,8-PeCDF-13C	2.00	103
2,3,7,8-TCDD	ND	-----	0.061		2,3,4,7,8-PeCDF-13C	2.00	103
Total TCDD	0.86	-----	0.061	J	1,2,3,7,8-PeCDD-13C	2.00	112
					1,2,3,4,7,8-HxCDF-13C	2.00	91
1,2,3,7,8-PeCDF	0.16	-----	0.073	J	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	0.18	-----	0.074	J	2,3,4,6,7,8-HxCDF-13C	2.00	80
Total PeCDF	1.40	-----	0.074	J	1,2,3,7,8,9-HxCDF-13C	2.00	86
					1,2,3,4,7,8-HxCDD-13C	2.00	104
1,2,3,7,8-PeCDD	ND	-----	0.130		1,2,3,6,7,8-HxCDD-13C	2.00	73
Total PeCDD	1.40	-----	0.130	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	64
					1,2,3,4,7,8,9-HpCDF-13C	2.00	72
1,2,3,4,7,8-HxCDF	0.21	-----	0.088	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	68
1,2,3,6,7,8-HxCDF	0.11	-----	0.077	J	OCDD-13C	4.00	68
2,3,4,6,7,8-HxCDF	ND	-----	0.087				
1,2,3,7,8,9-HxCDF	ND	-----	0.058		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.60	-----	0.077	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.190		2,3,7,8-TCDD-37Cl4	0.20	102
1,2,3,6,7,8-HxCDD	ND	-----	0.200				
1,2,3,7,8,9-HxCDD	ND	-----	0.180				
Total HxCDD	ND	-----	0.190				
1,2,3,4,6,7,8-HpCDF	0.61	-----	0.099	BJ	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.150		Equivalence: 0.28 ng/Kg		
Total HpCDF	1.30	-----	0.120	BJ	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	0.63	-----	0.100	BJ			
Total HpCDD	0.63	-----	0.100	BJ			
OCDF	1.00	-----	0.150	J			
OCDD	4.10	-----	0.150	BJ			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
B = Less than 10x higher than method blank level

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Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-21556	Matrix	Solid
Filename	F91003A_04	Dilution	NA
Total Amount Extracted	10.0 g	Extracted	09/30/2009 17:00
ICAL ID	F90817	Analyzed	10/03/2009 11:33
CCal Filename(s)	F91002B_18 & F91003A_16	Injected By	BAL

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.077	0.044	I	2,3,7,8-TCDF-13C	2.00	85
Total TCDF	0.17	-----	0.044	J	2,3,7,8-TCDD-13C	2.00	84
					1,2,3,7,8-PeCDF-13C	2.00	96
2,3,7,8-TCDD	ND	-----	0.063		2,3,4,7,8-PeCDF-13C	2.00	95
Total TCDD	ND	-----	0.063		1,2,3,7,8-PeCDD-13C	2.00	105
					1,2,3,4,7,8-HxCDF-13C	2.00	82
1,2,3,7,8-PeCDF	ND	-----	0.078		1,2,3,6,7,8-HxCDF-13C	2.00	73
2,3,4,7,8-PeCDF	ND	-----	0.073		2,3,4,6,7,8-HxCDF-13C	2.00	76
Total PeCDF	ND	-----	0.076		1,2,3,7,8,9-HxCDF-13C	2.00	83
					1,2,3,4,7,8-HxCDD-13C	2.00	90
1,2,3,7,8-PeCDD	ND	-----	0.110		1,2,3,6,7,8-HxCDD-13C	2.00	76
Total PeCDD	ND	-----	0.110		1,2,3,4,6,7,8-HpCDF-13C	2.00	66
					1,2,3,4,7,8,9-HpCDF-13C	2.00	74
1,2,3,4,7,8-HxCDF	ND	-----	0.064		1,2,3,4,6,7,8-HpCDD-13C	2.00	74
1,2,3,6,7,8-HxCDF	ND	-----	0.058		OCDD-13C	4.00	74
2,3,4,6,7,8-HxCDF	ND	-----	0.058				
1,2,3,7,8,9-HxCDF	ND	-----	0.051		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.058		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.055		2,3,7,8-TCDD-37Cl4	0.20	92
1,2,3,6,7,8-HxCDD	ND	-----	0.053				
1,2,3,7,8,9-HxCDD	ND	-----	0.056				
Total HxCDD	ND	-----	0.055				
1,2,3,4,6,7,8-HpCDF	0.15	-----	0.072	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.078		Equivalence: 0.13 ng/Kg		
Total HpCDF	0.44	-----	0.075	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	0.34	-----	0.092	J			
Total HpCDD	0.64	-----	0.092	J			
OCDF	-----	0.460	0.084	I			
OCDD	2.90	-----	0.110	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Value below calibration range
I = Interference present

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-21557		
Filename	F91003A_01	Matrix	Solid
Total Amount Extracted	10.2 g	Dilution	NA
ICAL ID	F90817	Extracted	09/30/2009 17:00
CCal Filename(s)	F91002B_18 & F91003A_16	Analyzed	10/03/2009 09:17
Method Blank ID	BLANK-21556	Injected By	BAL

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.20	102	2,3,7,8-TCDF-13C	2.00	87
Total TCDF				2,3,7,8-TCDD-13C	2.00	87
				1,2,3,7,8-PeCDF-13C	2.00	93
2,3,7,8-TCDD	0.20	0.22	111	2,3,4,7,8-PeCDF-13C	2.00	94
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	102
				1,2,3,4,7,8-HxCDF-13C	2.00	80
1,2,3,7,8-PeCDF	1.00	1.01	101	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	1.00	0.96	96	2,3,4,6,7,8-HxCDF-13C	2.00	76
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	84
				1,2,3,4,7,8-HxCDD-13C	2.00	89
1,2,3,7,8-PeCDD	1.00	0.96	96	1,2,3,6,7,8-HxCDD-13C	2.00	76
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	66
				1,2,3,4,7,8,9-HpCDF-13C	2.00	73
1,2,3,4,7,8-HxCDF	1.00	0.97	97	1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	1.00	1.00	100	OCDD-13C	4.00	75
2,3,4,6,7,8-HxCDF	1.00	1.00	100			
1,2,3,7,8,9-HxCDF	1.00	0.99	99	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.98	98	2,3,7,8-TCDD-37Cl4	0.20	97
1,2,3,6,7,8-HxCDD	1.00	0.97	97			
1,2,3,7,8,9-HxCDD	1.00	1.00	100			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.00	1.14	114			
1,2,3,4,7,8,9-HpCDF	1.00	1.10	110			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.00	1.00	100			
Total HpCDD						
OCDF	2.00	2.28	114			
OCDD	2.00	2.33	116			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Spiked Sample Report

Client - Brown and Caldwell

Client's Sample ID	DP43-090916-020-MS		
Lab Sample ID	10112699001-MS		
Filename	F91002B_15	Matrix	Solid
Total Amount Extracted	13.1 g	Dilution	NA
ICAL ID	F90817	Extracted	09/30/2009 17:00
CCal Filename(s)	F91002B_02 & F91002B_18	Analyzed	10/03/2009 06:14
Method Blank ID	BLANK-21556	Injected By	BAL

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.20	102	2,3,7,8-TCDF-13C	2.00	91
				2,3,7,8-TCDD-13C	2.00	89
				1,2,3,7,8-PeCDF-13C	2.00	97
2,3,7,8-TCDD	0.20	0.23	113	2,3,4,7,8-PeCDF-13C	2.00	98
				1,2,3,7,8-PeCDD-13C	2.00	109
				1,2,3,4,7,8-HxCDF-13C	2.00	83
1,2,3,7,8-PeCDF	1.00	1.01	101	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	1.00	0.95	95	2,3,4,6,7,8-HxCDF-13C	2.00	77
				1,2,3,7,8,9-HxCDF-13C	2.00	85
				1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	1.00	0.93	93	1,2,3,6,7,8-HxCDD-13C	2.00	76
				1,2,3,4,6,7,8-HpCDF-13C	2.00	67
				1,2,3,4,7,8,9-HpCDF-13C	2.00	75
1,2,3,4,7,8-HxCDF	1.00	0.97	97	1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	1.00	1.04	104	OCDD-13C	4.00	71
2,3,4,6,7,8-HxCDF	1.00	0.99	99			
1,2,3,7,8,9-HxCDF	1.00	0.98	98	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.97	97	2,3,7,8-TCDD-37Cl4	0.20	101
1,2,3,6,7,8-HxCDD	1.00	0.98	98			
1,2,3,7,8,9-HxCDD	1.00	0.99	99			
1,2,3,4,6,7,8-HpCDF	1.00	1.14	114			
1,2,3,4,7,8,9-HpCDF	1.00	1.07	107			
1,2,3,4,6,7,8-HpCDD	1.00	1.04	104			
OCDF	2.00	2.33	116			
OCDD	2.00	2.87	143			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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Method 8290 Spiked Sample Report

Client - Brown and Caldwell

Client's Sample ID	DP43-090916-020-MSD		
Lab Sample ID	10112699001-MSD		
Filename	F91002B_16	Matrix	Solid
Total Amount Extracted	13.0 g	Dilution	NA
ICAL ID	F90817	Extracted	09/30/2009 17:00
CCal Filename(s)	F91002B_02 & F91002B_18	Analyzed	10/03/2009 06:59
Method Blank ID	BLANK-21556	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.21	105	2,3,7,8-TCDF-13C	2.00	92
				2,3,7,8-TCDD-13C	2.00	92
				1,2,3,7,8-PeCDF-13C	2.00	99
2,3,7,8-TCDD	0.20	0.22	109	2,3,4,7,8-PeCDF-13C	2.00	99
				1,2,3,7,8-PeCDD-13C	2.00	110
				1,2,3,4,7,8-HxCDF-13C	2.00	88
1,2,3,7,8-PeCDF	1.00	1.01	101	1,2,3,6,7,8-HxCDF-13C	2.00	74
2,3,4,7,8-PeCDF	1.00	0.95	95	2,3,4,6,7,8-HxCDF-13C	2.00	81
				1,2,3,7,8,9-HxCDF-13C	2.00	89
				1,2,3,4,7,8-HxCDD-13C	2.00	96
1,2,3,7,8-PeCDD	1.00	0.93	93	1,2,3,6,7,8-HxCDD-13C	2.00	82
				1,2,3,4,6,7,8-HpCDF-13C	2.00	72
				1,2,3,4,7,8,9-HpCDF-13C	2.00	78
1,2,3,4,7,8-HxCDF	1.00	0.95	95	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	1.00	1.03	103	OCDD-13C	4.00	76
2,3,4,6,7,8-HxCDF	1.00	1.00	100			
1,2,3,7,8,9-HxCDF	1.00	0.98	98	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.93	93	2,3,7,8-TCDD-37Cl4	0.20	100
1,2,3,6,7,8-HxCDD	1.00	0.98	98			
1,2,3,7,8,9-HxCDD	1.00	0.98	98			
1,2,3,4,6,7,8-HpCDF	1.00	1.12	112			
1,2,3,4,7,8,9-HpCDF	1.00	1.09	109			
1,2,3,4,6,7,8-HpCDD	1.00	1.03	103			
OCDF	2.00	2.28	114			
OCDD	2.00	2.66	133			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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Method 8290 Spike Sample Results

Client - Brown and Caldwell

Client Sample ID	DP43-090916-020			Dry Weights	
Lab Sample ID	10112699001	Sample Filename	F91002B_14	Sample Amount	10.5 g
MS ID	10112699001-MS	MS Filename	F91002B_15	MS Amount	10.2 g
MSD ID	10112699001-MSD	MSD Filename	F91002B_16	MSD Amount	10.2 g

Analyte	Sample Conc. ng/Kg	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	Background Subtracted MS % Rec.	MSD % Rec.	RPD
2,3,7,8-TCDF	0.410	0.20	0.20	0.21	3.5	100	103	3.5
2,3,7,8-TCDD	0.000	0.20	0.23	0.22	3.2	113	109	3.2
1,2,3,7,8-PeCDF	0.000	1.00	1.01	1.01	0.1	101	101	0.1
2,3,4,7,8-PeCDF	0.000	1.00	0.95	0.95	0.6	95	94	0.6
1,2,3,7,8-PeCDD	0.218	1.00	0.93	0.93	0.2	92	93	0.3
1,2,3,4,7,8-HxCDF	0.000	1.00	0.97	0.95	2.1	97	95	2.1
1,2,3,6,7,8-HxCDF	0.000	1.00	1.04	1.03	0.5	104	103	0.5
2,3,4,6,7,8-HxCDF	0.000	1.00	0.99	1.00	1.2	99	100	1.2
1,2,3,7,8,9-HxCDF	0.000	1.00	0.98	0.98	0.0	98	98	0.0
1,2,3,4,7,8-HxCDD	0.000	1.00	0.97	0.93	4.2	97	93	4.2
1,2,3,6,7,8-HxCDD	0.258	1.00	0.98	0.98	0.4	98	97	0.4
1,2,3,7,8,9-HxCDD	0.231	1.00	0.99	0.98	1.0	98	97	1.0
1,2,3,4,6,7,8-HpCDF	0.359	1.00	1.14	1.12	2.4	114	111	2.4
1,2,3,4,7,8,9-HpCDF	0.000	1.00	1.07	1.09	1.4	107	109	1.4
1,2,3,4,6,7,8-HpCDD	2.787	1.00	1.04	1.03	1.0	101	100	1.0
OCDF	0.950	2.00	2.33	2.28	2.2	116	113	2.2
OCDD	30.695	2.00	2.87	2.66	7.3	128	118	8.2

Definitions

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

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DATA GAP INVESTIGATION REGARDING THE SITE BOUNDARY DETERMINATION AND P-1 ANOMALY

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Data Quality Review
East Bay Data Gap Investigation – October 2011 and February 2012

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, all matrix spike duplicate RPDs were within the acceptable range.[1] Thus, further data qualification beyond what was reported by the laboratories was not necessary.

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. As shown in the analytical reports, no constituents were detected in the laboratory method blanks and recoveries in blank spikes, matrix spikes, and surrogates were within the acceptable range, with the following exceptions.[2] Several chlorinated dibenzo-p-dioxins (CDD) and chlorinated dibenzofurans (CDF) congeners were detected in the laboratory method blanks, which can be attributed to background conditions as discussed in the Pace Analytical Services case narrative. Sample results similar to the corresponding blank levels were flagged "B" by the laboratory and further data qualification beyond what was reported by the laboratory was not necessary. In addition, matrix spike recoveries for several CDD/CDF congeners were outside the acceptable range as discussed in the Pace Analytical Services case narrative and qualified by the laboratory. Thus, further data qualification beyond what was reported by the laboratory was not necessary for the CDD/CDF results.

3. Representativeness

Representativeness was assessed by evaluating the sample collection, handling, preservation, and analysis procedures. All samples were collected, handled, preserved, and analyzed in accordance with the Sampling and Analysis Plan (SAP)/QAPP (GeoEngineers 2008), which was designed to obtain representative samples. In addition, all samples were extracted and analyzed within appropriate holding times listed in the SAP/QAPP.

4. Comparability

Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified by the laboratories.

5. Sensitivity

Sensitivity was assessed by comparing actual practical quantitation limits (PQLs) with PQL expectations. Because the laboratories selected to perform remedial investigation analyses were different than the presumptive laboratories at the time the SAP/QAPP was prepared, some of the SAP/QAPP PQL expectations were adjusted per personal correspondence between Troy Bussey of PIONEER and Steve Teel of the Washington State Department of Ecology (Ecology 2009). As shown in the following table, the laboratories were able to achieve actual PQLs that were equal to or lower than the updated PQL expectations, with the exception of PCBs and one sample for PAHs analysis. However, these actual PQLs are acceptable for use since the resulting non-detect results are less than soil screening levels. Thus, further data qualification beyond what was reported by the laboratory was not necessary.

[1] The approved Quality Assurance Project Plan (QAPP) (GeoEngineers 2008) did not specify expectations for RPDs; therefore, RPDs were evaluated based on control limits in the laboratory reports. When control limits were not provided by the laboratory, control limits from the Infrastructure Interim Action Work Plan (IAWP) (PIONEER Technologies Corporation [PIONEER] 2009) were utilized as appropriate.

[2] The approved QAPP (GeoEngineers 2008) did not specify expectations for recoveries with blank spikes, matrix spikes, and surrogates; therefore, recoveries were evaluated based on control limits in the laboratory reports. When control limits were not provided by the laboratory, control limits from the Infrastructure IAWP (PIONEER 2009) were utilized as appropriate.

Constituent Type	Analytical Method	SAP/QAPP PQL Expectations (mg/kg)	Revised Target PQLs (Ecology 2009) (mg/kg)	Actual PQLs During This Investigation (mg/kg)
TPH in the Diesel Range	Ecology NWTPH-Dx	5	25	25
TPH in the Heavy Oil Range	NWTPH-Dx	10	100	100
Polycyclic Aromatic Hydrocarbons (PAHs)[1]	USEPA SW846-8270	0.005	0.01	0.01 – 0.05 [3]
Polychlorinated Biphenyls (PCBs)[1]	USEPA SW846-8082	0.004	0.025	0.1
Total CDD/CDFs TEQ[2]	USEPA SW846-8290	2.85E-05	5.0E-06	1.3E-07 – 2.8E-06

Notes:
TEQ: toxicity equivalency quotient
TPH: total petroleum hydrocarbons
USEPA: United States Environmental Protection Agency
(1) PQL values shown are for each constituent.
(2) Total PQL calculated using toxicity equivalency factors in Washington Administrative Code 173-340-708(8).
(3) All but one sample had PQLs of 0.01 mg/kg for polycyclic aromatic hydrocarbons. The one sample had a PQL of 0.05 mg/kg due to necessary dilution.

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 524 sample analyses were performed. All of the analyte results are useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory. No corrective action or additional data qualification is necessary.

References

Ecology 2009. Personal correspondence between Steve Teel and Troy Bussey regarding approval of proposed changes to practical quantitation limit expectations listed in IAWP, June 5.

GeoEngineers 2008. Remedial Investigation Work Plan, East Bay Redevelopment, October.

PIONEER 2009. East Bay Site: Interim Action Work Plan, May.

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Batch #: 111020027
Project Name: EAST BAY DATA GAP

Analytical Results Report

Sample Number	111020027-001	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP48_101811_3-3.5	**Sampling Time**	10:50 AM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	0.086	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[a]pyrene	0.060	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.127	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.020	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Chrysene	0.085	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.034	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
%moisture	33.4	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	110.6	18-137

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Analytical Results Report

Sample Number	111020027-002	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP48_101811_5-7	**Sampling Time**	11:00 AM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
%moisture	25.9	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	113.3	18-137

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Batch #: 111020027
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Analytical Results Report

Sample Number	111020027-003	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP48_101811_11-12	**Sampling Time**	11:10 AM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	0.030	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
%moisture	30.9	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	102.1	18-137

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Analytical Results Report

Sample Number	111020027-004	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP49_101811_4.5-6	**Sampling Time**	11:40 AM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	0.023	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.010	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
%moisture	22.4	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	42.2	18-137

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Analytical Results Report

Sample Number	111020027-005	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP49_101811_10.5-12	**Sampling Time**	11:50 AM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
%moisture	8.5	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	111.7	18-137

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Analytical Results Report

Sample Number	111020027-006	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP49_101811_14-15	**Sampling Time**	12:00 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
%moisture	5.6	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	106.0	18-137

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Batch #: 111020027
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Analytical Results Report

Sample Number	111020027-007	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP52_101811_1-3.5	**Sampling Time**	3:25 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
%moisture	14.9	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-007

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	112.1	18-137

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Batch #: 111020027
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Analytical Results Report

Sample Number	111020027-008	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP52_101811_7-10	**Sampling Time**	3:35 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
%moisture	17	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-008

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	102.6	18-137

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Analytical Results Report

Sample Number	111020027-009	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP52_101811_12-13.5	**Sampling Time**	3:45 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	0.066	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[a]pyrene	0.025	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.043	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.018	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Chrysene	0.025	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.016	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
%moisture	37.2	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-009

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	96.4	18-137

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Analytical Results Report

Sample Number	111020027-010	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP46_101811_1-2	**Sampling Time**	4:05 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
%moisture	10.6	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-010

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	109.3	18-137

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Analytical Results Report

Sample Number	111020027-011	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP46_101811_2-3	**Sampling Time**	4:10 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
%moisture	23.1	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-011

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	106.7	18-137

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Analytical Results Report

Sample Number	111020027-012	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP46_101811_9-11	**Sampling Time**	4:15 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
%moisture	19	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-012

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	104.1	18-137

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 111020027
Project Name: EAST BAY DATA GAP

Analytical Results Report

Sample Number	111020027-013	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP47_101811_1-2	**Sampling Time**	4:30 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	0.293	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[a]pyrene	0.273	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.310	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.088	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Chrysene	0.254	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.032	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.116	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
%moisture	12.1	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-013

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	95.3	18-137

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 111020027
Project Name: EAST BAY DATA GAP

Analytical Results Report

Sample Number	111020027-014	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP47_101811_6-8	**Sampling Time**	4:35 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	11/2/2011	EMP	EPA 8270C	
%moisture	19.2	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-014

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	105.2	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 111020027
Project Name: EAST BAY DATA GAP

Analytical Results Report

Sample Number	111020027-015	**Sampling Date**	10/18/2011	**Date/Time Received**	10/20/2011 11:50 AM
Client Sample ID	DP47_101811_13-14	**Sampling Time**	4:45 PM	**Extraction Date**	10/21/2011
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzo[a]anthracene	0.385	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[a]pyrene	0.330	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.472	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.085	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Chrysene	0.273	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.051	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.173	mg/Kg	0.01	11/1/2011	EMP	EPA 8270C	
%moisture	49.9	Percent		10/22/2011	KFG	%moisture	

Surrogate Data

Sample Number 111020027-015

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	95.6	18-137

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 111020027
Project Name: EAST BAY DATA GAP

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Indeno[1,2,3-cd]pyrene	0.995	mg/kg	1	99.5	30-140	10/21/2011	11/1/2011
Dibenz[a,h]anthracene	1.02	mg/kg	1	102.0	30-140	10/21/2011	11/1/2011
Chrysene	0.813	mg/kg	1	81.3	30-140	10/21/2011	11/1/2011
Benzo[k]fluoranthene	1.05	mg/kg	1	105.0	30-140	10/21/2011	11/1/2011
Benzo[b]fluoranthene	1.05	mg/kg	1	105.0	30-140	10/21/2011	11/1/2011
Benzo[a]pyrene	1.01	mg/kg	1	101.0	30-140	10/21/2011	11/1/2011
Benzo[a]anthracene	1.17	mg/kg	1	117.0	30-140	10/21/2011	11/1/2011

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
111020054-001A	Indeno[1,2,3-cd]pyrene	ND	0.954	mg/kg	1	95.4	30-140	10/21/2011	11/1/2011
111020054-001A	Dibenz[a,h]anthracene	0.070	0.973	mg/kg	1	90.3	30-140	10/21/2011	11/1/2011
111020054-001A	Chrysene	0.031	0.823	mg/kg	1	79.2	30-140	10/21/2011	11/1/2011
111020054-001A	Benzo[k]fluoranthene	0.021	0.863	mg/kg	1	84.2	30-140	10/21/2011	11/1/2011
111020054-001A	Benzo[b]fluoranthene	0.056	1.33	mg/kg	1	127.4	30-140	10/21/2011	11/1/2011
111020054-001A	Benzo[a]pyrene	0.036	1.07	mg/kg	1	103.4	30-140	10/21/2011	11/1/2011
111020054-001A	Benzo[a]anthracene	0.057	1.17	mg/kg	1	111.3	30-140	10/21/2011	11/1/2011

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Indeno[1,2,3-cd]pyrene	1.04	mg/kg	1	104.0	8.6	0-50	10/21/2011	11/1/2011
Dibenz[a,h]anthracene	1.05	mg/kg	1	98.0	7.6	0-50	10/21/2011	11/1/2011
Chrysene	0.878	mg/kg	1	84.7	6.5	0-50	10/21/2011	11/1/2011
Benzo[k]fluoranthene	0.877	mg/kg	1	85.6	1.6	0-50	10/21/2011	11/1/2011
Benzo[b]fluoranthene	1.36	mg/kg	1	130.4	2.2	0-50	10/21/2011	11/1/2011
Benzo[a]pyrene	1.10	mg/kg	1	106.4	2.8	0-50	10/21/2011	11/1/2011
Benzo[a]anthracene	1.23	mg/kg	1	117.3	5.0	0-50	10/21/2011	11/1/2011

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzo[a]anthracene	ND	mg/Kg	0.01	10/21/2011	11/1/2011

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 111020027
Project Name: EAST BAY DATA GAP

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzo[a]pyrene	ND	mg/Kg	0.01	10/21/2011	11/1/2011
Benzo[b]fluoranthene	ND	mg/Kg	0.01	10/21/2011	11/1/2011
Benzo[k]fluoranthene	ND	mg/Kg	0.01	10/21/2011	11/1/2011
Chrysene	ND	mg/Kg	0.01	10/21/2011	11/1/2011
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	10/21/2011	11/1/2011
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	10/21/2011	11/1/2011

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 111020027
Order Date: 10/20/2011

Contact Name: TROY BUSSEY

Project Name: EAST BAY DATA GAP

Comment:

Sample #: 111020027-001 **Customer Sample #:** DP48_101811_3-3.5

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-002 **Customer Sample #:** DP48_101811_5-7

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-003 **Customer Sample #:** DP48_101811_11-12

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 111020027
Order Date: 10/20/2011

Contact Name: TROY BUSSEY

Project Name: EAST BAY DATA GAP

Comment:

Sample #: 111020027-004 **Customer Sample #:** DP49_101811_4.5-6

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-005 **Customer Sample #:** DP49_101811_10.5-12

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-006 **Customer Sample #:** DP49_101811_14-15

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-007 **Customer Sample #:** DP52_101811_1-3.5

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 111020027
Order Date: 10/20/2011

Contact Name: TROY BUSSEY

Project Name: EAST BAY DATA GAP

Comment:

Sample #: 111020027-008 **Customer Sample #:** DP52_101811_7-10

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-009 **Customer Sample #:** DP52_101811_12-13.5

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-010 **Customer Sample #:** DP46_101811_1-2

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-011 **Customer Sample #:** DP46_101811_2-3

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 111020027
Order Date: 10/20/2011

Contact Name: TROY BUSSEY

Project Name: EAST BAY DATA GAP

Comment:

Sample #: 111020027-012 **Customer Sample #:** DP46_101811_9-11

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-013 **Customer Sample #:** DP47_101811_1-2

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-014 **Customer Sample #:** DP47_101811_6-8

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Sample #: 111020027-015 **Customer Sample #:** DP47_101811_13-14

Recv'd: ☑ **Collector:** **Date Collected:** 10/18/2011
Quantity: 1 **Matrix:** Soil **Date Received:** 10/20/2011 11:50:00
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	11/1/2011	***Normal (6-10 Days)***
PAH 8270 LOW	M	EPA 8270C	11/1/2011	***Normal (6-10 Days)***

Customer Name:	PIONEER TECHNOLOGIES CORPORATION	**Order ID:**	111020027
	5205 CORPORATE CENTER COURT	**Order Date:**	10/20/2011
	LACEY WA 98503		
Contact Name:	TROY BUSSEY	**Project Name:**	EAST BAY DATA GAP
Comment:			

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	3.0
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

111020 027 **PITC** Last Due 11/1/2011
1st SAMP 10/18/201 1st RCVD 10/20/2011
Anatek Log-I EAST BAY DATA GAP

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PIONEER Tech	Project Manager: Troy Bussey
Address: 5205 Corp. Cnt CT SE Ste A	Project Name & #: East Bay data gap
City: Olympia State: WA Zip: 98503	Email Address: bussey t@uspioneer.com
Phone: 360-~~97~~ 570-1700	Purchase Order #:
Fax: 360-570-1700	Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
__ Email

Provide Sample Description / **List Analyses Requested** / **Note Special Instructions/Comments**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Preservative: Sample Volume	cPAHs	Note Special Instructions/Comments
1	DP48_101811_3-3.5	10/18/11 1050	Soil	1	402	X	MWBS
2	DP48_101811_5-7	10/18/11 1100	Soil	1		X	
3	DP48_101811_11-12	10/18/11 1110	Soil	1		X	
4	DP49_101811_4-5.6	10/18/11 1140	Soil	1		X	
5	DP49_101811_10.5-12	10/18/11 1150	Soil	1		X	
6	DP49_101811_14-15	10/18/11 1200	Soil	1		X	
7	DP52_101811_1-3.5	1525	Soil	1		X	
8	DP52_101811_7-10	1535	Soil	1		X	
9	DP52_101811_12-13.5	1545	Soil	1		X	
10	DP46_101811_1-2	1605	Soil	1		X	
11	DP46_101811_2-3	1610	Soil	1		X	
12	DP46_101811_9-11	1615	Soil	1		X	

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Fedex Ice Seal Y N
Temperature (°C): 3.0
Preservative: —
Date & Time: 10/20/11 12:00
Inspected By: BT

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Fedin	Melody Fedin	PTC	10/19/11	1330
Received by	B Thomson	B Thomson	Anatek	10/20/11	12:00
Relinquished by					
Received by					
Relinquished by					
Received by					

111020 027 **PITC** Last Due 11/1/2011
1st SAMP 10/18/201 1st RCVD 10/20/2011
EAST BAY DATA GAP

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PIONEER Tech Corp
Address: 5205 Corp. Cnt CT SE Suite A
City: Olympia State: WA Zip: 98503
Phone: 360-570-1700
Fax: 360-570-1707

Project Manager: Troy Bussey
Project Name & #: East Bay Data gap
Email Address: busseyt@uspioneer.com
Purchase Order #:
Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
__ Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

MWBS

	Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: cPAHs
13		DP47-101811-1-2	10/18 1630	Soil	1	4oz	X
14		DP47-101811-6-8	1635				X
15		DP47-101811-13-14	1645				X
TR							

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Fedex Ex Seal Y TR N

Temperature (°C): 3.0
Preservative: —
Date & Time: 10/20/11 11:30
Inspected By: BT

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	10/19	1330
Received by	B Thomson	B Thomson	Anatek	10/20/11	11:50
Relinquished by					
Received by					
Relinquished by					
Received by					

Pace Analytical™

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia WA 98501-4826

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Prepared Date:
November 10, 2011

Report Information:

Pace Project #: 10173238
Sample Receipt Date: 10/20/2011
Client Project #: East Bay Redev
Client Sub PO #: N/A
State Cert #: C755

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed by:

November 10, 2011

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

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The results relate only to the samples included in this report.

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Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on fifteen samples submitted by a representative of Pioneer Technologies Corporation. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise calculations.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 53-94%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Since the quantification of the native 2,3,7,8-substituted isomers was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; he affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. The OCDD concentration reported for sample DP52.101811-12-13.5 was above the calibration range, flagged "E," and should be regarded as an estimate.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These levels were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standards. The results show that the spiked native compounds were generally recovered at 72-128%, with relative percent differences of 0.2-11.4%. The background-subtracted recovery value reported for OCDD in the matrix spike sample was above the 70-130% target range; this elevated value most likely resulted from the level of this congener in the sample material, which was relatively high compared to the spiked concentration.

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Montana	92
Alaska	MN00064	Nebraska	
Arizona	AZ0014	Nevada	MN_00064_200
Arkansas	88-0680	New Jersey (NE	MN002
California	01155CA	New Mexico	MN00064
Colorado	MN00064	New York (NEL	11647
Connecticut	PH-0256	North Carolina	27700
EPA Region 5	WD-15J	North Dakota	R-036
EPA Region 8	8TMS-Q	Ohio	4150
Florida (NELAP	E87605	Ohio VAP	CL101 9507
Georgia (DNR)	959	Oklahoma	D9922
Guam	959	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL	MN300001-001
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana	C-MN-01	South Carolina	74003001
Indiana	C-MN-01	Tennesee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	LA0900015	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q
Mississippi	MN00064		

REPORT OF LABORATORY ANALYSIS

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Appendix A

Sample Management

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1140

10173238

Page: of

1501600

Section A Required Client Information:

Company: PIONEER

Address: 5205 Corporate CNT CT SE
Olympia WA 98503

Email To: bussey t@uspioneer.com

Phone: 360-570-1700 Fax: 576-1777

Requested Due Date/TAT: normal

Section B Required Project Information:

Report To: Troy Bussey

Copy To:

Purchase Order No.:

Project Name: East Bay Redev.

Project Number:

Section C Invoice Information:

Attention:

Company Name: PIONEER

Address: 5205 Corporate CNT. CT SE

Pace Quote Reference:

Pace Project Manager:

Pace Profile #: 22098

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Analysis Test: Diox./furans	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	DP53_101811-7-7.5	SL	G	10/18	8:45				1	X									X		001
2	DP53_101811-8-9	SL	G	10/18	8:50				1	X									X		002
3	DP54-101811-8-9	SL	G	10/18	9:35				1	X									X		003
4	DP54-101811-7-7.5	SL	G	10/18	9:40				1	X									X		004
5	DP55_101811-7-7.5	SL	G	10/18	9:45				1	X									X		005
6	DP55_101811-8-9	SL	G	10/18	9:50				1	X									X		006
7	DP48_101811_3-3.5	SL	G	10/18	1050				1	X									X		007
8	DP48-101811_5-7	SL	G	10/18	1100				1	X									X		008
9	DP48-101811-11-12	SL	G	10/18	1110				1	X									X		009
10	DP56-101811-1-3	SL	G	10/18	1350				1	X									X		010
11	DP56-101811-7-8	SL	G	10/18	1355				1	X									X		011
12	DP56-101811-13-14	SL	G	10/18	1400				1	X									X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Melody Tun/PTC	10/19	1330	L. Cyr Pace	10/20/11	1000	4.0	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1501599

Section A Required Client Information:

Company: PIONEER Tech Corp
Address: 5205 Corp Cnt Ct SE Suite A
Olympia WA 98503
Email To: busseyt@uspioneer.com
Phone: 360-570-1700 Fax: 570-1777
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Troy Bussey
Copy To:
Purchase Order No.:
Project Name: East Bay Redev
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Report No: 1011238_8290

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COLLECTED: COMPOSITE START TIME	COLLECTED: COMPOSITE END/GRAB DATE	COLLECTED: COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Dioxins/furans	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	DP52-101811-1-3.5	SL	G	10/18	1525				1	X									X		013
2	DP52-101811_7-10	SL	G	"	1535				1	X									X		014
3	DP52-101811-12-13.5	SL	G	"	1545				1	X									X		015
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Melody Fun/PTC	10/19	1330	L. Spa/Pace	10/20/11	1000	4.0	y	y	y

ORIGINAL

SAMPLER NAME AND SIGNATURE: Melody Feden
PRINT Name of SAMPLER: Melody Feden
SIGNATURE of SAMPLER: Melody Fun
DATE Signed (MM/DD/YY): 10/19/11

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Revised Date: 02Jun2011 Page 1 of 1
	Document Number: F-L-213 Rev.01	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pioneer Tech Project # _____

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 795313307640

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

Thermometer Used: 80344042 or 80512447 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 4.0 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/20/11 LC

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: SL	☑Yes ☐No ☐N/A	12.
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☑No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: (a) **Date:** 10/20/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

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Appendix B

Sample Analysis Summary

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP53.101811-7-7.5		
Lab Sample ID	10173238001		
Filename	F111109B_07		
Injected By	SMT		
Total Amount Extracted	15.7 g	Matrix	Solid
% Moisture	28.8	Dilution	NA
Dry Weight Extracted	11.2 g	Collected	10/18/2011 08:45
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109A_10 & F111109B_16	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/09/2011 20:10

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.200	-----	0.180	J	2,3,7,8-TCDF-13C	2.00	55
Total TCDF	2.400	-----	0.180		2,3,7,8-TCDD-13C	2.00	61
					1,2,3,7,8-PeCDF-13C	2.00	72
2,3,7,8-TCDD	ND	-----	0.100		2,3,4,7,8-PeCDF-13C	2.00	78
Total TCDD	0.180	-----	0.100	J	1,2,3,7,8-PeCDD-13C	2.00	84
					1,2,3,4,7,8-HxCDF-13C	2.00	66
1,2,3,7,8-PeCDF	ND	-----	0.160		1,2,3,6,7,8-HxCDF-13C	2.00	78
2,3,4,7,8-PeCDF	-----	0.370	0.110	I	2,3,4,6,7,8-HxCDF-13C	2.00	84
Total PeCDF	3.900	-----	0.140	J	1,2,3,7,8,9-HxCDF-13C	2.00	75
					1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	ND	-----	0.092		1,2,3,6,7,8-HxCDD-13C	2.00	79
Total PeCDD	0.130	-----	0.092	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	72
					1,2,3,4,7,8,9-HpCDF-13C	2.00	70
1,2,3,4,7,8-HxCDF	ND	-----	0.092		1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	0.140	-----	0.073	J	OCDD-13C	4.00	63
2,3,4,6,7,8-HxCDF	-----	0.200	0.068	I			
1,2,3,7,8,9-HxCDF	-----	0.130	0.067	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	1.200	-----	0.075	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.069	0.068	I	2,3,7,8-TCDD-37Cl4	0.20	60
1,2,3,6,7,8-HxCDD	0.088	-----	0.059	BJ			
1,2,3,7,8,9-HxCDD	0.130	-----	0.048	BJ			
Total HxCDD	0.340	-----	0.058	BJ			
1,2,3,4,6,7,8-HpCDF	0.430	-----	0.059	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.067		Equivalence: 0.20 ng/Kg		
Total HpCDF	0.940	-----	0.063	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	0.540	-----	0.062	J			
Total HpCDD	1.300	-----	0.062	J			
OCDF	1.300	-----	0.100	BJ			
OCDD	3.900	-----	0.110	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP53.101811-8-9		
Lab Sample ID	10173238002		
Filename	F111109B_08		
Injected By	SMT		
Total Amount Extracted	15.6 g	Matrix	Solid
% Moisture	17.0	Dilution	NA
Dry Weight Extracted	12.9 g	Collected	10/18/2011 08:50
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109A_10 & F111109B_16	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/09/2011 20:56

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.190	-----	0.090	J	2,3,7,8-TCDF-13C	2.00	71
Total TCDF	0.450	-----	0.090	BJ	2,3,7,8-TCDD-13C	2.00	73
					1,2,3,7,8-PeCDF-13C	2.00	74
2,3,7,8-TCDD	ND	-----	0.090		2,3,4,7,8-PeCDF-13C	2.00	78
Total TCDD	ND	-----	0.090		1,2,3,7,8-PeCDD-13C	2.00	84
					1,2,3,4,7,8-HxCDF-13C	2.00	68
1,2,3,7,8-PeCDF	ND	-----	0.084		1,2,3,6,7,8-HxCDF-13C	2.00	74
2,3,4,7,8-PeCDF	ND	-----	0.082		2,3,4,6,7,8-HxCDF-13C	2.00	76
Total PeCDF	ND	-----	0.083		1,2,3,7,8,9-HxCDF-13C	2.00	72
					1,2,3,4,7,8-HxCDD-13C	2.00	71
1,2,3,7,8-PeCDD	ND	-----	0.080		1,2,3,6,7,8-HxCDD-13C	2.00	74
Total PeCDD	ND	-----	0.080		1,2,3,4,6,7,8-HpCDF-13C	2.00	62
					1,2,3,4,7,8,9-HpCDF-13C	2.00	64
1,2,3,4,7,8-HxCDF	0.100	-----	0.055	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	70
1,2,3,6,7,8-HxCDF	ND	-----	0.059		OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	ND	-----	0.055				
1,2,3,7,8,9-HxCDF	ND	-----	0.077		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.870	-----	0.062	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.078	0.066	I	2,3,7,8-TCDD-37Cl4	0.20	77
1,2,3,6,7,8-HxCDD	-----	0.070	0.065	I			
1,2,3,7,8,9-HxCDD	ND	-----	0.068				
Total HxCDD	0.450	-----	0.066	BJ			
1,2,3,4,6,7,8-HpCDF	0.550	-----	0.075	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.120		Equivalence: 0.18 ng/Kg		
Total HpCDF	2.500	-----	0.097	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	2.100	-----	0.085	J			
Total HpCDD	3.900	-----	0.085				
OCDF	2.300	-----	0.140	J			
OCDD	25.000	-----	0.360				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP54.101811-8-9		
Lab Sample ID	10173238003		
Filename	F111109B_09		
Injected By	SMT		
Total Amount Extracted	15.6 g	Matrix	Solid
% Moisture	15.1	Dilution	NA
Dry Weight Extracted	13.2 g	Collected	10/18/2011 09:25
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109A_10 & F111109B_16	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/09/2011 21:43

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.100		2,3,7,8-TCDF-13C	2.00	63
Total TCDF	0.11	-----	0.100	BJ	2,3,7,8-TCDD-13C	2.00	73
					1,2,3,7,8-PeCDF-13C	2.00	76
2,3,7,8-TCDD	ND	-----	0.100		2,3,4,7,8-PeCDF-13C	2.00	82
Total TCDD	ND	-----	0.100		1,2,3,7,8-PeCDD-13C	2.00	89
					1,2,3,4,7,8-HxCDF-13C	2.00	72
1,2,3,7,8-PeCDF	ND	-----	0.088		1,2,3,6,7,8-HxCDF-13C	2.00	79
2,3,4,7,8-PeCDF	ND	-----	0.071		2,3,4,6,7,8-HxCDF-13C	2.00	86
Total PeCDF	ND	-----	0.080		1,2,3,7,8,9-HxCDF-13C	2.00	75
					1,2,3,4,7,8-HxCDD-13C	2.00	76
1,2,3,7,8-PeCDD	ND	-----	0.067		1,2,3,6,7,8-HxCDD-13C	2.00	82
Total PeCDD	ND	-----	0.067		1,2,3,4,6,7,8-HpCDF-13C	2.00	68
					1,2,3,4,7,8,9-HpCDF-13C	2.00	78
1,2,3,4,7,8-HxCDF	ND	-----	0.072		1,2,3,4,6,7,8-HpCDD-13C	2.00	81
1,2,3,6,7,8-HxCDF	ND	-----	0.058		OCDD-13C	4.00	65
2,3,4,6,7,8-HxCDF	ND	-----	0.050				
1,2,3,7,8,9-HxCDF	ND	-----	0.079		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.22	-----	0.065	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.078		2,3,7,8-TCDD-37Cl4	0.20	67
1,2,3,6,7,8-HxCDD	0.10	-----	0.074	BJ			
1,2,3,7,8,9-HxCDD	0.16	-----	0.070	BJ			
Total HxCDD	0.89	-----	0.074	BJ			
1,2,3,4,6,7,8-HpCDF	0.35	-----	0.060	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.087		Equivalence: 0.17 ng/Kg		
Total HpCDF	0.82	-----	0.073	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	1.80	-----	0.100	J			
Total HpCDD	3.70	-----	0.100	J			
OCDF	0.67	-----	0.110	BJ			
OCDD	20.00	-----	0.330				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP54.101811-7-7.5		
Lab Sample ID	10173238004		
Filename	F111109B_10		
Injected By	SMT		
Total Amount Extracted	17.5 g	Matrix	Solid
% Moisture	30.4	Dilution	NA
Dry Weight Extracted	12.2 g	Collected	10/18/2011 09:30
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109A_10 & F111109B_16	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/09/2011 22:29

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.00	-----	0.26		2,3,7,8-TCDF-13C	2.00	72
Total TCDF	21.00	-----	0.26		2,3,7,8-TCDD-13C	2.00	80
					1,2,3,7,8-PeCDF-13C	2.00	79
2,3,7,8-TCDD	0.34	-----	0.14	J	2,3,4,7,8-PeCDF-13C	2.00	80
Total TCDD	11.00	-----	0.14		1,2,3,7,8-PeCDD-13C	2.00	83
					1,2,3,4,7,8-HxCDF-13C	2.00	74
1,2,3,7,8-PeCDF	-----	0.54	0.19	P	1,2,3,6,7,8-HxCDF-13C	2.00	84
2,3,4,7,8-PeCDF	1.90	-----	0.11	J	2,3,4,6,7,8-HxCDF-13C	2.00	84
Total PeCDF	25.00	-----	0.15		1,2,3,7,8,9-HxCDF-13C	2.00	78
					1,2,3,4,7,8-HxCDD-13C	2.00	80
1,2,3,7,8-PeCDD	0.74	-----	0.14	J	1,2,3,6,7,8-HxCDD-13C	2.00	83
Total PeCDD	10.00	-----	0.14		1,2,3,4,6,7,8-HpCDF-13C	2.00	68
					1,2,3,4,7,8,9-HpCDF-13C	2.00	68
1,2,3,4,7,8-HxCDF	0.70	-----	0.12	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	75
1,2,3,6,7,8-HxCDF	0.81	-----	0.13	J	OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	1.20	-----	0.13	J			
1,2,3,7,8,9-HxCDF	ND	-----	0.18		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	26.00	-----	0.14		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.27	0.13	I	2,3,7,8-TCDD-37Cl4	0.20	73
1,2,3,6,7,8-HxCDD	0.88	-----	0.16	J			
1,2,3,7,8,9-HxCDD	0.59	-----	0.18	BJ			
Total HxCDD	13.00	-----	0.16				
1,2,3,4,6,7,8-HpCDF	34.00	-----	0.31		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.43	-----	0.23	J	Equivalence: 2.7 ng/Kg		
Total HpCDF	60.00	-----	0.27		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	8.30	-----	0.23				
Total HpCDD	21.00	-----	0.23				
OCDF	28.00	-----	0.29				
OCDD	77.00	-----	0.65				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP55.101811-7-7.5		
Lab Sample ID	10173238005		
Filename	F111109B_11		
Injected By	SMT		
Total Amount Extracted	15.8 g	Matrix	Solid
% Moisture	30.3	Dilution	NA
Dry Weight Extracted	11.0 g	Collected	10/18/2011 09:45
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109A_10 & F111109B_16	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/09/2011 23:16

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.370	-----	0.240	J	2,3,7,8-TCDF-13C	2.00	64
Total TCDF	7.700	-----	0.240		2,3,7,8-TCDD-13C	2.00	75
					1,2,3,7,8-PeCDF-13C	2.00	77
2,3,7,8-TCDD	ND	-----	0.200		2,3,4,7,8-PeCDF-13C	2.00	83
Total TCDD	2.000	-----	0.200		1,2,3,7,8-PeCDD-13C	2.00	92
					1,2,3,4,7,8-HxCDF-13C	2.00	76
1,2,3,7,8-PeCDF	ND	-----	0.110		1,2,3,6,7,8-HxCDF-13C	2.00	84
2,3,4,7,8-PeCDF	0.850	-----	0.170	J	2,3,4,6,7,8-HxCDF-13C	2.00	88
Total PeCDF	13.000	-----	0.140		1,2,3,7,8,9-HxCDF-13C	2.00	78
					1,2,3,4,7,8-HxCDD-13C	2.00	80
1,2,3,7,8-PeCDD	ND	-----	0.150		1,2,3,6,7,8-HxCDD-13C	2.00	82
Total PeCDD	0.330	-----	0.150	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	76
					1,2,3,4,7,8,9-HpCDF-13C	2.00	78
1,2,3,4,7,8-HxCDF	0.270	-----	0.055	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	83
1,2,3,6,7,8-HxCDF	0.260	-----	0.060	J	OCDD-13C	4.00	64
2,3,4,6,7,8-HxCDF	0.540	-----	0.041	BJ			
1,2,3,7,8,9-HxCDF	0.083	-----	0.072	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	7.300	-----	0.057		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.110		2,3,7,8-TCDD-37Cl4	0.20	71
1,2,3,6,7,8-HxCDD	-----	0.12	0.079	I			
1,2,3,7,8,9-HxCDD	0.170	-----	0.061	BJ			
Total HxCDD	2.300	-----	0.083	BJ			
1,2,3,4,6,7,8-HpCDF	5.400	-----	0.180		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.300		Equivalence: 0.72 ng/Kg		
Total HpCDF	13.000	-----	0.240		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	3.500	-----	0.200	J			
Total HpCDD	6.900	-----	0.200				
OCDF	21.000	-----	0.420				
OCDD	32.000	-----	0.460				

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J = Estimated value
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Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP55.101811-8-9		
Lab Sample ID	10173238006		
Filename	F111109B_12		
Injected By	SMT		
Total Amount Extracted	15.3 g	Matrix	Solid
% Moisture	12.2	Dilution	NA
Dry Weight Extracted	13.4 g	Collected	10/18/2011 09:50
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109A_10 & F111109B_16	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 00:02

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.19	-----	0.082	J	2,3,7,8-TCDF-13C	2.00	79
Total TCDF	0.30	-----	0.082	BJ	2,3,7,8-TCDD-13C	2.00	88
					1,2,3,7,8-PeCDF-13C	2.00	83
2,3,7,8-TCDD	ND	-----	0.110		2,3,4,7,8-PeCDF-13C	2.00	86
Total TCDD	1.80	-----	0.110		1,2,3,7,8-PeCDD-13C	2.00	91
					1,2,3,4,7,8-HxCDF-13C	2.00	74
1,2,3,7,8-PeCDF	ND	-----	0.062		1,2,3,6,7,8-HxCDF-13C	2.00	79
2,3,4,7,8-PeCDF	ND	-----	0.058		2,3,4,6,7,8-HxCDF-13C	2.00	85
Total PeCDF	ND	-----	0.060		1,2,3,7,8,9-HxCDF-13C	2.00	75
					1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	ND	-----	0.068		1,2,3,6,7,8-HxCDD-13C	2.00	81
Total PeCDD	0.10	-----	0.068	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	66
					1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	ND	-----	0.046		1,2,3,4,6,7,8-HpCDD-13C	2.00	77
1,2,3,6,7,8-HxCDF	ND	-----	0.042		OCDD-13C	4.00	57
2,3,4,6,7,8-HxCDF	ND	-----	0.041				
1,2,3,7,8,9-HxCDF	ND	-----	0.064		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.13	-----	0.048	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.072		2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	ND	-----	0.091				
1,2,3,7,8,9-HxCDD	ND	-----	0.093				
Total HxCDD	ND	-----	0.085				
1,2,3,4,6,7,8-HpCDF	0.25	-----	0.089	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.089		Equivalence: 0.14 ng/Kg		
Total HpCDF	0.68	-----	0.089	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	-----	0.46	0.110	I			
Total HpCDD	0.90	-----	0.110	J			
OCDF	0.72	-----	0.140	BJ			
OCDD	5.70	-----	0.150	J			

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NC = Not Calculated

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP48.101811-3-3.5		
Lab Sample ID	10173238007		
Filename	F111109B_13		
Injected By	SMT		
Total Amount Extracted	16.6 g	Matrix	Solid
% Moisture	25.7	Dilution	NA
Dry Weight Extracted	12.3 g	Collected	10/18/2011 10:50
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109A_10 & F111109B_16	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 00:48

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.83	-----	0.150		2,3,7,8-TCDF-13C	2.00	75
Total TCDF	17.00	-----	0.150		2,3,7,8-TCDD-13C	2.00	84
					1,2,3,7,8-PeCDF-13C	2.00	83
2,3,7,8-TCDD	0.17	-----	0.140	J	2,3,4,7,8-PeCDF-13C	2.00	88
Total TCDD	7.40	-----	0.140		1,2,3,7,8-PeCDD-13C	2.00	94
					1,2,3,4,7,8-HxCDF-13C	2.00	78
1,2,3,7,8-PeCDF	-----	0.55	0.150	P	1,2,3,6,7,8-HxCDF-13C	2.00	87
2,3,4,7,8-PeCDF	0.98	-----	0.130	J	2,3,4,6,7,8-HxCDF-13C	2.00	89
Total PeCDF	11.00	-----	0.140		1,2,3,7,8,9-HxCDF-13C	2.00	83
					1,2,3,4,7,8-HxCDD-13C	2.00	84
1,2,3,7,8-PeCDD	0.26	-----	0.140	J	1,2,3,6,7,8-HxCDD-13C	2.00	85
Total PeCDD	5.60	-----	0.140		1,2,3,4,6,7,8-HpCDF-13C	2.00	77
					1,2,3,4,7,8,9-HpCDF-13C	2.00	77
1,2,3,4,7,8-HxCDF	0.38	-----	0.080	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	82
1,2,3,6,7,8-HxCDF	-----	0.27	0.090	I	OCDD-13C	4.00	64
2,3,4,6,7,8-HxCDF	0.47	-----	0.088	BJ			
1,2,3,7,8,9-HxCDF	ND	-----	0.110		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	6.30	-----	0.092		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.23	-----	0.220	J	2,3,7,8-TCDD-37Cl4	0.20	79
1,2,3,6,7,8-HxCDD	0.62	-----	0.160	BJ			
1,2,3,7,8,9-HxCDD	0.37	-----	0.100	BJ			
Total HxCDD	8.00	-----	0.160				
1,2,3,4,6,7,8-HpCDF	2.00	-----	0.058	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	-----	0.15	0.078	I	Equivalence: 1.3 ng/Kg		
Total HpCDF	6.20	-----	0.068		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	15.00	-----	0.090				
Total HpCDD	43.00	-----	0.090				
OCDF	10.00	-----	0.200				
OCDD	200.00	-----	0.098				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

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Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP48.101811-5-7		
Lab Sample ID	10173238008		
Filename	F111109B_14		
Injected By	SMT		
Total Amount Extracted	16.3 g	Matrix	Solid
% Moisture	18.5	Dilution	NA
Dry Weight Extracted	13.3 g	Collected	10/18/2011 11:00
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109A_10 & F111109B_16	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 01:35

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.14	0.120	I	2,3,7,8-TCDF-13C	2.00	58
Total TCDF	0.170	-----	0.120	BJ	2,3,7,8-TCDD-13C	2.00	64
					1,2,3,7,8-PeCDF-13C	2.00	72
2,3,7,8-TCDD	ND	-----	0.140		2,3,4,7,8-PeCDF-13C	2.00	78
Total TCDD	ND	-----	0.140		1,2,3,7,8-PeCDD-13C	2.00	85
					1,2,3,4,7,8-HxCDF-13C	2.00	73
1,2,3,7,8-PeCDF	ND	-----	0.073		1,2,3,6,7,8-HxCDF-13C	2.00	83
2,3,4,7,8-PeCDF	ND	-----	0.050		2,3,4,6,7,8-HxCDF-13C	2.00	87
Total PeCDF	0.120	-----	0.061	BJ	1,2,3,7,8,9-HxCDF-13C	2.00	79
					1,2,3,4,7,8-HxCDD-13C	2.00	80
1,2,3,7,8-PeCDD	ND	-----	0.074		1,2,3,6,7,8-HxCDD-13C	2.00	85
Total PeCDD	0.240	-----	0.074	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	74
					1,2,3,4,7,8,9-HpCDF-13C	2.00	75
1,2,3,4,7,8-HxCDF	ND	-----	0.050		1,2,3,4,6,7,8-HpCDD-13C	2.00	79
1,2,3,6,7,8-HxCDF	ND	-----	0.044		OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	ND	-----	0.042				
1,2,3,7,8,9-HxCDF	ND	-----	0.056		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.048		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.080		2,3,7,8-TCDD-37Cl4	0.20	61
1,2,3,6,7,8-HxCDD	ND	-----	0.110				
1,2,3,7,8,9-HxCDD	ND	-----	0.092				
Total HxCDD	0.200	-----	0.094	BJ			
1,2,3,4,6,7,8-HpCDF	0.058	-----	0.058	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.067		Equivalence: 0.15 ng/Kg		
Total HpCDF	0.140	-----	0.062	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	0.210	-----	0.093	J			
Total HpCDD	0.560	-----	0.093	J			
OCDF	0.190	-----	0.140	BJ			
OCDD	1.600	-----	0.170	J			

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EMPC = Estimated Maximum Possible Concentration
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B = Less than 10x higher than method blank level
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP48.101811-11-12		
Lab Sample ID	10173238009		
Filename	F111109B_15		
Injected By	SMT		
Total Amount Extracted	16.6 g	Matrix	Solid
% Moisture	30.8	Dilution	NA
Dry Weight Extracted	11.5 g	Collected	10/18/2011 11:10
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109A_10 & F111109B_16	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 02:21

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.35	-----	0.140	J	2,3,7,8-TCDF-13C	2.00	63
Total TCDF	0.62	-----	0.140	BJ	2,3,7,8-TCDD-13C	2.00	71
					1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	ND	-----	0.160		2,3,4,7,8-PeCDF-13C	2.00	79
Total TCDD	0.58	-----	0.160	J	1,2,3,7,8-PeCDD-13C	2.00	84
					1,2,3,4,7,8-HxCDF-13C	2.00	74
1,2,3,7,8-PeCDF	ND	-----	0.098		1,2,3,6,7,8-HxCDF-13C	2.00	82
2,3,4,7,8-PeCDF	ND	-----	0.084		2,3,4,6,7,8-HxCDF-13C	2.00	84
Total PeCDF	0.10	-----	0.091	BJ	1,2,3,7,8,9-HxCDF-13C	2.00	76
					1,2,3,4,7,8-HxCDD-13C	2.00	78
1,2,3,7,8-PeCDD	ND	-----	0.093		1,2,3,6,7,8-HxCDD-13C	2.00	87
Total PeCDD	ND	-----	0.093		1,2,3,4,6,7,8-HpCDF-13C	2.00	69
					1,2,3,4,7,8,9-HpCDF-13C	2.00	68
1,2,3,4,7,8-HxCDF	ND	-----	0.062		1,2,3,4,6,7,8-HpCDD-13C	2.00	78
1,2,3,6,7,8-HxCDF	ND	-----	0.060		OCDD-13C	4.00	62
2,3,4,6,7,8-HxCDF	ND	-----	0.041				
1,2,3,7,8,9-HxCDF	ND	-----	0.072		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.059		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.140		2,3,7,8-TCDD-37Cl4	0.20	66
1,2,3,6,7,8-HxCDD	ND	-----	0.130				
1,2,3,7,8,9-HxCDD	ND	-----	0.085				
Total HxCDD	0.81	-----	0.120	BJ			
1,2,3,4,6,7,8-HpCDF	0.12	-----	0.042	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.067		Equivalence: 0.23 ng/Kg		
Total HpCDF	0.12	-----	0.055	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	0.93	-----	0.190	J			
Total HpCDD	2.40	-----	0.190	J			
OCDF	-----	0.21	0.120	I			
OCDD	27.00	-----	0.110				

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP56.101811-1-3		
Lab Sample ID	10173238010		
Filename	F111110A_05		
Injected By	SMT		
Total Amount Extracted	15.4 g	Matrix	Solid
% Moisture	10.1	Dilution	NA
Dry Weight Extracted	13.8 g	Collected	10/18/2011 13:50
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109B_16 & F111110A_13	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 07:00

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	3.30	-----	0.095		2,3,7,8-TCDF-13C	2.00	72
Total TCDF	46.00	-----	0.095		2,3,7,8-TCDD-13C	2.00	77
					1,2,3,7,8-PeCDF-13C	2.00	79
2,3,7,8-TCDD	0.81	-----	0.150		2,3,4,7,8-PeCDF-13C	2.00	79
Total TCDD	45.00	-----	0.150		1,2,3,7,8-PeCDD-13C	2.00	86
					1,2,3,4,7,8-HxCDF-13C	2.00	72
1,2,3,7,8-PeCDF	1.40	-----	0.037	J	1,2,3,6,7,8-HxCDF-13C	2.00	78
2,3,4,7,8-PeCDF	4.50	-----	0.170		2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	41.00	-----	0.100		1,2,3,7,8,9-HxCDF-13C	2.00	73
					1,2,3,4,7,8-HxCDD-13C	2.00	77
1,2,3,7,8-PeCDD	4.20	-----	0.160		1,2,3,6,7,8-HxCDD-13C	2.00	86
Total PeCDD	50.00	-----	0.160		1,2,3,4,6,7,8-HpCDF-13C	2.00	66
					1,2,3,4,7,8,9-HpCDF-13C	2.00	67
1,2,3,4,7,8-HxCDF	4.10	-----	0.170		1,2,3,4,6,7,8-HpCDD-13C	2.00	78
1,2,3,6,7,8-HxCDF	3.00	-----	0.150	J	OCDD-13C	4.00	62
2,3,4,6,7,8-HxCDF	3.60	-----	0.150	J			
1,2,3,7,8,9-HxCDF	0.94	-----	0.190	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	55.00	-----	0.160		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	2.50	-----	0.130	J	2,3,7,8-TCDD-37Cl4	0.20	73
1,2,3,6,7,8-HxCDD	5.40	-----	0.130				
1,2,3,7,8,9-HxCDD	3.70	-----	0.120				
Total HxCDD	70.00	-----	0.130				
1,2,3,4,6,7,8-HpCDF	27.00	-----	0.390		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	2.10	-----	0.370	J	Equivalence: 11 ng/Kg		
Total HpCDF	100.00	-----	0.380		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	100.00	-----	0.680				
Total HpCDD	220.00	-----	0.680				
OCDF	100.00	-----	0.150				
OCDD	1100.00	-----	0.110				

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J = Estimated value

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP56.101811-7-8		
Lab Sample ID	10173238011		
Filename	F111110A_06		
Injected By	SMT		
Total Amount Extracted	15.7 g	Matrix	Solid
% Moisture	10.3	Dilution	NA
Dry Weight Extracted	14.1 g	Collected	10/18/2011 13:55
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109B_16 & F111110A_13	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 07:46

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.19	0.110	I	2,3,7,8-TCDF-13C	2.00	53
Total TCDF	1.10	-----	0.110	B	2,3,7,8-TCDD-13C	2.00	60
					1,2,3,7,8-PeCDF-13C	2.00	68
2,3,7,8-TCDD	ND	-----	0.140		2,3,4,7,8-PeCDF-13C	2.00	70
Total TCDD	5.30	-----	0.140		1,2,3,7,8-PeCDD-13C	2.00	79
					1,2,3,4,7,8-HxCDF-13C	2.00	69
1,2,3,7,8-PeCDF	0.15	-----	0.085	BJ	1,2,3,6,7,8-HxCDF-13C	2.00	78
2,3,4,7,8-PeCDF	-----	0.20	0.093	I	2,3,4,6,7,8-HxCDF-13C	2.00	78
Total PeCDF	0.41	-----	0.089	BJ	1,2,3,7,8,9-HxCDF-13C	2.00	73
					1,2,3,4,7,8-HxCDD-13C	2.00	73
1,2,3,7,8-PeCDD	ND	-----	0.130		1,2,3,6,7,8-HxCDD-13C	2.00	84
Total PeCDD	1.40	-----	0.130	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	73
					1,2,3,4,7,8,9-HpCDF-13C	2.00	65
1,2,3,4,7,8-HxCDF	-----	0.13	0.085	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	78
1,2,3,6,7,8-HxCDF	0.15	-----	0.085	J	OCDD-13C	4.00	62
2,3,4,6,7,8-HxCDF	0.19	-----	0.078	BJ			
1,2,3,7,8,9-HxCDF	ND	-----	0.110		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	2.40	-----	0.089	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	-----	0.14	0.140	I	2,3,7,8-TCDD-37Cl4	0.20	58
1,2,3,6,7,8-HxCDD	-----	0.34	0.092	I			
1,2,3,7,8,9-HxCDD	0.26	-----	0.110	BJ			
Total HxCDD	3.00	-----	0.110	J			
1,2,3,4,6,7,8-HpCDF	2.00	-----	0.068	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.20	-----	0.130	J	Equivalence: 0.35 ng/Kg		
Total HpCDF	5.70	-----	0.097		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	6.80	-----	0.081				
Total HpCDD	10.00	-----	0.081				
OCDF	6.70	-----	0.150	J			
OCDD	46.00	-----	0.150				

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP56.101811-13-14		
Lab Sample ID	10173238012		
Filename	F111110A_07		
Injected By	SMT		
Total Amount Extracted	17.9 g	Matrix	Solid
% Moisture	26.4	Dilution	NA
Dry Weight Extracted	13.2 g	Collected	10/18/2011 14:00
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109B_16 & F111110A_13	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 08:32

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.10	-----	0.110		2,3,7,8-TCDF-13C	2.00	74
Total TCDF	27.00	-----	0.110		2,3,7,8-TCDD-13C	2.00	79
					1,2,3,7,8-PeCDF-13C	2.00	80
2,3,7,8-TCDD	0.30	-----	0.200	J	2,3,4,7,8-PeCDF-13C	2.00	82
Total TCDD	13.00	-----	0.200		1,2,3,7,8-PeCDD-13C	2.00	86
					1,2,3,4,7,8-HxCDF-13C	2.00	70
1,2,3,7,8-PeCDF	-----	0.42	0.250	P	1,2,3,6,7,8-HxCDF-13C	2.00	81
2,3,4,7,8-PeCDF	1.90	-----	0.220	J	2,3,4,6,7,8-HxCDF-13C	2.00	84
Total PeCDF	24.00	-----	0.240		1,2,3,7,8,9-HxCDF-13C	2.00	72
					1,2,3,4,7,8-HxCDD-13C	2.00	77
1,2,3,7,8-PeCDD	-----	0.54	0.160	I	1,2,3,6,7,8-HxCDD-13C	2.00	80
Total PeCDD	13.00	-----	0.160		1,2,3,4,6,7,8-HpCDF-13C	2.00	68
					1,2,3,4,7,8,9-HpCDF-13C	2.00	68
1,2,3,4,7,8-HxCDF	0.87	-----	0.086	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	0.88	-----	0.110	J	OCDD-13C	4.00	59
2,3,4,6,7,8-HxCDF	1.20	-----	0.089	J			
1,2,3,7,8,9-HxCDF	0.23	-----	0.140	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	23.00	-----	0.110		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.45	-----	0.100	J	2,3,7,8-TCDD-37Cl4	0.20	74
1,2,3,6,7,8-HxCDD	1.20	-----	0.110	J			
1,2,3,7,8,9-HxCDD	-----	0.76	0.098	I			
Total HxCDD	21.00	-----	0.100				
1,2,3,4,6,7,8-HpCDF	21.00	-----	0.150		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.35	-----	0.140	J	Equivalence: 1.9 ng/Kg		
Total HpCDF	38.00	-----	0.150		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	9.00	-----	0.220				
Total HpCDD	22.00	-----	0.220				
OCDF	19.00	-----	0.130				
OCDD	74.00	-----	0.150				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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J = Estimated value
P = PCDE Interference
I = Interference present

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Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP52.101811-1-3.5		
Lab Sample ID	10173238013		
Filename	F111110A_08		
Injected By	SMT		
Total Amount Extracted	15.7 g	Matrix	Solid
% Moisture	6.6	Dilution	NA
Dry Weight Extracted	14.7 g	Collected	10/18/2011 15:25
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109B_16 & F111110A_13	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 09:19

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.130	0.130	I	2,3,7,8-TCDF-13C	2.00	56
Total TCDF	ND	-----	0.130		2,3,7,8-TCDD-13C	2.00	64
					1,2,3,7,8-PeCDF-13C	2.00	73
2,3,7,8-TCDD	ND	-----	0.150		2,3,4,7,8-PeCDF-13C	2.00	75
Total TCDD	1.10	-----	0.150		1,2,3,7,8-PeCDD-13C	2.00	82
					1,2,3,4,7,8-HxCDF-13C	2.00	72
1,2,3,7,8-PeCDF	ND	-----	0.095		1,2,3,6,7,8-HxCDF-13C	2.00	81
2,3,4,7,8-PeCDF	ND	-----	0.087		2,3,4,6,7,8-HxCDF-13C	2.00	86
Total PeCDF	ND	-----	0.091		1,2,3,7,8,9-HxCDF-13C	2.00	72
					1,2,3,4,7,8-HxCDD-13C	2.00	83
1,2,3,7,8-PeCDD	ND	-----	0.096		1,2,3,6,7,8-HxCDD-13C	2.00	81
Total PeCDD	ND	-----	0.096		1,2,3,4,6,7,8-HpCDF-13C	2.00	81
					1,2,3,4,7,8,9-HpCDF-13C	2.00	69
1,2,3,4,7,8-HxCDF	0.12	-----	0.081	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	77
1,2,3,6,7,8-HxCDF	-----	0.085	0.064	I	OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	-----	0.100	0.060	I			
1,2,3,7,8,9-HxCDF	ND	-----	0.076		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	1.20	-----	0.070	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.110		2,3,7,8-TCDD-37Cl4	0.20	59
1,2,3,6,7,8-HxCDD	-----	0.220	0.100	I			
1,2,3,7,8,9-HxCDD	-----	0.200	0.140	I			
Total HxCDD	1.80	-----	0.120	BJ			
1,2,3,4,6,7,8-HpCDF	1.30	-----	0.074	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.120		Equivalence: 0.25 ng/Kg		
Total HpCDF	3.90	-----	0.095		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	4.30	-----	0.180				
Total HpCDD	9.90	-----	0.180				
OCDF	3.40	-----	0.120	J			
OCDD	45.00	-----	0.150				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP52.101811-7-10		
Lab Sample ID	10173238014		
Filename	F111110A_09		
Injected By	SMT		
Total Amount Extracted	15.4 g	Matrix	Solid
% Moisture	6.4	Dilution	NA
Dry Weight Extracted	14.4 g	Collected	10/18/2011 15:35
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109B_16 & F111110A_13	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 10:05

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.27	-----	0.150	J	2,3,7,8-TCDF-13C	2.00	60
Total TCDF	1.30	-----	0.150		2,3,7,8-TCDD-13C	2.00	70
					1,2,3,7,8-PeCDF-13C	2.00	74
2,3,7,8-TCDD	ND	-----	0.120		2,3,4,7,8-PeCDF-13C	2.00	72
Total TCDD	2.50	-----	0.120		1,2,3,7,8-PeCDD-13C	2.00	84
					1,2,3,4,7,8-HxCDF-13C	2.00	66
1,2,3,7,8-PeCDF	ND	-----	0.110		1,2,3,6,7,8-HxCDF-13C	2.00	78
2,3,4,7,8-PeCDF	0.21	-----	0.120	BJ	2,3,4,6,7,8-HxCDF-13C	2.00	77
Total PeCDF	1.10	-----	0.110	BJ	1,2,3,7,8,9-HxCDF-13C	2.00	70
					1,2,3,4,7,8-HxCDD-13C	2.00	79
1,2,3,7,8-PeCDD	ND	-----	0.130		1,2,3,6,7,8-HxCDD-13C	2.00	84
Total PeCDD	1.20	-----	0.130	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	77
					1,2,3,4,7,8,9-HpCDF-13C	2.00	65
1,2,3,4,7,8-HxCDF	0.26	-----	0.061	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	80
1,2,3,6,7,8-HxCDF	-----	0.15	0.057	I	OCDD-13C	4.00	57
2,3,4,6,7,8-HxCDF	0.16	-----	0.064	BJ			
1,2,3,7,8,9-HxCDF	ND	-----	0.130		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	2.70	-----	0.079	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.17	-----	0.081	J	2,3,7,8-TCDD-37Cl4	0.20	66
1,2,3,6,7,8-HxCDD	0.32	-----	0.090	BJ			
1,2,3,7,8,9-HxCDD	-----	0.22	0.052	I			
Total HxCDD	3.90	-----	0.075				
1,2,3,4,6,7,8-HpCDF	1.90	-----	0.071	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	0.11	-----	0.094	J	Equivalence: 0.43 ng/Kg		
Total HpCDF	6.00	-----	0.083		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	6.20	-----	0.089				
Total HpCDD	13.00	-----	0.089				
OCDF	7.10	-----	0.150				
OCDD	85.00	-----	0.130				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
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Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	DP52.101811-12-13.5		
Lab Sample ID	10173238015		
Filename	F111110A_11		
Injected By	SMT		
Total Amount Extracted	17.6 g	Matrix	Solid
% Moisture	27.9	Dilution	10
Dry Weight Extracted	12.7 g	Collected	10/18/2011 15:45
ICAL ID	F110926	Received	10/20/2011 10:00
CCal Filename(s)	F111109B_16 & F111110A_13	Extracted	11/04/2011 17:30
Method Blank ID	BLANK-30700	Analyzed	11/10/2011 11:56

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	10.0	-----	1.2	D	2,3,7,8-TCDF-13C	2.00	81	D
Total TCDF	210.0	-----	1.2	D	2,3,7,8-TCDD-13C	2.00	86	D
					1,2,3,7,8-PeCDF-13C	2.00	81	D
2,3,7,8-TCDD	9.0	-----	1.0	D	2,3,4,7,8-PeCDF-13C	2.00	83	D
Total TCDD	130.0	-----	1.0	D	1,2,3,7,8-PeCDD-13C	2.00	86	D
					1,2,3,4,7,8-HxCDF-13C	2.00	79	D
1,2,3,7,8-PeCDF	-----	66	2.3	P	1,2,3,6,7,8-HxCDF-13C	2.00	79	D
2,3,4,7,8-PeCDF	80.0	-----	3.0	D	2,3,4,6,7,8-HxCDF-13C	2.00	78	D
Total PeCDF	1300.0	-----	2.7	D	1,2,3,7,8,9-HxCDF-13C	2.00	78	D
					1,2,3,4,7,8-HxCDD-13C	2.00	81	D
1,2,3,7,8-PeCDD	57.0	-----	1.1	D	1,2,3,6,7,8-HxCDD-13C	2.00	85	D
Total PeCDD	310.0	-----	1.1	D	1,2,3,4,6,7,8-HpCDF-13C	2.00	67	D
					1,2,3,4,7,8,9-HpCDF-13C	2.00	61	D
1,2,3,4,7,8-HxCDF	280.0	-----	3.3	D	1,2,3,4,6,7,8-HpCDD-13C	2.00	70	D
1,2,3,6,7,8-HxCDF	130.0	-----	3.4	D	OCDD-13C	4.00	54	D
2,3,4,6,7,8-HxCDF	130.0	-----	3.4	D				
1,2,3,7,8,9-HxCDF	74.0	-----	4.7	D	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	6100.0	-----	3.7	D	1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	55.0	-----	2.5	D	2,3,7,8-TCDD-37Cl4	0.20	89	D
1,2,3,6,7,8-HxCDD	290.0	-----	3.0	D				
1,2,3,7,8,9-HxCDD	160.0	-----	2.4	D				
Total HxCDD	2000.0	-----	2.6	D				
1,2,3,4,6,7,8-HpCDF	2900.0	-----	1.3	D	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	200.0	-----	4.5	D	Equivalence: 330 ng/Kg			
Total HpCDF	10000.0	-----	2.9	D	(Using 2005 WHO Factors - Using PRL/2 where ND)			
1,2,3,4,6,7,8-HpCDD	7600.0	-----	1.8	D				
Total HpCDD	13000.0	-----	1.8	D				
OCDF	10000.0	-----	2.4	D				
OCDD	67000.0	-----	2.2	ED				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range
D = Result obtained from analysis of diluted sample

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Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-30700	Matrix	Solid
Filename	F111109B_04	Dilution	NA
Total Amount Extracted	10.6 g	Extracted	11/04/2011 17:30
ICAL ID	F110926	Analyzed	11/09/2011 17:51
CCal Filename(s)	F111109A_10 & F111109B_16	Injected By	SMT

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.120	0.110	I	2,3,7,8-TCDF-13C	2.00	51
Total TCDF	0.130	-----	0.110	J	2,3,7,8-TCDD-13C	2.00	58
					1,2,3,7,8-PeCDF-13C	2.00	63
2,3,7,8-TCDD	ND	-----	0.120		2,3,4,7,8-PeCDF-13C	2.00	68
Total TCDD	ND	-----	0.120		1,2,3,7,8-PeCDD-13C	2.00	72
					1,2,3,4,7,8-HxCDF-13C	2.00	66
1,2,3,7,8-PeCDF	0.130	-----	0.092	J	1,2,3,6,7,8-HxCDF-13C	2.00	76
2,3,4,7,8-PeCDF	0.079	-----	0.062	J	2,3,4,6,7,8-HxCDF-13C	2.00	85
Total PeCDF	0.210	-----	0.077	J	1,2,3,7,8,9-HxCDF-13C	2.00	71
					1,2,3,4,7,8-HxCDD-13C	2.00	76
1,2,3,7,8-PeCDD	ND	-----	0.067		1,2,3,6,7,8-HxCDD-13C	2.00	74
Total PeCDD	ND	-----	0.067		1,2,3,4,6,7,8-HpCDF-13C	2.00	63
					1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	-----	0.066	0.058	I	1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	-----	0.048	0.046	I	OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	0.064	-----	0.036	J			
1,2,3,7,8,9-HxCDF	-----	0.057	0.055	I	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	0.064	-----	0.049	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.061		2,3,7,8-TCDD-37Cl4	0.20	52
1,2,3,6,7,8-HxCDD	0.084	-----	0.068	J			
1,2,3,7,8,9-HxCDD	0.081	-----	0.056	J			
Total HxCDD	0.260	-----	0.061	J			
1,2,3,4,6,7,8-HpCDF	-----	0.064	0.046	I	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.056		Equivalence: 0.16 ng/Kg		
Total HpCDF	ND	-----	0.051		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	-----	0.130	0.063	I			
Total HpCDD	ND	-----	0.063				
OCDF	0.170	-----	0.100	J			
OCDD	-----	0.720	0.120	I			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

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J = Estimated value
I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-30701		
Filename	F111109B_02	Matrix	Solid
Total Amount Extracted	10.8 g	Dilution	NA
ICAL ID	F110926	Extracted	11/04/2011 17:30
CCal Filename(s)	F111109A_10 & F111109B_16	Analyzed	11/09/2011 16:18
Method Blank ID	BLANK-30700	Injected By	SMT

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.21	107	2,3,7,8-TCDF-13C	2.0	57
Total TCDF				2,3,7,8-TCDD-13C	2.0	60
				1,2,3,7,8-PeCDF-13C	2.0	63
2,3,7,8-TCDD	0.20	0.17	87	2,3,4,7,8-PeCDF-13C	2.0	69
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	73
				1,2,3,4,7,8-HxCDF-13C	2.0	64
1,2,3,7,8-PeCDF	1.0	1.1	110	1,2,3,6,7,8-HxCDF-13C	2.0	71
2,3,4,7,8-PeCDF	1.0	1.1	107	2,3,4,6,7,8-HxCDF-13C	2.0	85
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	69
				1,2,3,4,7,8-HxCDD-13C	2.0	72
1,2,3,7,8-PeCDD	1.0	0.95	95	1,2,3,6,7,8-HxCDD-13C	2.0	73
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	65
				1,2,3,4,7,8,9-HpCDF-13C	2.0	61
1,2,3,4,7,8-HxCDF	1.0	1.1	107	1,2,3,4,6,7,8-HpCDD-13C	2.0	67
1,2,3,6,7,8-HxCDF	1.0	1.1	108	OCDD-13C	4.0	56
2,3,4,6,7,8-HxCDF	1.0	1.1	107			
1,2,3,7,8,9-HxCDF	1.0	1.1	109	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	0.99	99	2,3,7,8-TCDD-37Cl4	0.20	57
1,2,3,6,7,8-HxCDD	1.0	1.0	104			
1,2,3,7,8,9-HxCDD	1.0	1.0	101			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.0	102			
1,2,3,4,7,8,9-HpCDF	1.0	1.0	103			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.92	92			
Total HpCDD						
OCDF	2.0	2.3	116			
OCDD	2.0	2.3	114			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range
Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Spiked Sample Report

Client - Pioneer Technologies Corporation

Client's Sample ID	DP56.101811-1-3-MS		
Lab Sample ID	10173238010-MS		
Filename	F111110A_01	Matrix	Solid
Total Amount Extracted	15.2 g	Dilution	NA
ICAL ID	F110926	Extracted	11/04/2011 17:30
CCal Filename(s)	F111109B_16 & F111110A_13	Analyzed	11/10/2011 03:54
Method Blank ID	BLANK-30700	Injected By	SMT

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.26	130	2,3,7,8-TCDF-13C	2.00	75
				2,3,7,8-TCDD-13C	2.00	72
				1,2,3,7,8-PeCDF-13C	2.00	80
2,3,7,8-TCDD	0.20	0.19	96	2,3,4,7,8-PeCDF-13C	2.00	82
				1,2,3,7,8-PeCDD-13C	2.00	89
				1,2,3,4,7,8-HxCDF-13C	2.00	72
1,2,3,7,8-PeCDF	1.00	0.76	76	1,2,3,6,7,8-HxCDF-13C	2.00	80
2,3,4,7,8-PeCDF	1.00	1.11	111	2,3,4,6,7,8-HxCDF-13C	2.00	81
				1,2,3,7,8,9-HxCDF-13C	2.00	77
				1,2,3,4,7,8-HxCDD-13C	2.00	82
1,2,3,7,8-PeCDD	1.00	0.99	99	1,2,3,6,7,8-HxCDD-13C	2.00	83
				1,2,3,4,6,7,8-HpCDF-13C	2.00	72
				1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	1.00	1.14	114	1,2,3,4,6,7,8-HpCDD-13C	2.00	75
1,2,3,6,7,8-HxCDF	1.00	1.08	108	OCDD-13C	4.00	65
2,3,4,6,7,8-HxCDF	1.00	1.11	111			
1,2,3,7,8,9-HxCDF	1.00	1.06	106	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.99	99	2,3,7,8-TCDD-37Cl4	0.20	64
1,2,3,6,7,8-HxCDD	1.00	1.06	106			
1,2,3,7,8,9-HxCDD	1.00	1.00	100			
1,2,3,4,6,7,8-HpCDF	1.00	1.39	139			
1,2,3,4,7,8,9-HpCDF	1.00	1.02	102			
1,2,3,4,6,7,8-HpCDD	1.00	2.51	251			
OCDF	2.00	3.80	190			
OCDD	2.00	18.93	946			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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Method 8290 Spiked Sample Report

Client - Pioneer Technologies Corporation

Client's Sample ID	DP56.101811-1-3-MSD		
Lab Sample ID	10173238010-MSD		
Filename	F111110A_02	Matrix	Solid
Total Amount Extracted	15.4 g	Dilution	NA
ICAL ID	F110926	Extracted	11/04/2011 17:30
CCal Filename(s)	F111109B_16 & F111110A_13	Analyzed	11/10/2011 04:40
Method Blank ID	BLANK-30700	Injected By	SMT

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.29	146	2,3,7,8-TCDF-13C	2.00	79
				2,3,7,8-TCDD-13C	2.00	85
				1,2,3,7,8-PeCDF-13C	2.00	80
2,3,7,8-TCDD	0.20	0.20	101	2,3,4,7,8-PeCDF-13C	2.00	83
				1,2,3,7,8-PeCDD-13C	2.00	90
				1,2,3,4,7,8-HxCDF-13C	2.00	69
1,2,3,7,8-PeCDF	1.00	0.74	74	1,2,3,6,7,8-HxCDF-13C	2.00	76
2,3,4,7,8-PeCDF	1.00	1.16	116	2,3,4,6,7,8-HxCDF-13C	2.00	82
				1,2,3,7,8,9-HxCDF-13C	2.00	74
				1,2,3,4,7,8-HxCDD-13C	2.00	75
1,2,3,7,8-PeCDD	1.00	1.02	102	1,2,3,6,7,8-HxCDD-13C	2.00	79
				1,2,3,4,6,7,8-HpCDF-13C	2.00	64
				1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	1.00	1.13	113	1,2,3,4,6,7,8-HpCDD-13C	2.00	70
1,2,3,6,7,8-HxCDF	1.00	1.11	111	OCDD-13C	4.00	57
2,3,4,6,7,8-HxCDF	1.00	1.17	117			
1,2,3,7,8,9-HxCDF	1.00	1.10	110	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.99	99	2,3,7,8-TCDD-37Cl4	0.20	81
1,2,3,6,7,8-HxCDD	1.00	1.14	114			
1,2,3,7,8,9-HxCDD	1.00	1.10	110			
1,2,3,4,6,7,8-HpCDF	1.00	1.51	151			
1,2,3,4,7,8,9-HpCDF	1.00	1.07	107			
1,2,3,4,6,7,8-HpCDD	1.00	2.63	263			
OCDF	2.00	3.99	200			
OCDD	2.00	17.32	866			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Spike Sample Results

Client - Pioneer Technologies Corporation

Client Sample ID	DP56.101811-1-3			Dry Weights	
Lab Sample ID	10173238010	Sample Filename	F111110A_05	Sample Amount	13.8 g
MS ID	10173238010-MS	MS Filename	F111110A_01	MS Amount	13.7 g
MSD ID	10173238010-MSD	MSD Filename	F111110A_02	MSD Amount	13.8 g

Analyte	Sample Conc. ng/Kg	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	Background Subtracted MS % Rec.	MSD % Rec.	RPD
2,3,7,8-TCDF	3.280	0.20	0.26	0.29	11.4	108	123	13.3
2,3,7,8-TCDD	0.808	0.20	0.19	0.20	5.5	91	96	5.7
1,2,3,7,8-PeCDF	1.350	1.00	0.76	0.74	3.3	74	72	3.4
2,3,4,7,8-PeCDF	4.540	1.00	1.11	1.16	4.3	105	110	4.5
1,2,3,7,8-PeCDD	4.170	1.00	0.99	1.02	2.8	93	96	2.9
1,2,3,4,7,8-HxCDF	4.110	1.00	1.14	1.13	0.9	108	107	1.0
1,2,3,6,7,8-HxCDF	2.950	1.00	1.08	1.11	3.1	104	107	3.2
2,3,4,6,7,8-HxCDF	3.580	1.00	1.11	1.17	5.5	106	112	5.7
1,2,3,7,8,9-HxCDF	0.939	1.00	1.06	1.10	3.4	105	109	3.4
1,2,3,4,7,8-HxCDD	2.470	1.00	0.99	0.99	0.2	96	95	0.3
1,2,3,6,7,8-HxCDD	5.450	1.00	1.06	1.14	7.2	99	106	7.7
1,2,3,7,8,9-HxCDD	3.710	1.00	1.00	1.10	10.0	95	105	10.4
1,2,3,4,6,7,8-HpCDF	27.200	1.00	1.39	1.51	8.1	102	113	10.5
1,2,3,4,7,8,9-HpCDF	2.130	1.00	1.02	1.07	4.2	99	104	4.3
1,2,3,4,6,7,8-HpCDD	103.000	1.00	2.51	2.63	4.8	110	121	9.0
OCDF	103.000	2.00	3.80	3.99	5.0	119	128	7.1
OCDD	1070.000	2.00	18.93	17.32	8.9	215	125	52.9

Definitions

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	120210035
Address:	5205 CORPORATE CENTER COURT LACEY, WA 98503	**Project Name:**	EAST BAY P-1
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	120210035-001	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012	1:44 PM
Client Sample ID	P-1-STOCKPILE COMP	**Sampling Time**	10:45 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	495	mg/Kg	25	2/13/2012	KFG	EPA 8015Bmod	
Lube Oil	869	mg/Kg	100	2/13/2012	KFG	EPA 8015Bmod	
%moisture	16.1	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	EPA 8015Bmod	90.6	50-150

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-002	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-W_02092012_2.5	**Sampling Time**	2:00 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	370	mg/Kg	25	2/13/2012	KFG	EPA 8015Bmod	
Lube Oil	965	mg/Kg	100	2/13/2012	KFG	EPA 8015Bmod	
%moisture	16.2	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	EPA 8015Bmod	92.8	50-150

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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-003	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-S_02092012_3	**Sampling Time**	2:15 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/Kg	25	2/13/2012	KFG	EPA 8015Bmod	
Lube Oil	ND	mg/Kg	100	2/13/2012	KFG	EPA 8015Bmod	
%moisture	17.3	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	EPA 8015Bmod	100.8	50-150

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-004	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-E_02092012_2.5	**Sampling Time**	2:30 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	44.7	mg/Kg	25	2/13/2012	KFG	EPA 8015Bmod	
Lube Oil	92.4	mg/Kg	100	2/13/2012	KFG	EPA 8015Bmod	
%moisture	9.7	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	EPA 8015Bmod	94.0	50-150

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-005	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-N_02092012_3	**Sampling Time**	2:45 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	419	mg/Kg	25	2/13/2012	KFG	EPA 8015Bmod	
Lube Oil	1710	mg/Kg	100	2/13/2012	KFG	EPA 8015Bmod	
%moisture	12	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	EPA 8015Bmod	85.4	50-150

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-006	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012	1:44 PM
Client Sample ID	P-1-B_02092012_7	**Sampling Time**	3:00 PM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	131	mg/Kg	25	2/13/2012	KFG	EPA 8015Bmod	
Lube Oil	172	mg/Kg	100	2/13/2012	KFG	EPA 8015Bmod	
%moisture	27.5	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-006

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	EPA 8015Bmod	102.8	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	90.1	mg/kg	100	90.1	50-150	2/13/2012	2/13/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120210035-003	Diesel	ND	108	mg/kg	100	108.0	50-150	2/13/2012	2/13/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	116	mg/kg	100	116.0	7.1	0-50	2/13/2012	2/13/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/Kg	25	2/13/2012	2/13/2012
Lube Oil	ND	mg/Kg	100	2/13/2012	2/13/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-001	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012	1:44 PM
Client Sample ID	P-1-STOCKPILE COMP	**Sampling Time**	10:45 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.015	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Anthracene	0.020	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	0.116	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	0.051	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	0.070	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.117	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.036	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Chrysene	0.069	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	0.029	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluoranthene	0.067	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluorene	0.018	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-001	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012	1:44 PM
Client Sample ID	P-1-STOCKPILE COMP	**Sampling Time**	10:45 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	0.078	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Naphthalene	0.029	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.095	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Pyrene	0.072	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
%moisture	16.1	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	57.4	18-137

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Analytical Results Report

Sample Number	120210035-002	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012	1:44 PM
Client Sample ID	P-1-W_02092012_2.5	**Sampling Time**	2:00 PM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	0.018	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Chrysene	0.054	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluoranthene	0.038	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	120210035-002	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-W_02092012_2.5	**Sampling Time**	2:00 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.041	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Pyrene	0.049	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
%moisture	16.2	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	84.2	18-137

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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-003	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-S_02092012_3	**Sampling Time**	2:15 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.025	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthene	0.021	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	0.018	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Anthracene	0.097	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	0.054	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	0.107	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	0.093	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.130	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.052	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Chrysene	0.115	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluoranthene	0.206	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluorene	0.024	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.047	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-003	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-S_02092012_3	**Sampling Time**	2:15 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.039	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.228	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Pyrene	0.271	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
%moisture	17.3	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	100.4	18-137

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-004	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-E_02092012_2.5	**Sampling Time**	2:30 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-004	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-E_02092012_2.5	**Sampling Time**	2:30 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Phenanthrene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
%moisture	9.7	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	102.6	18-137

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-005	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-N_02092012_3	**Sampling Time**	2:45 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.011	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Anthracene	0.013	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	0.064	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	0.031	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.093	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Chrysene	0.069	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluoranthene	0.053	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Fluorene	0.010	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.038	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	120210035-005	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-N_02092012_3	**Sampling Time**	2:45 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.015	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.050	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
Pyrene	0.069	mg/Kg	0.01	2/14/2012	EMP	EPA 8270C	
%moisture	12	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	117.3	18-137

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-006	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-B_02092012_7	**Sampling Time**	3:00 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-006	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-B_02092012_7	**Sampling Time**	3:00 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Phenanthrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
%moisture	27.5	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	95.8	18-137

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.829	mg/kg	1	82.9	30-140	2/13/2012	2/14/2012
Acenaphthene	0.935	mg/kg	1	93.5	30-140	2/13/2012	2/14/2012
Acenaphthylene	0.947	mg/kg	1	94.7	30-140	2/13/2012	2/14/2012
Anthracene	0.948	mg/kg	1	94.8	30-140	2/13/2012	2/14/2012
Benzo(ghi)perylene	1.03	mg/kg	1	103.0	30-140	2/13/2012	2/14/2012
Benzo[a]anthracene	1.04	mg/kg	1	104.0	30-140	2/13/2012	2/14/2012
Benzo[a]pyrene	0.995	mg/kg	1	99.5	30-140	2/13/2012	2/14/2012
2-Methylnaphthalene	1.02	mg/kg	1	102.0	30-140	2/13/2012	2/14/2012
Benzo[k]fluoranthene	0.838	mg/kg	1	83.8	30-140	2/13/2012	2/14/2012
Pyrene	1.08	mg/kg	1	108.0	30-140	2/13/2012	2/14/2012
Dibenz[a,h]anthracene	1.04	mg/kg	1	104.0	30-140	2/13/2012	2/14/2012
Fluoranthene	0.978	mg/kg	1	97.8	30-140	2/13/2012	2/14/2012
Fluorene	0.935	mg/kg	1	93.5	30-140	2/13/2012	2/14/2012
Indeno[1,2,3-cd]pyrene	1.05	mg/kg	1	105.0	30-140	2/13/2012	2/14/2012
Naphthalene	0.952	mg/kg	1	95.2	30-140	2/13/2012	2/14/2012
Phenanthrene	0.986	mg/kg	1	98.6	30-140	2/13/2012	2/14/2012
Benzo[b]fluoranthene	1.06	mg/kg	1	106.0	30-140	2/13/2012	2/14/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120210035-004	Chrysene	ND	0.729	mg/kg	1	72.9	30-140	2/13/2012	2/14/2012
120210035-004	Acenaphthene	ND	0.894	mg/kg	1	89.4	30-140	2/13/2012	2/14/2012
120210035-004	Acenaphthylene	ND	0.902	mg/kg	1	90.2	30-140	2/13/2012	2/14/2012
120210035-004	Anthracene	ND	0.903	mg/kg	1	90.3	30-140	2/13/2012	2/14/2012
120210035-004	Benzo(ghi)perylene	ND	1.24	mg/kg	1	124.0	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[a]anthracene	ND	0.946	mg/kg	1	94.6	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[a]pyrene	ND	0.965	mg/kg	1	96.5	30-140	2/13/2012	2/14/2012
120210035-004	2-Methylnaphthalene	ND	0.987	mg/kg	1	98.7	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[k]fluoranthene	ND	0.939	mg/kg	1	93.9	30-140	2/13/2012	2/14/2012
120210035-004	Pyrene	ND	0.934	mg/kg	1	93.4	30-140	2/13/2012	2/14/2012
120210035-004	Dibenz[a,h]anthracene	ND	1.21	mg/kg	1	121.0	30-140	2/13/2012	2/14/2012
120210035-004	Fluoranthene	ND	0.879	mg/kg	1	87.9	30-140	2/13/2012	2/14/2012
120210035-004	Fluorene	ND	0.898	mg/kg	1	89.8	30-140	2/13/2012	2/14/2012
120210035-004	Indeno[1,2,3-cd]pyrene	ND	1.19	mg/kg	1	119.0	30-140	2/13/2012	2/14/2012

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120210035-004	Naphthalene	ND	0.936	mg/kg	1	93.6	30-140	2/13/2012	2/14/2012
120210035-004	Phenanthrene	ND	0.941	mg/kg	1	94.1	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[b]fluoranthene	ND	0.835	mg/kg	1	83.5	30-140	2/13/2012	2/14/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.816	mg/kg	1	81.6	11.3	0-50	2/13/2012	2/14/2012
Acenaphthene	0.884	mg/kg	1	88.4	1.1	0-50	2/13/2012	2/14/2012
Acenaphthylene	0.896	mg/kg	1	89.6	0.7	0-50	2/13/2012	2/14/2012
Anthracene	0.892	mg/kg	1	89.2	1.2	0-50	2/13/2012	2/14/2012
Benzo(ghi)perylene	1.02	mg/kg	1	102.0	19.5	0-50	2/13/2012	2/14/2012
Benzo[a]anthracene	1.02	mg/kg	1	102.0	7.5	0-50	2/13/2012	2/14/2012
Benzo[a]pyrene	0.987	mg/kg	1	98.7	2.3	0-50	2/13/2012	2/14/2012
2-Methylnaphthalene	0.971	mg/kg	1	97.1	1.6	0-50	2/13/2012	2/14/2012
Benzo[k]fluoranthene	1.04	mg/kg	1	104.0	10.2	0-50	2/13/2012	2/14/2012
Pyrene	1.00	mg/kg	1	100.0	6.8	0-50	2/13/2012	2/14/2012
Dibenz[a,h]anthracene	1.04	mg/kg	1	104.0	15.1	0-50	2/13/2012	2/14/2012
Fluoranthene	0.903	mg/kg	1	90.3	2.7	0-50	2/13/2012	2/14/2012
Fluorene	0.901	mg/kg	1	90.1	0.3	0-50	2/13/2012	2/14/2012
Indeno[1,2,3-cd]pyrene	1.03	mg/kg	1	103.0	14.4	0-50	2/13/2012	2/14/2012
Naphthalene	0.919	mg/kg	1	91.9	1.8	0-50	2/13/2012	2/14/2012
Phenanthrene	0.950	mg/kg	1	95.0	1.0	0-50	2/13/2012	2/14/2012
Benzo[b]fluoranthene	0.884	mg/kg	1	88.4	5.7	0-50	2/13/2012	2/14/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Acenaphthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Acenaphthylene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Anthracene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo(ghi)perylene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[a]anthracene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[a]pyrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[b]fluoranthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[k]fluoranthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Fluoranthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Fluorene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Naphthalene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Phenanthrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Pyrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-001	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012	1:44 PM
Client Sample ID	P-1-STOCKPILE COMP	**Sampling Time**	10:45 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
PCB 8082 (total)	ND	mg/kg	0.1	2/13/2012	SAT	EPA 8082	
%moisture	16.1	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-001

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	115.0	30-130

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-002	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-W_02092012_2.5	**Sampling Time**	2:00 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
PCB 8082 (total)	ND	mg/kg	0.1	2/13/2012	SAT	EPA 8082	
%moisture	16.2	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	110.0	30-130

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-003	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-S_02092012_3	**Sampling Time**	2:15 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
PCB 8082 (total)	ND	mg/kg	0.1	2/13/2012	SAT	EPA 8082	
%moisture	17.3	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-003

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	104.0	30-130

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-004	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-E_02092012_2.5	**Sampling Time**	2:30 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
PCB 8082 (total)	ND	mg/kg	0.1	2/13/2012	SAT	EPA 8082	
%moisture	9.7	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-004

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	109.0	30-130

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-005	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-N_02092012_3	**Sampling Time**	2:45 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
PCB 8082 (total)	ND	mg/kg	0.1	2/13/2012	SAT	EPA 8082	
%moisture	12	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-005

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	127.0	30-130

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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-006	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-B_02092012_7	**Sampling Time**	3:00 PM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	2/13/2012	SAT	EPA 8082	
PCB 8082 (total)	ND	mg/kg	0.1	2/13/2012	SAT	EPA 8082	
%moisture	27.5	Percent		2/11/2012	KFG	%moisture	

Surrogate Data

Sample Number 120210035-006

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	106.0	30-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Project Name: EAST BAY P-1

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
PCB 8082 (total)	0.205	mg/kg	0.2	102.5	30-150	2/13/2012	2/13/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120210035-004	PCB 8082 (total)	ND	0.139	mg/kg	0.126	110.3	30-150	2/13/2012	2/13/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
PCB 8082 (total)	0.109	mg/kg	0.126	86.5	24.2	0-50	2/13/2012	2/13/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	2/13/2012	2/13/2012
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	2/13/2012	2/13/2012
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	2/13/2012	2/13/2012
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	2/13/2012	2/13/2012
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	2/13/2012	2/13/2012
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	2/13/2012	2/13/2012
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	2/13/2012	2/13/2012
PCB 8082 (total)	ND	mg/kg	0.1	2/13/2012	2/13/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Sample Number	120210035-001	**Sampling Date**	2/9/2012	**Date/Time Received**	2/10/2012 1:44 PM
Client Sample ID	P-1-STOCKPILE COMP	**Sampling Time**	10:45 AM		
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
TCLP Arsenic	ND	ppm	0.05	2/14/2012	ETL	EPA 6020A	
TCLP Barium	0.490	ppm	0.05	2/14/2012	ETL	EPA 6020A	
TCLP Cadmium	ND	ppm	0.05	2/14/2012	ETL	EPA 6020A	
TCLP Chromium	ND	ppm	0.05	2/14/2012	ETL	EPA 6020A	
TCLP Lead	ND	ppm	0.05	2/14/2012	ETL	EPA 6020A	
TCLP Mercury	ND	ppm	0.01	2/14/2012	ETL	EPA 6020A	
TCLP Selenium	ND	ppm	0.05	2/14/2012	ETL	EPA 6020A	
TCLP Silver	ND	ppm	0.05	2/14/2012	ETL	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Project Name: EAST BAY P-1

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
TCLP Silver	0.0539	mg/L	0.05	107.8	80-120	2/14/2012	2/14/2012
TCLP Selenium	0.0542	mg/L	0.05	108.4	80-120	2/14/2012	2/14/2012
TCLP Mercury	0.00263	mg/L	0.0025	105.2	80-120	2/14/2012	2/14/2012
TCLP Lead	0.0533	mg/L	0.05	106.6	80-120	2/14/2012	2/14/2012
TCLP Chromium	0.0509	mg/L	0.05	101.8	80-120	2/14/2012	2/14/2012
TCLP Cadmium	0.0537	mg/L	0.05	107.4	80-120	2/14/2012	2/14/2012
TCLP Barium	0.0542	mg/L	0.05	108.4	80-120	2/14/2012	2/14/2012
TCLP Arsenic	0.0505	mg/L	0.05	101.0	80-120	2/14/2012	2/14/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120210035-001	TCLP Silver	ND	2.55	mg/L	2.5	102.0	75-125	2/14/2012	2/14/2012
120210035-001	TCLP Selenium	ND	2.67	mg/L	2.5	106.8	75-125	2/14/2012	2/14/2012
120210035-001	TCLP Mercury	ND	0.125	mg/L	0.125	100.0	75-125	2/14/2012	2/14/2012
120210035-001	TCLP Lead	ND	2.49	mg/L	2.5	99.6	75-125	2/14/2012	2/14/2012
120210035-001	TCLP Chromium	ND	2.49	mg/L	2.5	99.6	75-125	2/14/2012	2/14/2012
120210035-001	TCLP Cadmium	ND	2.58	mg/L	2.5	103.2	75-125	2/14/2012	2/14/2012
120210035-001	TCLP Barium	0.490	3.07	mg/L	2.5	103.2	75-125	2/14/2012	2/14/2012
120210035-001	TCLP Arsenic	ND	2.52	mg/L	2.5	100.8	75-125	2/14/2012	2/14/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
TCLP Silver	2.64	mg/L	2.5	105.6	3.5	0-20	2/14/2012	2/14/2012
TCLP Selenium	2.74	mg/L	2.5	109.6	2.6	0-20	2/14/2012	2/14/2012
TCLP Mercury	0.130	mg/L	0.125	104.0	3.9	0-20	2/14/2012	2/14/2012
TCLP Lead	2.61	mg/L	2.5	104.4	4.7	0-20	2/14/2012	2/14/2012
TCLP Chromium	2.61	mg/L	2.5	104.4	4.7	0-20	2/14/2012	2/14/2012
TCLP Cadmium	2.70	mg/L	2.5	108.0	4.5	0-20	2/14/2012	2/14/2012
TCLP Barium	3.19	mg/L	2.5	108.0	3.8	0-20	2/14/2012	2/14/2012
TCLP Arsenic	2.63	mg/L	2.5	105.2	4.3	0-20	2/14/2012	2/14/2012

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 120210035
Project Name: EAST BAY P-1

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
TCLP Arsenic	ND	ppm	0.05	2/14/2012	2/14/2012
TCLP Barium	ND	ppm	0.05	2/14/2012	2/14/2012
TCLP Cadmium	ND	ppm	0.05	2/14/2012	2/14/2012
TCLP Chromium	ND	ppm	0.05	2/14/2012	2/14/2012
TCLP Lead	ND	ppm	0.05	2/14/2012	2/14/2012
TCLP Mercury	ND	ppm	0.01	2/14/2012	2/14/2012
TCLP Selenium	ND	ppm	0.05	2/14/2012	2/14/2012
TCLP Silver	ND	ppm	0.05	2/14/2012	2/14/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 120210035
Order Date: 2/10/2012

Contact Name: TROY BUSSEY

Project Name: EAST BAY P-1

Comment:

Sample #: 120210035-001 **Customer Sample #:** P-1-STOCKPILE COMP

Recv'd: ☑ **Collector:** **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/10/2012 1:44:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	2/14/2012	***2 Days***
PAH 8270 LOW	M	EPA 8270C	2/14/2012	***2 Days***
PCB 8082	M	EPA 8082	2/14/2012	***2 Days***
TPHDX	M	EPA 8015Bmod	2/14/2012	***2 Days***
TCLP Arsenic	M	EPA 6020A	2/14/2012	***2 Days***
TCLP Barium	M	EPA 6020A	2/14/2012	***2 Days***
TCLP Cadmium	M	EPA 6020A	2/14/2012	***2 Days***
TCLP Chromium	M	EPA 6020A	2/14/2012	***2 Days***
TCLP Lead	M	EPA 6020A	2/14/2012	***2 Days***
TCLP Mercury	M	EPA 6020A	2/14/2012	***2 Days***
TCLP METALS	M	N/A	2/14/2012	***2 Days***
TCLP Selenium	M	EPA 6020A	2/14/2012	***2 Days***
TCLP Silver	M	EPA 6020A	2/14/2012	***2 Days***

Sample #: 120210035-002 **Customer Sample #:** P-1-W_02092012_2.5

Recv'd: ☑ **Collector:** **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/10/2012 1:44:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	2/22/2012	***2 Days***
PAH 8270 LOW	M	EPA 8270C	2/22/2012	***2 Days***
PCB 8082	M	EPA 8082	2/22/2012	***2 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 120210035

5205 CORPORATE CENTER COURT **Order Date:** 2/10/2012

LACEY WA 98503

Contact Name: TROY BUSSEY **Project Name:** EAST BAY P-1

Comment:

TPHDX	M	EPA 8015Bmod	2/22/2012	***2 Days***

Sample #: 120210035-003 **Customer Sample #:** P-1-S_02092012_3

Recv'd: ☑ **Collector:** **Date Collected:** 2/9/2012

Quantity: 1 **Matrix:** Soil **Date Received:** 2/10/2012 1:44:00 P

Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	2/22/2012	***2 Days***
PAH 8270 LOW	M	EPA 8270C	2/22/2012	***2 Days***
PCB 8082	M	EPA 8082	2/22/2012	***2 Days***
TPHDX	M	EPA 8015Bmod	2/22/2012	***2 Days***

Sample #: 120210035-004 **Customer Sample #:** P-1-E_02092012_2.5

Recv'd: ☑ **Collector:** **Date Collected:** 2/9/2012

Quantity: 1 **Matrix:** Soil **Date Received:** 2/10/2012 1:44:00 P

Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	2/22/2012	***2 Days***
PAH 8270 LOW	M	EPA 8270C	2/22/2012	***2 Days***
PCB 8082	M	EPA 8082	2/22/2012	***2 Days***
TPHDX	M	EPA 8015Bmod	2/22/2012	***2 Days***

Sample #: 120210035-005 **Customer Sample #:** P-1-N_02092012_3

Recv'd: ☑ **Collector:** **Date Collected:** 2/9/2012

Quantity: 1 **Matrix:** Soil **Date Received:** 2/10/2012 1:44:00 P

Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	2/22/2012	***2 Days***
PAH 8270 LOW	M	EPA 8270C	2/22/2012	***2 Days***
PCB 8082	M	EPA 8082	2/22/2012	***2 Days***
TPHDX	M	EPA 8015Bmod	2/22/2012	***2 Days***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 120210035
Order Date: 2/10/2012

Contact Name: TROY BUSSEY

Project Name: EAST BAY P-1

Comment:

Sample #: 120210035-006 **Customer Sample #:** P-1-B_02092012_7

Recv'd: ☑ **Collector:** **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/10/2012 1:44:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	2/22/2012	***2 Days***
PAH 8270 LOW	M	EPA 8270C	2/22/2012	***2 Days***
PCB 8082	M	EPA 8082	2/22/2012	***2 Days***
TPHDX	M	EPA 8015Bmod	2/22/2012	***2 Days***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	3.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

120210 035 **PITC** Last Due 2/22/2012

1st SAMP 2/9/2012 1st RCVD 2/10/2012

EAST BAY P-1

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246

504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PIONEER	Project Manager: Troy Bussey
Address: 5205 Corp Ctr CT Ste A	Project Name & #: East Bay P-1
City: Lacey State: WA Zip: 98503	Email Address: busseyt@pioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax: 360-570-1777	Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
X Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

Next day TAT for P-1 -Stockpile comp

MWBS

2-6 due 2/22/12

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	TPH-D	TPH-HO	PAHs	PCBs	TCLP RCRA 8 Metals					
1	P-1_Stockpile comp	2-9/1045	Soil				X	X	X	X	X					
2	P-1-W_02092012_2.5	2-9/1400	Soil				X	X	X	X						
3	P-1-S_02092012_3	2-9/1415					X	X	X	X						
4	P-1-E_02092012_2.5	2-9/1430					X	X	X	X						
5	P-1-N_02092012_3	2-9/1445					X	X	X	X						
6	P-1-B_02092012_7	2-9/1500					X	X	X	X						

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	N

Fedex Ice Y Seal N

Temperature (°C): 3.3

Preservative: —

Date & Time: 2/10/12 13:44

Inspected By: JT

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	2/9/12	1530
Received by	B Thomson	B Thomson	Anatek	2/10/12	13:44
Relinquished by					
Received by					
Relinquished by					
Received by					

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DATA GAP INVESTIGATION REGARDING THE SOIL-TO-INDOOR AIR PATHWAY

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Data Quality Review
East Bay Redevelopment Site – May 2013 Sampling for the Soil-to-Indoor Air Pathway

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs and laboratory control sample duplicate RPDs were within acceptable ranges identified in the Work Plan (WP; PIONEER 2013).

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. As shown in the analytical reports, no constituents were detected in the laboratory method blanks, and recoveries in the blank spikes, control samples, matrix spikes, and surrogates were within acceptable ranges identified in the WP (PIONEER 2013).

3. Representativeness

Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. All samples were collected, preserved, handled, and analyzed in accordance with the WP, which was designed to obtain representative samples. In addition, all samples were extracted and analyzed within appropriate holding times listed in the WP (PIONEER 2013).

The Summa canister for the equipment blank sample (EB-EB-1-050713) collected from the soil gas sampling system was found to be leaking upon arrival at the laboratory. The laboratory flagged all sample concentrations for that equipment blank sample with a "J" (estimated) qualifier. Further data qualification beyond what was reported by the laboratory was not necessary.

4. Comparability

Comparability was assessed by comparing the sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity

Sensitivity was assessed by comparing actual reporting limits (RLs) with target RLs (PIONEER 2013). The actual RLs were equal to or less than the target RLs with the following exceptions:

- The actual RL for soil samples analyzed for total petroleum hydrocarbons in the gasoline range (TPH-G) was 5 mg/kg, compared to the target RL of 2.5 mg/kg. However, the actual RL was acceptable since it was significantly less than the soil-to-indoor air screening level (SL) of 100 mg/kg (PIONEER 2013).
- The actual RLs for volatile organic compound analyses with soil gas samples SG-SVP-2SG-050713-2.5-3.0 and SG-SVP-2SG-050713-2.5-3.0-(01) were higher than the target RLs. However, these actual RLs were acceptable since it was necessary for the laboratory to perform dilutions due to high levels of target analytes.
- The actual RLs for soil gas and ambient air samples analyzed for oxygen, carbon dioxide, methane, nitrogen, helium were higher than the target RLs. However, these actual RLs were acceptable since there are no SLs for these compounds.

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 108 sample analyses were performed. All of the analyte results are useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory, subject to any qualifications noted in this document. No corrective action or additional data qualification is necessary.

References

PIONEER 2013. Data Gap Work Plan for the Soil-to-Indoor Air Pathway at the East Bay Redevelopment Site, April 12.

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5/28/2013
Mr. Stacy Munson
Pioneer Technologies Corporation
5205 Corporate Ctr Ct. SE Ste A

Lacey WA 98503

Project Name: East Bay Soil Gas
Project #: East Bay Soil Gas
Workorder #: 1305235A

Dear Mr. Stacy Munson

The following report includes the data for the above referenced project for sample(s) received on 5/10/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1305235A

Work Order Summary

CLIENT:	Mr. Stacy Munson Pioneer Technologies Corporation 5205 Corporate Ctr Ct. SE Ste A Lacey, WA 98503	**BILL TO:**	Mr. Stacy Munson Pioneer Technologies Corporation 5205 Corporate Ctr Ct. SE Ste A Lacey, WA 98503
PHONE:	360-570-1700	**P.O. #**	
FAX:	360-570-1777	**PROJECT #**	East Bay Soil Gas East Bay Soil Gas
DATE RECEIVED:	05/10/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	05/27/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SG-SVP-2SG-050713-2.5-3.0	Modified TO-15	5.1 "Hg	14.5 psi
02A	SG-SVP-2SG-050713-2.5-3.0-(01)	Modified TO-15	5.1 "Hg	14.7 psi
03A	SG-SVP-1SG-050713-3.25-3.75	Modified TO-15	5.1 "Hg	14.8 psi
04A	AA-AA-1-050713	Modified TO-15	4.5 "Hg	14.7 psi
05A	EB-EB-1-050713	Modified TO-15	0 psi	14.9 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
06C	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
07C	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA
08C	LCS	Modified TO-15	NA	NA
08CC	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 05/28/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Pioneer Technologies Corporation
Workorder# 1305235A

Five 1 Liter Summa Canister (100% Certified) samples were received on May 10, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

The Chain of Custody (COC) information for sample SG-SVP-2SG-050713-2.5-3.0-(01) did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

The summa canister for sample EB-EB-1-050713 was leaking upon arrival. Analyte concentrations reported from this sample are considered to be estimated.

Analytical Notes

Samples SG-SVP-2SG-050713-2.5-3.0 and SG-SVP-2SG-050713-2.5-3.0-(01) were diluted and transferred from Low Level analysis to full scan TO-15 due to high levels of target compounds.

The equipment blank sample EB-EB-1-050713 has reportable levels of target compounds present.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG-SVP-2SG-050713-2.5-3.0

Lab ID#: 1305235A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	6.8	19	26	72
Ethyl Benzene	6.8	12	30	52
m,p-Xylene	6.8	36	30	160
o-Xylene	6.8	22	30	95
1,3,5-Trimethylbenzene	6.8	7.0	34	34
1,2,4-Trimethylbenzene	6.8	17	34	83
Naphthalene	27	180	140	940

Client Sample ID: SG-SVP-2SG-050713-2.5-3.0-(01)

Lab ID#: 1305235A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	6.9	17	26	64
Ethyl Benzene	6.9	13	30	57
m,p-Xylene	6.9	35	30	150
o-Xylene	6.9	20	30	88
1,2,4-Trimethylbenzene	6.9	15	34	73
Naphthalene	28	170	140	900

Client Sample ID: SG-SVP-1SG-050713-3.25-3.75

Lab ID#: 1305235A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.24	3.8	0.85	14
Benzene	0.24	0.85	0.77	2.7
Toluene	0.24	0.82	0.91	3.1
m,p-Xylene	0.24	0.30	1.0	1.3

Client Sample ID: AA-AA-1-050713

Lab ID#: 1305235A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: AA-AA-1-050713

Lab ID#: 1305235A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.24	0.95	0.83	3.3
Toluene	0.24	0.39	0.88	1.4

Client Sample ID: EB-EB-1-050713

Lab ID#: 1305235A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.20	0.61 J	0.71	2.1 J
Benzene	0.20	0.30 J	0.64	0.96 J
Toluene	0.20	3.7 J	0.76	14 J
Ethyl Benzene	0.20	0.29 J	0.87	1.2 J
m,p-Xylene	0.20	0.78 J	0.87	3.4 J
o-Xylene	0.20	0.25 J	0.87	1.1 J

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Client Sample ID: SG-SVP-2SG-050713-2.5-3.0

Lab ID#: 1305235A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052129**	**Date of Collection:**	**5/7/13 12:25:00 PM**
Dil. Factor:	**13.7**	**Date of Analysis:**	**5/21/13 11:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	6.8	Not Detected	25	Not Detected
Hexane	6.8	Not Detected	24	Not Detected
Benzene	6.8	Not Detected	22	Not Detected
1,2-Dichloroethane	6.8	Not Detected	28	Not Detected
Toluene	6.8	19	26	72
1,2-Dibromoethane (EDB)	6.8	Not Detected	53	Not Detected
Ethyl Benzene	6.8	12	30	52
m,p-Xylene	6.8	36	30	160
o-Xylene	6.8	22	30	95
1,3,5-Trimethylbenzene	6.8	7.0	34	34
1,2,4-Trimethylbenzene	6.8	17	34	83
Naphthalene	27	180	140	940

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: SG-SVP-2SG-050713-2.5-3.0-(01)

Lab ID#: 1305235A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052323**	**Date of Collection:**	**5/7/13 12:25:00 PM**
Dil. Factor:	**13.8**	**Date of Analysis:**	**5/24/13 08:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	6.9	Not Detected	25	Not Detected
Hexane	6.9	Not Detected	24	Not Detected
Benzene	6.9	Not Detected	22	Not Detected
1,2-Dichloroethane	6.9	Not Detected	28	Not Detected
Toluene	6.9	17	26	64
1,2-Dibromoethane (EDB)	6.9	Not Detected	53	Not Detected
Ethyl Benzene	6.9	13	30	57
m,p-Xylene	6.9	35	30	150
o-Xylene	6.9	20	30	88
1,3,5-Trimethylbenzene	6.9	Not Detected	34	Not Detected
1,2,4-Trimethylbenzene	6.9	15	34	73
Naphthalene	28	170	140	900

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: SG-SVP-1SG-050713-3.25-3.75

Lab ID#: 1305235A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**v051709**	**Date of Collection:**	**5/7/13 1:10:00 AM**
Dil. Factor:	**2.42**	**Date of Analysis:**	**5/17/13 12:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	0.24	Not Detected	0.87	Not Detected
Hexane	0.24	3.8	0.85	14
Benzene	0.24	0.85	0.77	2.7
1,2-Dichloroethane	0.24	Not Detected	0.98	Not Detected
Toluene	0.24	0.82	0.91	3.1
1,2-Dibromoethane (EDB)	0.24	Not Detected	1.8	Not Detected
Ethyl Benzene	0.24	Not Detected	1.0	Not Detected
m,p-Xylene	0.24	0.30	1.0	1.3
o-Xylene	0.24	Not Detected	1.0	Not Detected
1,3,5-Trimethylbenzene	0.24	Not Detected	1.2	Not Detected
1,2,4-Trimethylbenzene	0.24	Not Detected	1.2	Not Detected
Naphthalene	1.2	Not Detected	6.3	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: AA-AA-1-050713

Lab ID#: 1305235A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**v051710**	**Date of Collection: 5/7/13 1:57:00 AM**	
Dil. Factor:	**2.35**	**Date of Analysis: 5/17/13 01:23 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	0.24	Not Detected	0.85	Not Detected
Hexane	0.24	0.95	0.83	3.3
Benzene	0.24	Not Detected	0.75	Not Detected
1,2-Dichloroethane	0.24	Not Detected	0.95	Not Detected
Toluene	0.24	0.39	0.88	1.4
1,2-Dibromoethane (EDB)	0.24	Not Detected	1.8	Not Detected
Ethyl Benzene	0.24	Not Detected	1.0	Not Detected
m,p-Xylene	0.24	Not Detected	1.0	Not Detected
o-Xylene	0.24	Not Detected	1.0	Not Detected
1,3,5-Trimethylbenzene	0.24	Not Detected	1.2	Not Detected
1,2,4-Trimethylbenzene	0.24	Not Detected	1.2	Not Detected
Naphthalene	1.2	Not Detected	6.2	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: EB-EB-1-050713

Lab ID#: 1305235A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**v051711**	**Date of Collection: 5/7/13 1:58:00 AM**	
Dil. Factor:	**2.01**	**Date of Analysis: 5/17/13 01:58 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	0.20	Not Detected J	0.72	Not Detected J
Hexane	0.20	0.61 J	0.71	2.1 J
Benzene	0.20	0.30 J	0.64	0.96 J
1,2-Dichloroethane	0.20	Not Detected J	0.81	Not Detected J
Toluene	0.20	3.7 J	0.76	14 J
1,2-Dibromoethane (EDB)	0.20	Not Detected J	1.5	Not Detected J
Ethyl Benzene	0.20	0.29 J	0.87	1.2 J
m,p-Xylene	0.20	0.78 J	0.87	3.4 J
o-Xylene	0.20	0.25 J	0.87	1.1 J
1,3,5-Trimethylbenzene	0.20	Not Detected J	0.99	Not Detected J
1,2,4-Trimethylbenzene	0.20	Not Detected J	0.99	Not Detected J
Naphthalene	1.0	Not Detected J	5.3	Not Detected J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1305235A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**v051707**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/17/13 11:14 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
Naphthalene	0.50	Not Detected	2.6	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1305235A-06B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052107**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/13 10:04 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1305235A-06C

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/23/13 11:50 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1305235A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**v051702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/17/13 07:37 AM**	

Compound	%Recovery
Methyl tert-butyl ether	107
Hexane	104
Benzene	99
1,2-Dichloroethane	107
Toluene	97
1,2-Dibromoethane (EDB)	102
Ethyl Benzene	98
m,p-Xylene	98
o-Xylene	97
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	98
Naphthalene	126

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1305235A-07B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/13 07:52 AM**	

Compound	%Recovery
Methyl tert-butyl ether	102
Hexane	93
Benzene	98
1,2-Dichloroethane	91
Toluene	96
1,2-Dibromoethane (EDB)	93
Ethyl Benzene	94
m,p-Xylene	97
o-Xylene	97
1,3,5-Trimethylbenzene	89
1,2,4-Trimethylbenzene	92
Naphthalene	81

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1305235A-07C

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/23/13 09:26 AM**	

Compound	%Recovery
Methyl tert-butyl ether	102
Hexane	96
Benzene	99
1,2-Dichloroethane	94
Toluene	99
1,2-Dibromoethane (EDB)	96
Ethyl Benzene	95
m,p-Xylene	100
o-Xylene	98
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	98
Naphthalene	122

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1305235A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**v051703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/17/13 08:17 AM**	

Compound	%Recovery
Methyl tert-butyl ether	106
Hexane	102
Benzene	94
1,2-Dichloroethane	102
Toluene	92
1,2-Dibromoethane (EDB)	93
Ethyl Benzene	92
m,p-Xylene	92
o-Xylene	89
1,3,5-Trimethylbenzene	92
1,2,4-Trimethylbenzene	93
Naphthalene	112

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1305235A-08AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**v051704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/17/13 09:00 AM**	

Compound	**%Recovery**
Methyl tert-butyl ether	100
Hexane	98
Benzene	93
1,2-Dichloroethane	101
Toluene	90
1,2-Dibromoethane (EDB)	96
Ethyl Benzene	91
m,p-Xylene	92
o-Xylene	89
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	93
Naphthalene	103

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCS

Lab ID#: 1305235A-08B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/13 08:22 AM**	

Compound	%Recovery
Methyl tert-butyl ether	104
Hexane	94
Benzene	102
1,2-Dichloroethane	92
Toluene	97
1,2-Dibromoethane (EDB)	96
Ethyl Benzene	94
m,p-Xylene	101
o-Xylene	99
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	94
Naphthalene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1305235A-08BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052105**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/13 08:52 AM**	

Compound	%Recovery
Methyl tert-butyl ether	100
Hexane	92
Benzene	99
1,2-Dichloroethane	90
Toluene	95
1,2-Dibromoethane (EDB)	94
Ethyl Benzene	93
m,p-Xylene	98
o-Xylene	98
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	93
Naphthalene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1305235A-08C

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/23/13 10:05 AM**	

Compound	%Recovery
Methyl tert-butyl ether	100
Hexane	92
Benzene	96
1,2-Dichloroethane	90
Toluene	92
1,2-Dibromoethane (EDB)	93
Ethyl Benzene	92
m,p-Xylene	98
o-Xylene	97
1,3,5-Trimethylbenzene	90
1,2,4-Trimethylbenzene	94
Naphthalene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1305235A-08CC

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j052304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/23/13 10:32 AM**	

Compound	%Recovery
Methyl tert-butyl ether	101
Hexane	94
Benzene	95
1,2-Dichloroethane	91
Toluene	93
1,2-Dibromoethane (EDB)	94
Ethyl Benzene	93
m,p-Xylene	99
o-Xylene	98
1,3,5-Trimethylbenzene	92
1,2,4-Trimethylbenzene	94
Naphthalene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	104	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Troy Bussey
Collected by: (Print and Sign) Stacy Munson
Company: Pioneer Technologies Corp Email: smunson@uspioneer.com
Address: 5205 Corporate Ctr. Ct. SE Ste. A City: Lacey State: WA Zip: 98503
Phone: 360-570-1700 Fax:

Project Info:
P.O. #:
Project #: East Bay Soil Gas
Project Name: East Bay Soil Gas

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested *	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	SG-SVP-2SG-050713-2.5-3.0	33728	5/7/13	12:25	TO-15-LL, ASTM D-1946	29.0	4.0		
02A	SG-SVP-2SG-050713-2.5-3.0-(01)	33655		12:25	TO-15-LL, ASTM D-1946	30.0	4.0		
03A	SG-SVP-1SG-050713-3.25-3.75	36506		1:10	TO-15-LL, ASTM D-1946	30.0	4.0		
04A	AA-AA-1-050713	2100		1:57	TO-15-LL, ASTM D-1946	30.0	4.0		
05A	EB-EB-1-050713	34638		1:58	TO-15-LL, ASTM D-1946	30.0	4.0		

Relinquished by: (signature) Date/Time: 5/8/13 8:30am
Received by: (signature) Date/Time: 05/10/13 0945
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Notes: * TO-15 List: BTEX, Hexane, methyl tert-butyl ether, 1,2-Dichloroethane, EDB, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene, Naphthalene. ASTM D-1946 List: Oxygen, carbon dioxide, methane, nitrogen, helium. Contact Kelly Buettner/Stacy Munson for target RL's.

Lab Use Only

Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
fedex		NA	good	Yes No None	1305235

Form 1293 rev.11

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6/4/2013
Mr. Stacy Munson
Pioneer Technologies Corporation
5205 Corporate Ctr Ct. SE Ste A

Lacey WA 98503

Project Name: East Bay Soil Gas
Project #: East Bay Soil Gas
Workorder #: 1305235B

Dear Mr. Stacy Munson

The following report includes the data for the above referenced project for sample(s) received on 5/10/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1305235B

Work Order Summary

CLIENT:	Mr. Stacy Munson Pioneer Technologies Corporation 5205 Corporate Ctr Ct. SE Ste A Lacey, WA 98503	**BILL TO:**	Mr. Stacy Munson Pioneer Technologies Corporation 5205 Corporate Ctr Ct. SE Ste A Lacey, WA 98503
PHONE:	360-570-1700	**P.O. #**	
FAX:	360-570-1777	**PROJECT #**	East Bay Soil Gas East Bay Soil Gas
DATE RECEIVED:	05/10/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/04/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SG-SVP-2SG-050713-2.5-3.0	Modified ASTM D-1946	5.1 "Hg	14.5 psi
02A	SG-SVP-2SG-050713-2.5-3.0-.(01)	Modified ASTM D-1946	5.1 "Hg	14.7 psi
03A	SG-SVP-1SG-050713-3.25-3.75	Modified ASTM D-1946	5.1 "Hg	14.8 psi
04A	AA-AA-1-050713	Modified ASTM D-1946	4.5 "Hg	14.7 psi
05A	EB-EB-1-050713	Modified ASTM D-1946	0 psi	14.9 psi
06A	Lab Blank	Modified ASTM D-1946	NA	NA
06B	Lab Blank	Modified ASTM D-1946	NA	NA
07A	LCS	Modified ASTM D-1946	NA	NA
07AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/04/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
Pioneer Technologies Corporation
Workorder# 1305235B

Five 1 Liter Summa Canister (100% Certified) samples were received on May 10, 2013. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***ASTM D-1946***	***ATL Modifications***
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

The Chain of Custody (COC) information for sample SG-SVP-2SG-050713-2.5-3.0-.(01) did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

The summa canister for sample EB-EB-1-050713 was leaking upon arrival. Analyte concentrations reported from this sample are considered to be estimated.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SG-SVP-2SG-050713-2.5-3.0

Lab ID#: 1305235B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	17
Nitrogen	0.24	66
Carbon Dioxide	0.024	3.1
Methane	0.00024	7.5
Helium	0.12	6.0

Client Sample ID: SG-SVP-2SG-050713-2.5-3.0-.(01)

Lab ID#: 1305235B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	17
Nitrogen	0.24	66
Carbon Dioxide	0.024	3.1
Methane	0.00024	7.6
Helium	0.12	6.1

Client Sample ID: SG-SVP-1SG-050713-3.25-3.75

Lab ID#: 1305235B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.5
Nitrogen	0.24	56
Carbon Dioxide	0.024	0.92
Methane	0.00024	42

Client Sample ID: AA-AA-1-050713

Lab ID#: 1305235B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	21
Nitrogen	0.24	79
Carbon Dioxide	0.024	0.039

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: EB-EB-1-050713

Lab ID#: 1305235B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	28 J
Nitrogen	0.28	72 J
Carbon Dioxide	0.028	0.067 J

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Client Sample ID: SG-SVP-2SG-050713-2.5-3.0

Lab ID#: 1305235B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10052140**	**Date of Collection: 5/7/13 12:25:00 PM**	
Dil. Factor:	**2.39**	**Date of Analysis: 5/22/13 07:36 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	17
Nitrogen	0.24	66
Carbon Dioxide	0.024	3.1
Methane	0.00024	7.5
Helium	0.12	6.0

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: SG-SVP-2SG-050713-2.5-3.0-.(01)

Lab ID#: 1305235B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10052141**	**Date of Collection:**	**5/7/13 12:25:00 PM**
Dil. Factor:	**2.41**	**Date of Analysis:**	**5/22/13 08:09 AM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	17
Nitrogen	0.24	66
Carbon Dioxide	0.024	3.1
Methane	0.00024	7.6
Helium	0.12	6.1

Container Type: 1 Liter Summa Canister (100% Certified)

eurofins | Air Toxics

Client Sample ID: SG-SVP-1SG-050713-3.25-3.75

Lab ID#: 1305235B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10052142**	**Date of Collection:**	**5/7/13 1:10:00 AM**
Dil. Factor:	**2.42**	**Date of Analysis:**	**5/22/13 08:35 AM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.24	1.5
Nitrogen	0.24	56
Carbon Dioxide	0.024	0.92
Methane	0.00024	42
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

eurofins | Air Toxics

Client Sample ID: AA-AA-1-050713

Lab ID#: 1305235B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10052144**	**Date of Collection: 5/7/13 1:57:00 AM**	
Dil. Factor:	**2.35**	**Date of Analysis: 5/22/13 09:33 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	21
Nitrogen	0.24	79
Carbon Dioxide	0.024	0.039
Methane	0.00024	Not Detected
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

eurofins | Air Toxics

Client Sample ID: EB-EB-1-050713

Lab ID#: 1305235B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10052152**	**Date of Collection: 5/7/13 1:58:00 AM**	
Dil. Factor:	**2.81**	**Date of Analysis: 5/22/13 01:22 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	28 J
Nitrogen	0.28	72 J
Carbon Dioxide	0.028	0.067 J
Methane	0.00028	Not Detected J
Helium	0.14	Not Detected J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: Lab Blank

Lab ID#: 1305235B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10052128**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/13 07:12 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	Not Detected
Carbon Dioxide	0.010	Not Detected
Methane	0.00010	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: Lab Blank

Lab ID#: 1305235B-06B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10052127c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/13 06:26 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: LCS

Lab ID#: 1305235B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10052126**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/13 06:02 PM**	

Compound	%Recovery
Oxygen	101
Nitrogen	100
Carbon Dioxide	101
Methane	100
Helium	100

Container Type: NA - Not Applicable

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Client Sample ID: LCSD

Lab ID#: 1305235B-07AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10052154**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/22/13 02:15 PM**	

Compound	%Recovery
Oxygen	102
Nitrogen	101
Carbon Dioxide	101
Methane	99
Helium	100

Container Type: NA - Not Applicable

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 130513021
Project Name: EAST BAY - SOIL TO 1A PATHWAY

Analytical Results Report

Sample Number	130513021-001	**Sampling Date**	5/7/2013	**Date/Time Received**	5/9/2013	11:00 AM
Client Sample ID	SO-SVP-1SO-050713-3-5	**Sampling Time**	1:30 PM			
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/Kg	5	5/20/2013	SAT	NWTPHG	
%moisture	20.9	Percent		5/22/2013	SAT	%moisture	

Surrogate Data

Sample Number 130513021-001

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	104.0	50-150

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 130513021
Project Name: EAST BAY - SOIL TO 1A PATHWAY

Analytical Results Report

Sample Number	130513021-002	**Sampling Date**	5/7/2013	**Date/Time Received**	5/9/2013	11:00 AM
Client Sample ID	SO-SVP-2SO-050713-4-6	**Sampling Time**	1:45 PM			
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	1100	mg/Kg	5	5/20/2013	SAT	NWTPHG	
%moisture	17	Percent		5/22/2013	SAT	%moisture	

Surrogate Data

Sample Number 130513021-002

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	104.0	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 130513021
Project Name: EAST BAY - SOIL TO 1A PATHWAY

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Gasoline	1.06	mg/kg	1	106.0	70-130	5/20/2013	5/20/2013

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
130513021-001	Gasoline	ND	67.2	mg/kg	73.5	91.4	60-140	5/20/2013	5/20/2013

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	71.1	mg/kg	73.5	96.7	5.6	0-25	5/20/2013	5/20/2013

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Gasoline	ND	mg/Kg	5	5/20/2013	5/20/2013

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 130513021
Project Name: EAST BAY - SOIL TO 1A PATHWAY

Analytical Results Report

Sample Number 130513021-001
Client Sample ID SO-SVP-1SO-050713-3-5
Matrix Soil
Comments

Sampling Date 5/7/2013
Sampling Time 1:30 PM
Sample Location

Date/Time Received 5/9/2013 11:00 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trimethylbenzene	0.00951	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
1,2-Dibromoethane	ND	mg/kg	0.001	5/20/2013	SAT	EPA 8260B	
1,2-Dichloroethane	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
1,3,5-Trimethylbenzene	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
Benzene	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
Ethylbenzene	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
m+p-Xylene	0.00641	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
Naphthalene	0.417	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
o-Xylene	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
Toluene	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
n-Hexane	ND	mg/kg	0.005	5/22/2013	SAT	EPA 8260B	
%moisture	20.9	Percent		5/22/2013	SAT	%moisture	

Surrogate Data

Sample Number 130513021-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	106.4	70-130
4-Bromofluorobenzene	EPA 8260B	100.0	70-130
Toluene-d8	EPA 8260B	100.4	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 130513021
Project Name: EAST BAY - SOIL TO 1A PATHWAY

Analytical Results Report

Sample Number	130513021-002	**Sampling Date**	5/7/2013	**Date/Time Received**	5/9/2013	11:00 AM
Client Sample ID	SO-SVP-2SO-050713-4-6	**Sampling Time**	1:45 PM			
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trimethylbenzene	0.938	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
1,2-Dibromoethane	ND	mg/kg	0.001	5/20/2013	SAT	EPA 8260B	
1,2-Dichloroethane	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
1,3,5-Trimethylbenzene	0.286	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
Benzene	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
Ethylbenzene	0.115	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
m+p-Xylene	0.216	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
Naphthalene	150	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
o-Xylene	0.154	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
Toluene	ND	mg/kg	0.005	5/20/2013	SAT	EPA 8260B	
n-Hexane	ND	mg/kg	0.005	5/22/2013	SAT	EPA 8260B	
%moisture	17	Percent		5/22/2013	SAT	%moisture	

Surrogate Data

Sample Number 130513021-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	112.4	70-130
4-Bromofluorobenzene	EPA 8260B	101.6	70-130
Toluene-d8	EPA 8260B	100.8	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 130513021
Project Name: EAST BAY - SOIL TO 1A PATHWAY

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Toluene	0.0106	mg/kg	0.01	106.0	77-123	5/20/2013	5/20/2013
o-Xylene	0.0105	mg/kg	0.01	105.0	77-121	5/20/2013	5/20/2013
Ethylbenzene	0.0107	mg/kg	0.01	107.0	76-124	5/20/2013	5/20/2013
Benzene	0.0104	mg/kg	0.01	104.0	83-127	5/20/2013	5/20/2013

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
130516026-002A	Toluene	ND	0.506	mg/kg	0.5	101.2	62-138	5/20/2013	5/20/2013
130516026-002A	o-Xylene	ND	0.512	mg/kg	0.5	102.4	64-136	5/20/2013	5/20/2013
130516026-002A	Ethylbenzene	ND	0.513	mg/kg	0.5	102.6	66-131	5/20/2013	5/20/2013
130516026-002A	Benzene	ND	0.501	mg/kg	0.5	100.2	65-139	5/20/2013	5/20/2013

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Toluene	0.478	mg/kg	0.5	95.6	5.7	0-25	5/20/2013	5/20/2013
o-Xylene	0.488	mg/kg	0.5	97.6	4.8	0-25	5/20/2013	5/20/2013
Ethylbenzene	0.485	mg/kg	0.5	97.0	5.6	0-25	5/20/2013	5/20/2013
Benzene	0.475	mg/kg	0.5	95.0	5.3	0-25	5/20/2013	5/20/2013

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trimethylbenzene	ND	mg/kg	0.005	5/20/2013	5/20/2013
1,2-Dibromoethane	ND	mg/kg	0.001	5/20/2013	5/20/2013
1,2-Dichloroethane	ND	mg/kg	0.005	5/20/2013	5/20/2013
1,3,5-Trimethylbenzene	ND	mg/kg	0.005	5/20/2013	5/20/2013
Benzene	ND	mg/kg	0.005	5/20/2013	5/20/2013
Ethylbenzene	ND	mg/kg	0.005	5/20/2013	5/20/2013
m+p-Xylene	ND	mg/kg	0.005	5/20/2013	5/20/2013
methyl-t-butyl ether (MTBE)	ND	mg/kg	0.005	5/20/2013	5/20/2013
Naphthalene	ND	mg/kg	0.005	5/20/2013	5/20/2013
o-Xylene	ND	mg/kg	0.005	5/20/2013	5/20/2013

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	130513021
Address:	5205 CORPORATE CENTER COURT LACEY, WA 98503	**Project Name:**	EAST BAY - SOIL TO 1A PATHWAY
Attn:	TROY BUSSEY		

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Toluene	ND	mg/kg	0.005	5/20/2013	5/20/2013

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 130513021
Order Date: 5/13/2013

Contact Name: TROY BUSSEY

Project Name: EAST BAY - SOIL TO 1A PATHWAY

Comment:

Sample #: 130513021-001 **Customer Sample #:** SO-SVP-1SO-050713-3-5

Recv'd: ☑ **Collector:** **Date Collected:** 5/7/2013
Quantity: 3 **Matrix:** Soil **Date Received:** 5/9/2013 11:00:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	5/21/2013	***Normal (6-10 Days)***
TPHG-NW	M	NWTPHG	5/21/2013	***Normal (6-10 Days)***
VOLATILES 8260	M	EPA 8260B	5/21/2013	***Normal (6-10 Days)***
VOLATILES MISC GC/MS	M	EPA 8260B	5/21/2013	***Normal (6-10 Days)***

Sample #: 130513021-002 **Customer Sample #:** SO-SVP-2SO-050713-4-6

Recv'd: ☑ **Collector:** **Date Collected:** 5/7/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 5/9/2013 11:00:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	5/21/2013	***Normal (6-10 Days)***
TPHG-NW	M	NWTPHG	5/21/2013	***Normal (6-10 Days)***
VOLATILES 8260	M	EPA 8260B	5/21/2013	***Normal (6-10 Days)***
VOLATILES MISC GC/MS	M	EPA 8260B	5/21/2013	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 130513021

Order Date: 5/13/2013

Contact Name: TROY BUSSEY

Project Name: EAST BAY - SOIL TO 1A PATHWAY

Comment:

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	4.4
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

130513 021 **PITC** Last Due 5/21/2013

1st SAMP 5/7/2013 1st RCVD 5/9/2013

EAST BAY - SOIL TO 1A PATHWAY

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
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Company Name: PIONEER TECH. CORP	Project Manager: TROY BUSSEY
Address: 5205 CORP. CTR CRT. SE, SUITE A	Project Name & #: EAST BAY - SOIL TO 1A PATHWAY
City: SALEM State: WA Zip: 98503	Email Address: busseyt@pioneer.com
Phone: FAX 360 570 1700	Purchase Order #:
Fax:	Sampler Name & phone: GRETCHEN MALLARI 360 570 1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
X Email

Provide Sample Description				List Analyses Requested										Note Special Instructions/Comments
				Preservative:		X	X							
				# of Containers	Sample Volume	8260	NWTPH-G							MWBS
Lab ID	Sample Identification	Sampling Date/Time	Matrix											
1	SO-SVP-150-050713-3-5	5/7/13 1330	SOIL	3		X	X							
2	SO-SVP-250-050713-4-6	5/7/13 1345	SOIL	3		X	X							

	Printed Name	Signature	Company	Date	Time
Relinquished by	GRETCHEN MALLARI		PIONEER	5/7/13	3:30
Received by	B Thomson		Anatek	5/9/13	11:00
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Fed ex Ice Y Seal NO

Temperature (°C): 4.4

Preservative: —

Date & Time: 5/9/13 11:00

Inspected By: BT

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DATA GAP INVESTIGATION REGARDING POC GWM (SEPTEMBER 2014 DRILLING/SOIL SAMPLING)

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Data Quality Review
East Bay POC – September 2014

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, all reported matrix spike duplicate RPDs were within the acceptable range identified in the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP; PIONEER 2014).

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. As shown in the analytical reports, no constituents were detected in the laboratory method blanks and recoveries in blank spikes, matrix spikes, and surrogates were within the acceptable range in the SAP/QAPP (PIONEER 2014). Further data qualification beyond what was reported by the laboratory was not necessary.

3. Representativeness

Representativeness was assessed by evaluating the sample collection, handling, preservation, and analysis procedures. All samples were collected, handled, preserved, and analyzed in accordance with the SAP/QAPP, which was designed to obtain representative samples. In addition, all samples were extracted and analyzed within appropriate holding times listed in the SAP/QAPP (PIONEER 2014).

4. Comparability

Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity

Sensitivity was assessed by comparing actual reporting limits (RLs) with target RLs. The laboratory was able to achieve actual RLs that were equal to or lower, with a couple of exceptions. However, deviations due to matrix interferences, necessary dilution prior to analysis, etc. from target RLs were addressed in the SAP/QAPP (PIONEER 2014).

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 105 sample analyses were performed. All of the analyte results are useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory, subject to any qualifications noted in this document. No corrective action or additional data qualification is necessary.

References

PIONEER 2014. SAP/QAPP for Point of Compliance Groundwater Monitoring: East Bay Redevelopment Site. Olympia, Washington. May.

CASE NARRATIVE October 15, 2014

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com *FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM*

Project Tracking No.: EAST BAY POW GWM
Anatek Batch: 140923053

Project Summary: Three (3) samples, and one blank (WAVPH) were received on 9/23/2014. All samples were received with the appropriate chain of custody. Samples were received at 1.2C. The requested analyses are summarized below. VOC samples were collected in accordance with EPA 5035. VPH and EPH analysis were performed by ALS – Everett WA.

Client Sample ID	Anatek Sample ID	HCID	VPH	EPH	BTEX	PAH	NWTPHDx
SO-DP-58-092214-6-8	140923053-001	X	X	X	X	X	X
SO-DP-57-092214-3-5	140923053-002	X	X	X	X	X	X
SO-DP-57-092214-12-14	140923053-003	X			X	X	
TP-EB-1-092214	140923053-004		X				

QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Y	NA
Surrogate Recoveries Valid?	Y	NA
QC Sample(s) Recoveries Valid?	Y	NA
Method Blank(s) Valid?	Y	NA
Tune(s) Valid?	Y	NA
Internal Standard Responses Valid?	Y	NA
Initial Calibration Curve(s) Valid?	Y	NA
Continuing Calibration(s) Valid?	Y	NA
Comments:	Y	NA

1. Holding Time Requirements

No problems encountered.

2. GC/MS Tune Requirements

No problems encountered

3. Calibration Requirements

No problems encountered.

4. Surrogate Recovery Requirements

No problems encountered.

5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

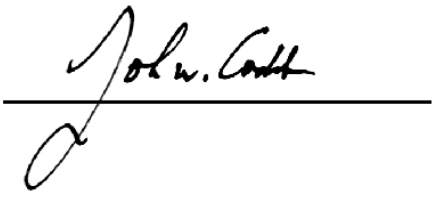
7. Internal Standard(s) Response Requirements

No problems encountered.

8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by: 

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-001	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014	11:40 AM
Client Sample ID	SO-DP-58-092214-6-8	**Sampling Time**	12:30 PM	**Extraction Date**	9/25/2014	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	<50	mg/kg	50	9/26/2014	KFG	WATPH-HCID	
Gasoline	<25	mg/kg	25	9/26/2014	KFG	WATPH-HCID	
Lube Oil	523	mg/kg	100	9/26/2014	KFG	WATPH-HCID	
%moisture	69.5	Percent		9/25/2014	KFG	%moisture	

Surrogate Data

Sample Number 140923053-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	WATPH-HCID	97.0	50-150

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-002	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014	11:40 AM
Client Sample ID	SO-DP-57-092214-3-5	**Sampling Time**	1:15 PM	**Extraction Date**	9/25/2014	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	97.2	mg/kg	50	9/26/2014	KFG	WATPH-HCID	
Gasoline	<25	mg/kg	25	9/26/2014	KFG	WATPH-HCID	
Lube Oil	3900	mg/kg	1000	9/26/2014	KFG	WATPH-HCID	
%moisture	42.5	Percent		9/25/2014	KFG	%moisture	

Surrogate Data

Sample Number 140923053-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	WATPH-HCID	78.4	50-150

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LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-003	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014	11:40 AM
Client Sample ID	SO-DP-57-092214-12-14	**Sampling Time**	1:30 PM	**Extraction Date**	9/25/2014	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	<50	mg/kg	50	9/26/2014	KFG	WATPH-HCID	
Gasoline	<25	mg/kg	25	9/26/2014	KFG	WATPH-HCID	
Lube Oil	<100	mg/kg	100	9/26/2014	KFG	WATPH-HCID	
%moisture	14.8	Percent		9/25/2014	KFG	%moisture	

Surrogate Data

Sample Number 140923053-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	WATPH-HCID	90.8	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	99.5	mg/kg	100	99.5	50-150	9/25/2014	9/25/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140925045-005	Diesel	<50	129	mg/kg	100	129.0	50-150	9/25/2014	9/25/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	148	mg/kg	100	148.0	13.7	0-25	9/25/2014	9/25/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	<50	mg/kg	50	9/25/2014	9/25/2014
Gasoline	<25	mg/kg	25	9/25/2014	9/25/2014
Lube Oil	<100	mg/kg	100	9/25/2014	9/25/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	140923053
Address:	5205 CORPORATE CENTER COURT LACEY, WA 98503	**Project Name:**	EAST BAY POC GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	140923053-001	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014	11:40 AM
Client Sample ID	SO-DP-58-092214-6-8	**Sampling Time**	12:30 PM	**Extraction Date**	10/6/2014	
Matrix	Soil	**Sample Location**				

Comments: Sample extract subjected to silica gel/acid cleanup

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	39.2	mg/kg	25	10/7/2014	KFG	NWTPHDX	
Lube Oil	519	mg/kg	100	10/7/2014	KFG	NWTPHDX	

Surrogate Data

Sample Number 140923053-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	101.0	50-150

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-002	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014	11:40 AM
Client Sample ID	SO-DP-57-092214-3-5	**Sampling Time**	1:15 PM	**Extraction Date**	10/6/2014	
Matrix	Soil	**Sample Location**				

Comments: Sample extract subjected to silica gel/acid cleanup

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	82.9	mg/kg	25	10/7/2014	KFG	NWTPHDX	
Lube Oil	2820	mg/kg	1000	10/7/2014	KFG	NWTPHDX	

Surrogate Data

Sample Number 140923053-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	73.4	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	75.3	mg/kg	100	75.3	50-150	10/5/2014	10/6/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141002070-001	Diesel	457	975	mg/kg	500	103.6	50-150	10/5/2014	10/6/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	1020	mg/kg	500	112.6	4.5	0-50	10/5/2014	10/6/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/Kg	25	10/5/2014	10/6/2014
Lube Oil	ND	mg/Kg	100	10/5/2014	10/6/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 140923053-001 **Sampling Date** 9/22/2014 **Date/Time Received** 9/23/2014 11:40 AM
Client Sample ID SO-DP-58-092214-6-8 **Sampling Time** 12:30 PM
Matrix Soil **Sample Location**
Comments: Analysis performed by ALS - Everett WA

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aliphatic C5-C6	ND	mg/Kg	5	10/3/2014	SUB	NWTPHVPH	
Aliphatic C6-C8	ND	mg/Kg	5	10/3/2014	SUB	NWTPHVPH	
Aliphatic C8-C10	ND	mg/kg	5	10/3/2014	SUB	NWTPHVPH	
Aromatic C8-C10	ND	mg/Kg	5	10/3/2014	SUB	NWTPHVPH	

Surrogate Data

Sample Number 140923053-001

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene-FID	NWTPHVPH	83.0	70-130
4-Bromofluorobenzene-PID	NWTPHVPH	85.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 140923053-002 **Sampling Date** 9/22/2014 **Date/Time Received** 9/23/2014 11:40 AM
Client Sample ID SO-DP-57-092214-3-5 **Sampling Time** 1:15 PM
Matrix Soil **Sample Location**
Comments: Analysis performed by ALS - Everett WA

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aliphatic C5-C6	ND	mg/Kg	5	10/3/2014	SUB	NWTPHVPH	
Aliphatic C6-C8	ND	mg/Kg	5	10/3/2014	SUB	NWTPHVPH	
Aliphatic C8-C10	ND	mg/kg	5	10/3/2014	SUB	NWTPHVPH	
Aromatic C8-C10	ND	mg/Kg	5	10/3/2014	SUB	NWTPHVPH	

Surrogate Data

Sample Number 140923053-002

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene-FID	NWTPHVPH	82.0	70-130
4-Bromofluorobenzene-PID	NWTPHVPH	82.0	70-130

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 140923053-004 **Sampling Date** 9/22/2014 **Date/Time Received** 9/23/2014 11:40 AM
Client Sample ID TB-EB-1-092214 **Sampling Time** 4:00 PM
Matrix Water **Sample Location**
Comments: Analysis performed by ALS - Everett WA

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aliphatic C5-C6	ND	mg/L	0.05	10/2/2014	SUB	NWTPHVPH	
Aliphatic C6-C8	ND	mg/L	0.05	10/2/2014	SUB	NWTPHVPH	
Aliphatic C8-C10	ND	mg/L	0.05	10/2/2014	SUB	NWTPHVPH	
Aromatic C8-C10	ND	mg/L	0.05	10/2/2014	SUB	NWTPHVPH	

Surrogate Data

Sample Number 140923053-004

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene-FID	NWTPHVPH	89.0	70-130
4-Bromofluorobenzene-PID	NWTPHVPH	88.0	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Aromatic C8-C10	92.0	mg/Kg	100	92.0	70-130	10/3/2014	10/3/2014
Aliphatic C8-C10	91.0	mg/kg	100	91.0	70-130	10/3/2014	10/3/2014
Aliphatic C6-C8	94.0	mg/Kg	100	94.0	70-130	10/3/2014	10/3/2014
Aliphatic C5-C6	89.0	mg/Kg	100	89.0	70-130	10/3/2014	10/3/2014

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Aromatic C8-C10	100	mg/Kg	100	100.0	8.3	0-25	10/3/2014	10/3/2014
Aliphatic C8-C10	92.0	mg/kg	100	92.0	1.1	0-25	10/3/2014	10/3/2014
Aliphatic C6-C8	95.0	mg/Kg	100	95.0	1.1	0-25	10/3/2014	10/3/2014
Aliphatic C5-C6	92.0	mg/Kg	100	92.0	3.3	0-25	10/3/2014	10/3/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aliphatic C5-C6	ND	mg/Kg	2.5	10/3/2014	10/3/2014
Aliphatic C6-C8	ND	mg/Kg	2.5	10/3/2014	10/3/2014
Aliphatic C8-C10	ND	mg/kg	2.5	10/3/2014	10/3/2014
Aromatic C8-C10	ND	mg/Kg	2.5	10/3/2014	10/3/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Aromatic C8-C10	1.01	mg/L	1	101.0	70-130	10/2/2014	10/2/2014
Aliphatic C8-C10	0.970	mg/L	1	97.0	70-130	10/2/2014	10/2/2014
Aliphatic C6-C8	0.980	mg/L	1	98.0	70-130	10/2/2014	10/2/2014
Aliphatic C5-C6	0.950	mg/L	1	95.0	70-130	10/2/2014	10/2/2014

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Aromatic C8-C10	1.00	mg/L	1	100.0	1.0	0-25	10/2/2014	10/2/2014
Aliphatic C8-C10	0.970	mg/L	1	97.0	0.0	0-25	10/2/2014	10/2/2014
Aliphatic C6-C8	1.01	mg/L	1	101.0	3.0	0-25	10/2/2014	10/2/2014
Aliphatic C5-C6	0.990	mg/L	1	99.0	4.1	0-25	10/2/2014	10/2/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aliphatic C5-C6	ND	mg/L	0.1	10/2/2014	10/2/2014
Aliphatic C6-C8	ND	mg/L	0.1	10/2/2014	10/2/2014
Aliphatic C8-C10	ND	mg/L	0.1	10/2/2014	10/2/2014
Aromatic C8-C10	ND	mg/L	0.1	10/2/2014	10/2/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 140923053-001 **Sampling Date** 9/22/2014 **Date/Time Received** 9/23/2014 11:40 AM
Client Sample ID SO-DP-58-092214-6-8 **Sampling Time** 12:30 PM
Matrix Soil **Sample Location**
Comments: Analysis performed by ALS - Everett WA

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
C10-C12 Aliphatics (EPH)	ND	mg/kg	5	9/28/2014	SUB	WTPHEPH	
C10-C12 Aromatics (EPH)	ND	mg/kg	5	9/28/2014	SUB	WTPHEPH	
C12-C16 Aliphatics (EPH)	ND	mg/kg	5	9/28/2014	SUB	WTPHEPH	
C12-C16 Aromatics (EPH)	ND	mg/kg	5	9/28/2014	SUB	WTPHEPH	
C16-C21 Aliphatics (EPH)	59	mg/kg	5	9/28/2014	SUB	WTPHEPH	
C16-C21 Aromatics (EPH)	23	mg/kg	5	9/28/2014	SUB	WTPHEPH	
C21-C34 Aliphatics (EPH)	730	mg/kg	5	9/28/2014	SUB	WTPHEPH	
C21-C34 Aromatics (EPH)	280	mg/kg	5	9/28/2014	SUB	WTPHEPH	
C8-C10 Aliphatics (EPH)	5.0	mg/kg	5	9/28/2014	SUB	WTPHEPH	
C8-C10 Aromatics (EPH)	ND	mg/kg	5	9/28/2014	SUB	WTPHEPH	

Surrogate Data

Sample Number 140923053-001

Surrogate Standard	Method	Percent Recovery	Control Limits
C25	WTPHEPH	104.0	60-140
P-Terphenyl	WTPHEPH	92.3	60-140

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Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 140923053-002 **Sampling Date** 9/22/2014 **Date/Time Received** 9/23/2014 11:40 AM
Client Sample ID SO-DP-57-092214-3-5 **Sampling Time** 1:15 PM
Matrix Soil **Sample Location**
Comments: Analysis performed by ALS - Everett WA

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
C10-C12 Aliphatics (EPH)	ND	mg/kg	19	9/28/2014	SUB	WTPHEPH	S13
C10-C12 Aromatics (EPH)	ND	mg/kg	19	9/28/2014	SUB	WTPHEPH	S13
C12-C16 Aliphatics (EPH)	110	mg/kg	19	9/28/2014	SUB	WTPHEPH	S13
C12-C16 Aromatics (EPH)	ND	mg/kg	19	9/28/2014	SUB	WTPHEPH	S13
C16-C21 Aliphatics (EPH)	750	mg/kg	19	9/28/2014	SUB	WTPHEPH	S13
C16-C21 Aromatics (EPH)	370	mg/kg	19	9/28/2014	SUB	WTPHEPH	S13
C21-C34 Aliphatics (EPH)	7300	mg/kg	19	9/28/2014	SUB	WTPHEPH	S13
C21-C34 Aromatics (EPH)	5200	mg/kg	19	9/28/2014	SUB	WTPHEPH	S13
C8-C10 Aliphatics (EPH)	ND	mg/kg	5	9/28/2014	SUB	WTPHEPH	S13
C8-C10 Aromatics (EPH)	ND	mg/kg	5	9/28/2014	SUB	WTPHEPH	S13

Surrogate Data

Sample Number 140923053-002

Surrogate Standard	Method	Percent Recovery	Control Limits
C25	WTPHEPH	141.0	60-140
P-Terphenyl	WTPHEPH	117.0	60-140

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
S13 Surrogate recovery failure due to matrix interference

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Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
C21-C34 Aromatics (EPH)	100	mg/kg	100	100.0	60-140	9/26/2014	9/28/2014
C21-C34 Aliphatics (EPH)	93.1	mg/kg	100	93.1	60-140	9/26/2014	9/28/2014
C16-C21 Aromatics (EPH)	101	mg/kg	100	101.0	60-140	9/26/2014	9/28/2014
C16-C21 Aliphatics (EPH)	99.7	mg/kg	100	99.7	60-140	9/26/2014	9/28/2014
C12-C16 Aromatics (EPH)	100	mg/kg	100	100.0	60-140	9/26/2014	9/28/2014
C12-C16 Aliphatics (EPH)	101	mg/kg	100	101.0	60-140	9/26/2014	9/28/2014
C10-C12 Aromatics (EPH)	96.8	mg/kg	100	96.8	60-140	9/26/2014	9/28/2014
C10-C12 Aliphatics (EPH)	98.5	mg/kg	100	98.5	60-140	9/26/2014	9/28/2014

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
C21-C34 Aromatics (EPH)	99.2	mg/kg	100	99.2	0.8	0-25	9/26/2014	9/28/2014
C21-C34 Aliphatics (EPH)	87.8	mg/kg	100	87.8	5.9	0-25	9/26/2014	9/28/2014
C16-C21 Aromatics (EPH)	101	mg/kg	100	101.0	0.0	0-25	9/26/2014	9/28/2014
C16-C21 Aliphatics (EPH)	92.9	mg/kg	100	92.9	7.1	0-25	9/26/2014	9/28/2014
C12-C16 Aromatics (EPH)	101	mg/kg	100	101.0	7.5	0-25	9/26/2014	9/28/2014
C12-C16 Aliphatics (EPH)	93.7	mg/kg	100	93.7	7.5	0-25	9/26/2014	9/28/2014
C10-C12 Aromatics (EPH)	96.1	mg/kg	100	96.1	0.7	0-25	9/26/2014	9/28/2014
C10-C12 Aliphatics (EPH)	91.4	mg/kg	100	91.4	7.5	0-25	9/26/2014	9/28/2014

Comments:

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Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
C10-C12 Aliphatics (EPH)	ND	mg/kg	5	9/26/2014	9/28/2014
C10-C12 Aromatics (EPH)	ND	mg/kg	5	9/26/2014	9/28/2014
C12-C16 Aliphatics (EPH)	ND	mg/kg	5	9/26/2014	9/28/2014
C12-C16 Aromatics (EPH)	ND	mg/kg	5	9/26/2014	9/28/2014
C16-C21 Aliphatics (EPH)	ND	mg/kg	5	9/26/2014	9/28/2014
C16-C21 Aromatics (EPH)	ND	mg/kg	5	9/26/2014	9/28/2014
C21-C34 Aliphatics (EPH)	ND	mg/kg	5	9/26/2014	9/28/2014
C21-C34 Aromatics (EPH)	ND	mg/kg	5	9/26/2014	9/28/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-001	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014 11:40 AM
Client Sample ID	SO-DP-58-092214-6-8	**Sampling Time**	12:30 PM		
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.01	9/26/2014	SAT	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.01	9/26/2014	SAT	EPA 8260B	
Toluene	ND	mg/Kg	0.01	9/26/2014	SAT	EPA 8260B	
Total Xylene	ND	mg/Kg	0.02	9/26/2014	SAT	EPA 8260B	

Surrogate Data

Sample Number 140923053-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	84.4	70-130
1,2-Dichloroethane-d4	EPA 8260B	105.2	70-130
4-Bromofluorobenzene	EPA 8260B	87.2	70-130
Toluene-d8	EPA 8260B	100.8	70-130

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Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-002	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014 11:40 AM
Client Sample ID	SO-DP-57-092214-3-5	**Sampling Time**	1:15 PM		
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.01	9/26/2014	SAT	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.01	9/26/2014	SAT	EPA 8260B	
Toluene	ND	mg/Kg	0.01	9/26/2014	SAT	EPA 8260B	
Total Xylene	ND	mg/Kg	0.02	9/26/2014	SAT	EPA 8260B	

Surrogate Data

Sample Number 140923053-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	84.4	70-130
1,2-Dichloroethane-d4	EPA 8260B	104.4	70-130
4-Bromofluorobenzene	EPA 8260B	87.6	70-130
Toluene-d8	EPA 8260B	100.8	70-130

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Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-003	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014	11:40 AM
Client Sample ID	SO-DP-57-092214-12-14	**Sampling Time**	1:30 PM			
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.01	9/26/2014	SAT	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.01	9/26/2014	SAT	EPA 8260B	
Toluene	ND	mg/Kg	0.01	9/26/2014	SAT	EPA 8260B	
Total Xylene	ND	mg/Kg	0.02	9/26/2014	SAT	EPA 8260B	

Surrogate Data

Sample Number 140923053-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	86.4	70-130
1,2-Dichloroethane-d4	EPA 8260B	103.6	70-130
4-Bromofluorobenzene	EPA 8260B	88.0	70-130
Toluene-d8	EPA 8260B	97.6	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Toluene	0.0101	mg/kg	0.01	101.0	73-118	9/26/2014	9/26/2014
Ethylbenzene	0.00999	mg/kg	0.01	99.9	76-116	9/26/2014	9/26/2014
Benzene	0.00990	mg/kg	0.01	99.0	69-122	9/26/2014	9/26/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140923053-001	Toluene	ND	2.88	mg/kg	3.1	92.9	65-138	9/26/2014	9/26/2014
140923053-001	Ethylbenzene	ND	2.85	mg/kg	3.1	91.9	66-133	9/26/2014	9/26/2014
140923053-001	Benzene	ND	2.77	mg/kg	3.1	89.4	72-125	9/26/2014	9/26/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Toluene	2.80	mg/kg	3.1	90.3	2.8	0-25	9/26/2014	9/26/2014
Ethylbenzene	2.77	mg/kg	3.1	89.4	2.8	0-25	9/26/2014	9/26/2014
Benzene	2.72	mg/kg	3.1	87.7	1.8	0-25	9/26/2014	9/26/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	mg/Kg	0.005	9/26/2014	9/26/2014
Ethylbenzene	ND	mg/Kg	0.005	9/26/2014	9/26/2014
Toluene	ND	mg/Kg	0.005	9/26/2014	9/26/2014
Total Xylene	ND	mg/Kg	0.01	9/26/2014	9/26/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-001	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014	11:40 AM
Client Sample ID	SO-DP-58-092214-6-8	**Sampling Time**	12:30 PM	**Extraction Date**	10/1/2014	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0489	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Acenaphthene	0.136	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Benzo(ghi)perylene	0.0771	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Benzo[a]anthracene	ND	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Benzo[a]pyrene	0.111	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Benzo[b]fluoranthene	0.170	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Benzo[k]fluoranthene	0.0453	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Chrysene	0.140	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Fluoranthene	0.199	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Fluorene	0.111	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	0.0491	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Naphthalene	0.156	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Phenanthrene	0.236	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	
Pyrene	0.204	mg/Kg	0.025	10/2/2014	TGT	EPA 8270D	

Surrogate Data

Sample Number 140923053-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	96.4	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-002	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014	11:40 AM
Client Sample ID	SO-DP-57-092214-3-5	**Sampling Time**	1:15 PM	**Extraction Date**	10/1/2014	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	2.53	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Acenaphthene	1.50	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Benzo[a]anthracene	2.01	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Benzo[a]pyrene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Fluoranthene	2.51	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Fluorene	1.23	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Phenanthrene	2.15	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	
Pyrene	4.53	mg/Kg	0.2	10/2/2014	TGT	EPA 8270D	

Surrogate Data

Sample Number 140923053-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	79.6	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	140923053-003	**Sampling Date**	9/22/2014	**Date/Time Received**	9/23/2014	11:40 AM
Client Sample ID	SO-DP-57-092214-12-14	**Sampling Time**	1:30 PM	**Extraction Date**	10/1/2014	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Acenaphthene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Benzo[a]anthracene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Benzo[a]pyrene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Fluoranthene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Fluorene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Phenanthrene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	
Pyrene	ND	mg/Kg	0.01	10/2/2014	TGT	EPA 8270D	

Surrogate Data

Sample Number 140923053-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	92.0	18-137

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Attn: TROY BUSSEY

Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.810	mg/kg	1	81.0	36-133	10/1/2014	10/2/2014
Acenaphthene	0.659	mg/kg	1	65.9	52-127	10/1/2014	10/2/2014
Acenaphthylene	0.670	mg/kg	1	67.0	48-136	10/1/2014	10/2/2014
Anthracene	0.718	mg/kg	1	71.8	32-141	10/1/2014	10/2/2014
Benzo(ghi)perylene	0.613	mg/kg	1	61.3	49-165	10/1/2014	10/2/2014
Benzo[a]anthracene	0.865	mg/kg	1	86.5	47-139	10/1/2014	10/2/2014
Benzo[a]pyrene	0.760	mg/kg	1	76.0	51-155	10/1/2014	10/2/2014
2-Methylnaphthalene	0.686	mg/kg	1	68.6	45-138	10/1/2014	10/2/2014
Benzo[k]fluoranthene	0.726	mg/kg	1	72.6	47-169	10/1/2014	10/2/2014
Pyrene	0.805	mg/kg	1	80.5	71-141	10/1/2014	10/2/2014
Dibenz[a,h]anthracene	0.599	mg/kg	1	59.9	57-155	10/1/2014	10/2/2014
Fluoranthene	0.796	mg/kg	1	79.6	45-130	10/1/2014	10/2/2014
Fluorene	0.764	mg/kg	1	76.4	56-126	10/1/2014	10/2/2014
Indeno[1,2,3-cd]pyrene	0.662	mg/kg	1	66.2	66-166	10/1/2014	10/2/2014
Naphthalene	0.489	mg/kg	1	48.9	32-133	10/1/2014	10/2/2014
Phenanthrene	0.736	mg/kg	1	73.6	69-127	10/1/2014	10/2/2014
Benzo[b]fluoranthene	0.800	mg/kg	1	80.0	48-177	10/1/2014	10/2/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140923053-003	Chrysene	ND	0.848	mg/kg	1	84.8	36-133	10/1/2014	10/2/2014
140923053-003	Acenaphthene	ND	0.678	mg/kg	1	67.8	52-127	10/1/2014	10/2/2014
140923053-003	Acenaphthylene	ND	0.692	mg/kg	1	69.2	48-136	10/1/2014	10/2/2014
140923053-003	Anthracene	ND	0.770	mg/kg	1	77.0	32-141	10/1/2014	10/2/2014
140923053-003	Benzo(ghi)perylene	ND	0.597	mg/kg	1	59.7	49-165	10/1/2014	10/2/2014
140923053-003	Benzo[a]anthracene	ND	0.888	mg/kg	1	88.8	47-139	10/1/2014	10/2/2014
140923053-003	Benzo[a]pyrene	ND	0.795	mg/kg	1	79.5	51-155	10/1/2014	10/2/2014
140923053-003	2-Methylnaphthalene	ND	0.705	mg/kg	1	70.5	45-138	10/1/2014	10/2/2014
140923053-003	Benzo[k]fluoranthene	ND	0.743	mg/kg	1	74.3	47-169	10/1/2014	10/2/2014
140923053-003	Pyrene	ND	0.841	mg/kg	1	84.1	71-141	10/1/2014	10/2/2014
140923053-003	Dibenz[a,h]anthracene	ND	0.591	mg/kg	1	59.1	57-155	10/1/2014	10/2/2014
140923053-003	Fluoranthene	ND	0.834	mg/kg	1	83.4	45-130	10/1/2014	10/2/2014
140923053-003	Fluorene	ND	0.786	mg/kg	1	78.6	56-126	10/1/2014	10/2/2014
140923053-003	Indeno[1,2,3-cd]pyrene	ND	0.643	mg/kg	1	64.3	66-166	10/1/2014	10/2/2014

Comments:

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Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140923053-003	Naphthalene	ND	0.458	mg/kg	1	45.8	32-133	10/1/2014	10/2/2014
140923053-003	Phenanthrene	ND	0.779	mg/kg	1	77.9	69-127	10/1/2014	10/2/2014
140923053-003	Benzo[b]fluoranthene	ND	0.844	mg/kg	1	84.4	48-177	10/1/2014	10/2/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.878	mg/kg	1	87.8	3.5	0-50	10/1/2014	10/2/2014
Acenaphthene	0.708	mg/kg	1	70.8	4.3	0-50	10/1/2014	10/2/2014
Acenaphthylene	0.707	mg/kg	1	70.7	2.1	0-50	10/1/2014	10/2/2014
Anthracene	0.789	mg/kg	1	78.9	2.4	0-50	10/1/2014	10/2/2014
Benzo(ghi)perylene	0.567	mg/kg	1	56.7	5.2	0-50	10/1/2014	10/2/2014
Benzo[a]anthracene	0.894	mg/kg	1	89.4	0.7	0-50	10/1/2014	10/2/2014
Benzo[a]pyrene	0.824	mg/kg	1	82.4	3.6	0-50	10/1/2014	10/2/2014
2-Methylnaphthalene	0.753	mg/kg	1	75.3	6.6	0-50	10/1/2014	10/2/2014
Benzo[k]fluoranthene	0.776	mg/kg	1	77.6	4.3	0-50	10/1/2014	10/2/2014
Pyrene	0.874	mg/kg	1	87.4	3.8	0-50	10/1/2014	10/2/2014
Dibenz[a,h]anthracene	0.545	mg/kg	1	54.5	8.1	0-50	10/1/2014	10/2/2014
Fluoranthene	0.879	mg/kg	1	87.9	5.3	0-50	10/1/2014	10/2/2014
Fluorene	0.812	mg/kg	1	81.2	3.3	0-50	10/1/2014	10/2/2014
Indeno[1,2,3-cd]pyrene	0.603	mg/kg	1	60.3	6.4	0-50	10/1/2014	10/2/2014
Naphthalene	0.558	mg/kg	1	55.8	19.7	0-50	10/1/2014	10/2/2014
Phenanthrene	0.799	mg/kg	1	79.9	2.5	0-50	10/1/2014	10/2/2014
Benzo[b]fluoranthene	0.896	mg/kg	1	89.6	6.0	0-50	10/1/2014	10/2/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Acenaphthene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Acenaphthylene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Anthracene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Benzo(ghi)perylene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Benzo[a]anthracene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Benzo[a]pyrene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Benzo[b]fluoranthene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Benzo[k]fluoranthene	ND	mg/Kg	0.01	10/1/2014	10/2/2014

Comments:

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Batch #: 140923053
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Fluoranthene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Fluorene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Naphthalene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Phenanthrene	ND	mg/Kg	0.01	10/1/2014	10/2/2014
Pyrene	ND	mg/Kg	0.01	10/1/2014	10/2/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 140923053
Order Date: 9/23/2014

Contact Name: TROY BUSSEY

Project Name: EAST BAY POC GWM

Comment:

Sample #: 140923053-001 **Customer Sample #:** SO-DP-58-092214-6-8

Recv'd: ☑ **Matrix:** Soil **Collector:** SHELLA SWAIN **Date Collected:** 9/22/2014
Quantity: 7 **Date Received:** 9/23/2014 11:40:00 AM **Time Collected:** 12:30 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	10/3/2014	***Normal (~10 Days)***
BTEX 8260	M	EPA 8260B	10/3/2014	***Normal (~10 Days)***
EPH - WA DOE		WTPHEPH	10/3/2014	***Normal (~10 Days)***
HCID	M	WATPH-HCID	10/3/2014	***Normal (~10 Days)***
PAH 8270D MOSC	M	EPA 8270D	10/3/2014	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	10/16/2014	***Normal (~10 Days)***
VPH WA	S	NWTPHVPH	10/3/2014	***Normal (~10 Days)***

Sample #: 140923053-002 **Customer Sample #:** SO-DP-57-092214-3-5

Recv'd: ☑ **Matrix:** Soil **Collector:** SHELLA SWAIN **Date Collected:** 9/22/2014
Quantity: 7 **Date Received:** 9/23/2014 11:40:00 AM **Time Collected:** 1:15 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	10/3/2014	***Normal (~10 Days)***
BTEX 8260	M	EPA 8260B	10/3/2014	***Normal (~10 Days)***
EPH - WA DOE		WTPHEPH	10/3/2014	***Normal (~10 Days)***
HCID	M	WATPH-HCID	10/3/2014	***Normal (~10 Days)***
PAH 8270D MOSC	M	EPA 8270D	10/3/2014	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	10/16/2014	***Normal (~10 Days)***
VPH WA	S	NWTPHVPH	10/3/2014	***Normal (~10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 140923053
Order Date: 9/23/2014

Contact Name: TROY BUSSEY

Project Name: EAST BAY POC GWM

Comment:

Sample #: 140923053-003 **Customer Sample #:** SO-DP-57-092214-12-14

Recv'd: ☑ **Matrix:** Soil **Collector:** SHELLA SWAIN **Date Collected:** 9/22/2014
Quantity: 7 **Date Received:** 9/23/2014 11:40:00 AM **Time Collected:** 1:30 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	10/3/2014	***Normal (~10 Days)***
BTEX 8260	M	EPA 8260B	10/3/2014	***Normal (~10 Days)***
HCID	M	WATPH-HCID	10/3/2014	***Normal (~10 Days)***
HOLD	M	hold	10/3/2014	***Normal (~10 Days)***
PAH 8270D MOSC	M	EPA 8270D	10/3/2014	***Normal (~10 Days)***

Sample #: 140923053-004 **Customer Sample #:** TB-EB-1-092214

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 9/22/2014
Quantity: 1 **Date Received:** 9/23/2014 11:40:00 AM **Time Collected:** 4:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
VPH WA	M	NWTPHVPH	10/3/2014	***Normal (~10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	1.2
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	Yes
Labels and chain agree?	Yes

140923 053 PITC Last Due 10/3/2014
1st SAMP 9/22/2014 1st RCVD 9/23/2014
Anatek # EAST BAY POC GWM

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PIONEER TECHNOLOGIES
Address: 5205 CORPORATE CENTER CRT SE SUITE A
City: LACEY State: WA Zip: 98503
Phone: 360-570-1700
Fax:

Project Manager: TROY BUSSEY
Project Name & #: EAST BAY POC GWM
Email Address: swains@uspioneer.com
Purchase Order #:
Sampler Name & phone: Shella Swain 360-570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / **List Analyses Requested**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Preservative	Sample Volume	NWTPH-HCID	MeOH VPH (NWVPH)	EPH	MeOH BTEX (8260 or 8021)	PAHs (8270)
1	SB-DP-58-092214-6-8	9/22/14; 12:30	SOIL	7			X	X	X	X	X
2	SO-DP-57-092214-3-5	9/22/14; 1:15	SOIL	7			X	X	X	X	X
3	SO-DP-57-092214-12-14	9/22/14; 1:30	SOIL 7	5			X			X	X
4	TB-EB-1-092214	9/22/14; 4:00	WATER	1				X	X		

Note Special Instructions/Comments

All SAMPLES:
NWTPH-HCID FOLLOWED BY
NWTPH-Dx
HOLD VPH & EPH for
SO-DP-57-092214-12-14

MWBS
VPH → SPOA EPH → ALS

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	N

Felex

Temperature (°C): 1.2
Preservative: MeOH, HCl
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Shella Swain		PTC	9/24/14	5:00
Received by	Jushn Doby		Ancelet	9/23/14	1140
Relinquished by					
Received by					
Relinquished by					
Received by					

DATA GAP INVESTIGATION REGARDING POC GWM (SEPTEMBER 2014 GWM)

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Data Quality Review
East Bay Redevelopment Site – September 2014 GWM Event

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs were within acceptable ranges identified in the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP; PIONEER 2014).

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. As shown in the analytical reports, no constituents were detected in the laboratory method blanks, and recoveries in the blank spikes, matrix spikes, and surrogates were within acceptable ranges identified in the SAP/QAPP (PIONEER 2014).

3. Representativeness

Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. All samples were collected, preserved, handled, and analyzed in accordance with the SAP/QAPP, which was designed to obtain representative samples. In addition, all samples were extracted and analyzed within appropriate holding times listed in the SAP/QAPP (PIONEER 2014).

4. Comparability

Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity

Sensitivity was assessed by comparing actual reporting limits (RLs) with target RLs (PIONEER 2014). The actual RLs were equal to or less than the target RLs.

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 49 sample analyses were performed. All of the analyte results are useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory, subject to any qualifications noted in this document. No corrective action or additional data qualification is necessary.

References

PIONEER 2014. SAP/QAPP for Point of Compliance Groundwater Monitoring, East Bay Redevelopment Site, June 18.

CASE NARRATIVE October 20, 2014

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com *FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM*

Project Tracking No.: EAST BAY POC GWM
Anatek Batch: 141002002

Project Summary: Six water (6) samples were received on 10/1/2014. All samples were received with the appropriate chain of custody. Samples were received at 5.8C. The requested analyses are summarized below. NW-TPHDx was added to samples 1-5 per Troy Bussey on 10/28/2014.

Client Sample ID	Anatek Sample ID	As	Diss As	HCID	BTEX	PAH	PAH	NWTPHDx
GW-MW-26-092914	141002002-001	X	X	X				X
GW-MW-26-092914-(01)	141002002-002	X	X	X				X
GW-MW-27-092914	141002002-003	X	X	X				X
GW-MW-12-092914	141002002-004	X	X	X				X
GW-MW-18-092914	141002002-005	X	X	X				X
GW-EB-1-092914	141002002-006	X			X	X	X	X

QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Y	NA
Surrogate Recoveries Valid?	Y	NA
QC Sample(s) Recoveries Valid?	Y	NA
Method Blank(s) Valid?	Y	NA
Tune(s) Valid?	Y	NA
Internal Standard Responses Valid?	Y	NA
Initial Calibration Curve(s) Valid?	Y	NA
Continuing Calibration(s) Valid?	Y	NA
Comments:	Y	NA

1. Holding Time Requirements

No problems encountered.

2. GC/MS Tune Requirements

No problems encountered

3. Calibration Requirements

No problems encountered.

4. Surrogate Recovery Requirements

No problems encountered.

5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

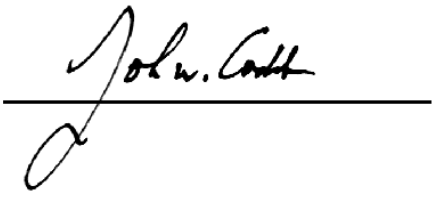
7. Internal Standard(s) Response Requirements

No problems encountered.

8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by: 

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 141002002-001 **Sampling Date** 9/29/2014 **Date/Time Received** 10/1/2014 12:45 PM
Client Sample ID GW-MW-26-092914 **Sampling Time** 3:50 PM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	10/10/2014	ETL	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	10/13/2014	ETL	EPA 200.8	

Sample Number 141002002-002 **Sampling Date** 9/29/2014 **Date/Time Received** 10/1/2014 12:45 PM
Client Sample ID GW-MW-26-092914-(01) **Sampling Time** 3:55 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	10/10/2014	ETL	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	10/13/2014	ETL	EPA 200.8	

Sample Number 141002002-003 **Sampling Date** 9/29/2014 **Date/Time Received** 10/1/2014 12:45 PM
Client Sample ID GW-MW-27-092914 **Sampling Time** 5:00 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	10/10/2014	ETL	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	10/13/2014	ETL	EPA 200.8	

Sample Number 141002002-004 **Sampling Date** 9/29/2014 **Date/Time Received** 10/1/2014 12:45 PM
Client Sample ID GW-MW-12-092914 **Sampling Time**
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00107	mg/L	0.001	10/10/2014	ETL	EPA 200.8	
Dissolved Arsenic	0.00120	mg/L	0.001	10/13/2014	ETL	EPA 200.8	

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 141002002-005 **Sampling Date** 9/30/2014 **Date/Time Received** 10/1/2014 12:45 PM
Client Sample ID GW-MW-18-092914 **Sampling Time** 10:15 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	10/10/2014	ETL	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	10/13/2014	ETL	EPA 200.8	

Sample Number 141002002-006 **Sampling Date** 9/29/2014 **Date/Time Received** 10/1/2014 12:45 PM
Client Sample ID WW-EB-1-092914 **Sampling Time**
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00109	mg/L	0.001	10/10/2014	ETL	EPA 200.8	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Arsenic	0.0459	mg/L	0.05	91.8	85-115	10/13/2014	10/13/2014
Arsenic	0.0508	mg/L	0.05	101.6	85-115	10/6/2014	10/10/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141002002-001	Dissolved Arsenic	ND	0.0515	mg/L	0.05	103.0	70-130	10/13/2014	10/13/2014
141002039-001	Arsenic	ND	0.0505	mg/L	0.05	101.0	70-130	10/6/2014	10/10/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dissolved Arsenic	0.0531	mg/L	0.05	106.2	3.1	0-20	10/13/2014	10/13/2014
Arsenic	0.0507	mg/L	0.05	101.4	0.4	0-20	10/6/2014	10/10/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	10/6/2014	10/10/2014
Dissolved Arsenic	ND	mg/L	0.001	10/13/2014	10/13/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Address:	5205 CORPORATE CENTER COURT LACEY, WA 98503	**Project Name:**	EAST BAY POC GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	141002002-001	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-26-092914	**Sampling Time**	3:50 PM	**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	
Gasoline	<0.25	mg/L	0.25	10/13/2014	KFG	WATPH-HCID	
Lube Oil	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	

Surrogate Data

Sample Number 141002002-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	WATPH-HCID	93.4	50-150

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-002	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-26-092914-(01)	**Sampling Time**	3:55 AM	**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	
Gasoline	<0.25	mg/L	0.25	10/13/2014	KFG	WATPH-HCID	
Lube Oil	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	

Surrogate Data

Sample Number 141002002-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	WATPH-HCID	94.4	50-150

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Analytical Results Report

Sample Number	141002002-003	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-27-092914	**Sampling Time**	5:00 AM	**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	
Gasoline	<0.25	mg/L	0.25	10/13/2014	KFG	WATPH-HCID	
Lube Oil	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	

Surrogate Data

Sample Number 141002002-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	WATPH-HCID	95.0	50-150

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-004	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-12-092914	**Sampling Time**		**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	
Gasoline	<0.25	mg/L	0.25	10/13/2014	KFG	WATPH-HCID	
Lube Oil	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	

Surrogate Data

Sample Number 141002002-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	WATPH-HCID	93.0	50-150

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-005	**Sampling Date**	9/30/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-18-092914	**Sampling Time**	10:15 AM	**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	
Gasoline	<0.25	mg/L	0.25	10/13/2014	KFG	WATPH-HCID	
Lube Oil	<0.63	mg/L	0.63	10/13/2014	KFG	WATPH-HCID	

Surrogate Data

Sample Number 141002002-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	WATPH-HCID	92.4	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-001	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-26-092914	**Sampling Time**	3:50 PM	**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	10/13/2014	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	10/13/2014	KFG	NWTPHDX	

Surrogate Data

Sample Number 141002002-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	93.4	50-150

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-002	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-26-092914-(01)	**Sampling Time**	3:55 AM	**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	10/13/2014	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	10/13/2014	KFG	NWTPHDX	

Surrogate Data

Sample Number 141002002-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	94.4	50-150

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Attn: TROY BUSSEY

Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-003	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-27-092914	**Sampling Time**	5:00 AM	**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	10/13/2014	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	10/13/2014	KFG	NWTPHDX	

Surrogate Data

Sample Number 141002002-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	95.0	50-150

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Attn: TROY BUSSEY

Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-004	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-12-092914	**Sampling Time**		**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	10/13/2014	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	10/13/2014	KFG	NWTPHDX	

Surrogate Data

Sample Number 141002002-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	93.0	50-150

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-005	**Sampling Date**	9/30/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	GW-MW-18-092914	**Sampling Time**	10:15 AM	**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	10/13/2014	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	10/13/2014	KFG	NWTPHDX	

Surrogate Data

Sample Number 141002002-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.4	50-150

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-006	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	WW-EB-1-092914	**Sampling Time**		**Extraction Date**	10/12/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	10/13/2014	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	10/13/2014	KFG	NWTPHDX	

Surrogate Data

Sample Number 141002002-006

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	97.8	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.445	mg/L	0.5	89.0	50-150	10/12/2014	10/13/2014

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.426	mg/L	0.5	85.2	4.4	0-50	10/12/2014	10/13/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	10/12/2014	10/13/2014
Lube Oil	ND	mg/L	0.5	10/12/2014	10/13/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 141002002-006
Client Sample ID WW-EB-1-092914
Matrix Water
Comments

Sampling Date 9/29/2014
Sampling Time
Sample Location

Date/Time Received 10/1/2014 12:45 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	µg/L	0.5	10/6/2014	SAT	EPA 8260B	
Ethylbenzene	ND	µg/L	0.5	10/6/2014	SAT	EPA 8260B	
m+p-Xylene	ND	µg/L	1	10/6/2014	SAT	EPA 8260B	
o-Xylene	ND	µg/L	0.5	10/6/2014	SAT	EPA 8260B	
Toluene	ND	µg/L	0.5	10/6/2014	SAT	EPA 8260B	

Surrogate Data

Sample Number 141002002-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	102.4	70-130
4-Bromofluorobenzene	EPA 8260B	94.4	70-130
Toluene-d8	EPA 8260B	97.2	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Toluene	8.87	µg/L	10	88.7	70-130	10/6/2014	10/6/2014
o-Xylene	9.33	µg/L	10	93.3	70-130	10/6/2014	10/6/2014
Ethylbenzene	9.20	µg/L	10	92.0	70-130	10/6/2014	10/6/2014
Benzene	8.63	µg/L	10	86.3	70-130	10/6/2014	10/6/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141002027-004	Toluene	ND	9.80	µg/L	10	98.0	66-136	10/6/2014	10/6/2014
141002027-004	o-Xylene	ND	9.89	µg/L	10	98.9	68-134	10/6/2014	10/6/2014
141002027-004	Ethylbenzene	ND	10.1	µg/L	10	101.0	70-137	10/6/2014	10/6/2014
141002027-004	Benzene	ND	9.54	µg/L	10	95.4	63-139	10/6/2014	10/6/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Toluene	9.61	µg/L	10	96.1	2.0	0-25	10/6/2014	10/6/2014
o-Xylene	10.0	µg/L	10	100.0	1.1	0-25	10/6/2014	10/6/2014
Ethylbenzene	9.91	µg/L	10	99.1	1.9	0-25	10/6/2014	10/6/2014
Benzene	9.32	µg/L	10	93.2	2.3	0-25	10/6/2014	10/6/2014

Comments:

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Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	µg/L	0.5	10/6/2014	10/6/2014
Ethylbenzene	ND	µg/L	0.5	10/6/2014	10/6/2014
m+p-Xylene	ND	µg/L	1	10/6/2014	10/6/2014
o-Xylene	ND	µg/L	0.5	10/6/2014	10/6/2014
Toluene	ND	µg/L	0.5	10/6/2014	10/6/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Analytical Results Report

Sample Number	141002002-006	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	WW-EB-1-092914	**Sampling Time**			
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	10/6/2014	SAT	NWTPHG	

Surrogate Data

Sample Number 141002002-006

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	96.8	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Gasoline	0.99	mg/L	1	99.0	70-130	10/6/2014	10/6/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141002002-006	Gasoline	ND	0.96	mg/L	1	96.0	70-130	10/6/2014	10/6/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	0.96	mg/L	1	96.0	0.0	0-25	10/6/2014	10/6/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Gasoline	ND	mg/L	0.25	10/6/2014	10/6/2014

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Sample Number	141002002-006	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014	12:45 PM
Client Sample ID	WW-EB-1-092914	**Sampling Time**		**Extraction Date**	10/6/2014	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.0131	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Acenaphthene	0.0336	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	141002002-006	**Sampling Date**	9/29/2014	**Date/Time Received**	10/1/2014 12:45 PM
Client Sample ID	WW-EB-1-092914	**Sampling Time**		**Extraction Date**	10/6/2014
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Naphthalene	0.0202	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Phenanthrene	0.0156	ug/L	0.01	10/8/2014	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.01	10/8/2014	TGT	EPA 8270D	

Surrogate Data

Sample Number 141002002-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	72.0	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Attn: TROY BUSSEY

Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	4.96	ug/L	5	99.2	62-139	10/6/2014	10/8/2014
Acenaphthene	4.25	ug/L	5	85.0	70-135	10/6/2014	10/8/2014
Acenaphthylene	4.23	ug/L	5	84.6	71-121	10/6/2014	10/8/2014
Anthracene	4.61	ug/L	5	92.2	63-113	10/6/2014	10/8/2014
Benzo(ghi)perylene	4.97	ug/L	5	99.4	76-161	10/6/2014	10/8/2014
Benzo[a]anthracene	5.29	ug/L	5	105.8	79-142	10/6/2014	10/8/2014
Benzo[a]pyrene	4.90	ug/L	5	98.0	71-163	10/6/2014	10/8/2014
2-Methylnaphthalene	4.49	ug/L	5	89.8	56-128	10/6/2014	10/8/2014
Benzo[k]fluoranthene	4.57	ug/L	5	91.4	69-169	10/6/2014	10/8/2014
Pyrene	4.71	ug/L	5	94.2	80-119	10/6/2014	10/8/2014
Dibenz[a,h]anthracene	5.22	ug/L	5	104.4	75-158	10/6/2014	10/8/2014
Fluoranthene	4.95	ug/L	5	99.0	74-120	10/6/2014	10/8/2014
Fluorene	4.54	ug/L	5	90.8	60-116	10/6/2014	10/8/2014
Indeno[1,2,3-cd]pyrene	4.96	ug/L	5	99.2	72-160	10/6/2014	10/8/2014
Naphthalene	3.75	ug/L	5	75.0	51-122	10/6/2014	10/8/2014
Phenanthrene	4.40	ug/L	5	88.0	77-126	10/6/2014	10/8/2014
Benzo[b]fluoranthene	5.56	ug/L	5	111.2	69-168	10/6/2014	10/8/2014

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	4.85	ug/L	5	97.0	2.2	0-50	10/6/2014	10/8/2014
Acenaphthene	4.27	ug/L	5	85.4	0.5	0-50	10/6/2014	10/8/2014
Acenaphthylene	3.97	ug/L	5	79.4	6.3	0-50	10/6/2014	10/8/2014
Anthracene	4.66	ug/L	5	93.2	1.1	0-50	10/6/2014	10/8/2014
Benzo(ghi)perylene	4.84	ug/L	5	96.8	2.7	0-50	10/6/2014	10/8/2014
Benzo[a]anthracene	5.55	ug/L	5	111.0	4.8	0-50	10/6/2014	10/8/2014
Benzo[a]pyrene	4.84	ug/L	5	96.8	1.2	0-50	10/6/2014	10/8/2014
2-Methylnaphthalene	4.39	ug/L	5	87.8	2.3	0-50	10/6/2014	10/8/2014
Benzo[k]fluoranthene	4.71	ug/L	5	94.2	3.0	0-50	10/6/2014	10/8/2014
Pyrene	4.78	ug/L	5	95.6	1.5	0-50	10/6/2014	10/8/2014
Dibenz[a,h]anthracene	4.91	ug/L	5	98.2	6.1	0-50	10/6/2014	10/8/2014
Fluoranthene	4.97	ug/L	5	99.4	0.4	0-50	10/6/2014	10/8/2014

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141002002
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Fluorene	4.59	ug/L	5	91.8	1.1	0-50	10/6/2014	10/8/2014
Indeno[1,2,3-cd]pyrene	4.87	ug/L	5	97.4	1.8	0-50	10/6/2014	10/8/2014
Naphthalene	3.67	ug/L	5	73.4	2.2	0-50	10/6/2014	10/8/2014
Phenanthrene	4.47	ug/L	5	89.4	1.6	0-50	10/6/2014	10/8/2014
Benzo[b]fluoranthene	5.49	ug/L	5	109.8	1.3	0-50	10/6/2014	10/8/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	10/6/2014	10/8/2014
Acenaphthene	ND	ug/L	0.01	10/6/2014	10/8/2014
Acenaphthylene	ND	ug/L	0.01	10/6/2014	10/8/2014
Anthracene	ND	ug/L	0.01	10/6/2014	10/8/2014
Benzo(ghi)perylene	ND	ug/L	0.01	10/6/2014	10/8/2014
Benzo[a]anthracene	ND	ug/L	0.01	10/6/2014	10/8/2014
Benzo[a]pyrene	ND	ug/L	0.01	10/6/2014	10/8/2014
Benzo[b]fluoranthene	ND	ug/L	0.01	10/6/2014	10/8/2014
Benzo[k]fluoranthene	ND	ug/L	0.01	10/6/2014	10/8/2014
Chrysene	ND	ug/L	0.01	10/6/2014	10/8/2014
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/6/2014	10/8/2014
Fluoranthene	ND	ug/L	0.01	10/6/2014	10/8/2014
Fluorene	ND	ug/L	0.01	10/6/2014	10/8/2014
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	10/6/2014	10/8/2014
Naphthalene	ND	ug/L	0.01	10/6/2014	10/8/2014
Phenanthrene	ND	ug/L	0.01	10/6/2014	10/8/2014
Pyrene	ND	ug/L	0.01	10/6/2014	10/8/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 141002002
Order Date: 10/2/2014

Contact Name: TROY BUSSEY
Project Name: EAST BAY POC GWM
Comment:

Sample #: 141002002-001 **Customer Sample #:** GW-MW-26-092914

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 9/29/2014
Quantity: 4 **Date Received:** 10/1/2014 12:45:00 PM **Time Collected:** 3:50 PM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
HCID	M	WATPH-HCID	10/13/2014	***Normal (~10 Days)***
HOLD	M	hold	10/13/2014	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	10/29/2014	***Normal (~10 Days)***

Sample #: 141002002-002 **Customer Sample #:** GW-MW-26-092914-(01)

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 9/29/2014
Quantity: 4 **Date Received:** 10/1/2014 12:45:00 PM **Time Collected:** 3:55 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
HCID	M	WATPH-HCID	10/13/2014	***Normal (~10 Days)***
HOLD	M	hold	10/13/2014	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	10/29/2014	***Normal (~10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 141002002
Order Date: 10/2/2014

Contact Name: TROY BUSSEY

Project Name: EAST BAY POC GWM

Comment:

Sample #: 141002002-003 **Customer Sample #:** GW-MW-27-092914

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 9/29/2014
Quantity: 4 **Date Received:** 10/1/2014 12:45:00 PM **Time Collected:** 5:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
HCID	M	WATPH-HCID	10/13/2014	***Normal (~10 Days)***
HOLD	M	hold	10/13/2014	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	10/29/2014	***Normal (~10 Days)***

Sample #: 141002002-004 **Customer Sample #:** GW-MW-12-092914

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 9/29/2014
Quantity: 4 **Date Received:** 10/1/2014 12:45:00 PM **Time Collected:**
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
HCID	M	WATPH-HCID	10/13/2014	***Normal (~10 Days)***
HOLD	M	hold	10/13/2014	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	10/29/2014	***Normal (~10 Days)***

Sample #: 141002002-005 **Customer Sample #:** GW-MW-18-092914

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 9/30/2014
Quantity: 4 **Date Received:** 10/1/2014 12:45:00 PM **Time Collected:** 10:15 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
HCID	M	WATPH-HCID	10/13/2014	***Normal (~10 Days)***
HOLD	M	hold	9/30/2014	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	10/8/2014	***Normal (~10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 141002002
Order Date: 10/2/2014

Contact Name: TROY BUSSEY

Project Name: EAST BAY POC GWM

Comment:

Sample #: 141002002-006 **Customer Sample #:** WW-EB-1-092914

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 9/29/2014

Quantity: 9 **Date Received:** 10/1/2014 12:45:00 PM **Time Collected:**

Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	10/13/2014	***Normal (~10 Days)***
BTEX 8260	M	EPA 8260B	10/13/2014	***Normal (~10 Days)***
PAH 8270D MOSC	M	EPA 8270D	10/13/2014	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	10/13/2014	***Normal (~10 Days)***
TPHG-NW	M	NWTPHG	10/13/2014	***Normal (~10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	1.6
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	No
Labels and chain agree?	Yes

141002 002 PITC Last Due 10/29/2014
1st SAMP 9/29/2014 1st RCVD 10/1/2014
Anatek # EAST BAY POC GWM

Anatek Labs, Inc.

Chain of Custody Record

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504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PIONEER TECHNOLOGIES
Address: 5205 CORPORATE CENTER CRT SE, A
City: OLYMPIA State: WA Zip: 98503
Phone: 360-570-1700
Fax:

Project Manager: TROY BUSSEY
Project Name & #: EAST BAY POC GWM
Email Address: swains@uspioneer.com
Purchase Order #:
Sampler Name & phone: SHELLA, 360-570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
_ Next Day*
_ 2nd Day*
_ Other*____

*All rush order requests must be prior approved.

_ Phone
_ Mail
_ Fax
_ Email

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Total As 200.8	Dissolved As 200.8	NWTPH-HCID (Preservative: HCl)	NWTPH-Dx (Preservative: HCl)
1	GW-MW-26-092914	9/29/14; 3:50	WATER	4	2.25L	X	X	X	X
2	GW-MW-26-092914-(01)	9/29/14; 3:55	WATER	4	2.25L	X	X	X	X
3	GW-MW-27-092914	9/29/14; 5:00	WATER	4	2.25L	X	X	X	X

Note Special Instructions/Comments:

MWBS

*silica gel cleanup for NWTPH analyis ALL samples
* NWTPH-HCID, then NWTPH-Dx based on HCID results
* Dissolved As filtered by lab w/.45 micron filter

Inspection Checklist

Received Intact? Y N
Labels & Chains Agree? Y N
Containers Sealed? Y N
VOC Head Space? Y N

Fed Ex

Temperature (°C): 5.8°
Preservative: HCl
Date & Time: 10/1/14 1245
Inspected By: JF

	Printed Name	Signature	Company	Date	Time
Relinquished by	SHELLA SWAIN		PIONEER	9/30/14	11:15
Received by	Justin Kosco		Anatek	10/1/14	1245
Relinquished by					
Received by					
Relinquished by					
Received by					

Anatek Labs, Inc.

Chain of Custody Record

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504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name: PIONEER TECHNOLOGIES	Project Manager: TROY BUSSEY
Address: 5205 CORPORATE CENTER COURT SE	Project Name & #: EAST BAY POC GWM
City: OLYMPIA State: WA Zip: 98503	Email Address: SWains@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone: SHELLA SWAN, 360-570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
_ Next Day*
_ 2nd Day*
_ Other*_____

*All rush order requests must be prior approved.

_ Phone
_ Mail
_ Fax
_ Email

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative	Total As 200.8	Dissolved As 200.8 (0.45 µm)	NWTPH-HCID	NWTPH-Dx	BTEX	TPH-G	PAHs
4	GW-MW-12-092914	9/29/14;	WATER	4	250ml	HCl	X	X	X	X			
5	GW-MW-18-093014	9/30/14; 10:15	WATER	4	250ml	HCl	X	X	X	X			
6	GW-EB1-092914	9/29/14;	WATER	9		HCl	X			X	X	X	X

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

* TRIP BLANKS - DO NOT RUN
* Silica gel cleanup for NWTPH analyses
* NWTPH-HCID, then Dx based on HCID results
* Dissolved As → lab filtered w/ 0.45 micron filter

	Printed Name	Signature	Company	Date	Time
Relinquished by	SHELLA SWAN			9/30/14	11:15
Received by	Justin Korn		Anatek	10/1/14	1220
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Fed Ex

Temperature (°C): HCT 1.6

Preservative: HCl

Date & Time: 10/1/14 1220

Inspected By: JK

Table 4: Target Reporting Limits

Category	Analytical Method	Constituent	Target Reporting Limit [1]	Current Screening Level [2]
Soil constituents that may be used to establish site-specific soil and groundwater cleanup levels for TPH-D and TPH-HO	Ecology Method NWTPH-Dx	TPH-D	25 mg/kg	2,000 mg/kg [3]
		TPH-HO	100 mg/kg	
	USEPA Method SW846-8260 or SW846-8021	Benzene	0.005 mg/kg	0.22 mg/kg
		Toluene	0.005 mg/kg	240 mg/kg
		Ethylbenzene	0.005 mg/kg	43 mg/kg
		Total xylenes	0.010 mg/kg	23 mg/kg
	USEPA Method SW846-8270	Total naphthalenes	0.15 mg/kg	160 mg/kg
		Total cPAHs	0.076 mg/kg [4]	0.095 mg/kg
Groundwater constituents included in ongoing GWM	USEPA Method 200.8	Total arsenic	1.0 ug/L	Not applicable [5]
		Dissolved arsenic	1.0 ug/L	5.0 ug/L
	Ecology Method NWTPH-Dx	TPH-D	100 ug/L	500 ug/L [3]
		TPH-HO	500 ug/L	

Notes:

[1] It may not always be possible to achieve target reporting limits for reasons such as matrix interferences, necessary dilution prior to analysis, etc.

[2] The soil screening levels are from the 2009 interim action work plan associated with the infrastructure corridor (PIONEER 2009). The groundwater screening levels are the surface water screening levels from the 2011 empirical evaluation of the soil-to-surface water via groundwater pathway (PIONEER 2011).

[3] The concentrations of TPH-D and TPH-HO are currently being combined per Ecology direction (Ecology 2013a, 2013b). However, NWTPH-HCID analyses will be conducted pursuant to this SAP/QAPP to inform the nature of petroleum products present at the Site so that it can be determined if TPH-D and TPH-HO should be combined or separated.

[4] The target reporting limit is 0.05 mg/kg for each PAH constituent. The target reporting limit shown is a total cPAHs target reporting limit by applying the toxicity equivalency factors in WAC 173-340-708(8) for the seven cPAH constituents.

[5] Compliance with groundwater screening levels for metals is being evaluated using dissolved concentrations (PIONEER 2011).

Travis Keane

From: John Coddington
Sent: Wednesday, October 01, 2014 6:02 PM
To: Travis Keane
Subject: Fwd: Samples with 10/1/2014 arrival
Attachments: Table 4_Target RLs.doc; ATT00001.htm

Begin forwarded message:

From: Shella Swain <swains@uspioneer.com>
Date: October 1, 2014 at 5:56:57 PM PDT
To: John Coddington <john@anateklabs.com>
Subject: Samples with 10/1/2014 arrival

Hi John:
Since I'm sure my COC is confusing, I wanted to reiterate the following:

- NWTPH-HCID needs to be run prior to NWTPH-Dx (as I believe you and Troy discussed
- Silica gel clean-up needs to be performed for NWTPH-Dx analyses
- Dissolved arsenic needs to be lab-filtered
- Target RLs are attached

I also wrote that the trip blanks don't need to be run but I don't think I put them in those coolers (they are in a slower box that will come later this week), so please ignore that note.

-Thanks,

-Shella

-Shella Swain, MS :: swains@uspioneer.com

PIONEER Technologies Corporation
5205 Corporate Ctr. Ct. SE, Ste. A
Olympia, WA 98503-5901
Phone: 360.570.1700
Fax: 360.570.1777
http://www.uspioneer.com

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Justin Doty

From: John Coddington
Sent: Tuesday, October 28, 2014 10:22 AM
To: Justin Doty; Kris Grows
Subject: 141002002 PITC

They need TPHDx added on to these four waters (1-4).

Per Troy Bussey via phone call today. **Justin, I will need a new LR and COC scanned and login updated.**
Kris, I will need you to enter the results **that you already have for TPHDx for these (we did HCID's)**

I need to get him the updated report by tomorrow.

John W. Coddington, PhD - Laboratory Manager
Anatek Labs Inc, Moscow Idaho
Office: 208-883-2839 Cell: 208-301-1301
Find us on LinkedIn, Google+ and Facebook

www.anatcklabs.com

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DATA GAP INVESTIGATION REGARDING POC GWM (DECEMBER 2014 GWM EVENT AND FEBRUARY 2015 RE-SAMPLE OF MW12)

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Data Quality Review
East Bay Redevelopment Site – December 2014/February 2015[1] GWM Event

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs were within acceptable ranges identified in the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP; PIONEER 2014).

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. As shown in the analytical reports, no constituents were detected in the laboratory method blanks, and recoveries in the blank spikes, matrix spikes, and surrogates were within acceptable ranges identified in the SAP/QAPP (PIONEER 2014).

3. Representativeness

Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. All samples were collected, preserved, handled, and analyzed in accordance with the SAP/QAPP, which was designed to obtain representative samples. In addition, all samples were extracted and analyzed within appropriate holding times listed in the SAP/QAPP (PIONEER 2014).

4. Comparability

Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity

Sensitivity was assessed by comparing actual reporting limits (RLs) with target RLs (PIONEER 2014). The actual RLs were equal to or less than the target RLs.

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 22 sample analyses were performed. All of the analyte results are useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory, subject to any qualifications noted in this document. No corrective action or additional data qualification is necessary.

References

PIONEER 2014. SAP/QAPP for Point of Compliance Groundwater Monitoring, East Bay Redevelopment Site, June 18.

[1] One monitoring well (MW12) was resampled in February 2015.

CASE NARRATIVE January 29, 2015

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com *FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM*

Project Tracking No.: EAST BAY
Anatek Batch: 141224003

Project Summary: Five (5) water samples were received on 12/23/2014. All samples were received with the appropriate chain of custody. Samples were received at 3.8C. All samples were analyzed for total and dissolve arsenic and NW-TPHDx (with silica gel/acid cleanup)

QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Y	NA
Surrogate Recoveries Valid?	Y	NA
QC Sample(s) Recoveries Valid?	Y	NA
Method Blank(s) Valid?	Y	NA
Tune(s) Valid?	Y	NA
Internal Standard Responses Valid?	Y	NA
Initial Calibration Curve(s) Valid?	Y	NA
Continuing Calibration(s) Valid?	Y	NA
Comments:	Y	NA

1. Holding Time Requirements

No problems encountered.

2. GC/MS Tune Requirements

No problems encountered

3. Calibration Requirements

No problems encountered.

4. Surrogate Recovery Requirements

No problems encountered.

5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

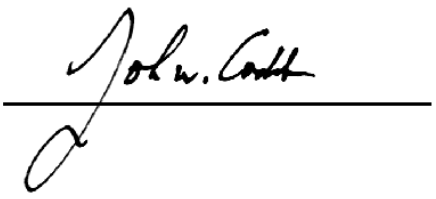
7. Internal Standard(s) Response Requirements

No problems encountered.

8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by: 

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141224003
Project Name: EAST BAY

Analytical Results Report

Sample Number 141224003-001 **Sampling Date** 12/22/2014 **Date/Time Received** 12/23/2014 1:38 PM
Client Sample ID GW-MW-12-122214 **Sampling Time** 11:15 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00399	mg/L	0.001	12/31/2014	ETL	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	1/7/2015	ETL	EPA 200.8	

Sample Number 141224003-002 **Sampling Date** 12/22/2014 **Date/Time Received** 12/23/2014 1:38 PM
Client Sample ID GW-MW-18-122214 **Sampling Time** 10:00 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	12/31/2014	ETL	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	1/7/2015	ETL	EPA 200.8	

Sample Number 141224003-003 **Sampling Date** 12/22/2014 **Date/Time Received** 12/23/2014 1:38 PM
Client Sample ID GW-MW-26-122214 **Sampling Time** 11:50 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	12/31/2014	ETL	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	1/7/2015	ETL	EPA 200.8	

Sample Number 141224003-004 **Sampling Date** 12/22/2014 **Date/Time Received** 12/23/2014 1:38 PM
Client Sample ID GW-MW-27-122214 **Sampling Time** 2:25 PM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	12/31/2014	ETL	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	1/7/2015	ETL	EPA 200.8	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141224003
Project Name: EAST BAY

Analytical Results Report

Sample Number 141224003-005
Client Sample ID GW-MW-18-122214-(01)
Matrix Water
Comments

Sampling Date 12/22/2014
Sampling Time 10:05 AM
Sample Location

Date/Time Received 12/23/2014 1:38 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	12/31/2014	ETL	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	1/7/2015	ETL	EPA 200.8	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141224003
Project Name: EAST BAY

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Arsenic	0.0489	mg/L	0.05	97.8	85-115	1/7/2015	1/7/2015
Arsenic	0.0488	mg/L	0.05	97.6	85-115	12/29/2014	12/31/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141224003-003	Dissolved Arsenic	ND	0.0513	mg/L	0.05	102.6	70-130	1/7/2015	1/7/2015
141222012-001A	Arsenic	ND	0.0485	mg/L	0.05	97.0	70-130	12/29/2014	12/31/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dissolved Arsenic	0.0525	mg/L	0.05	105.0	2.3	0-20	1/7/2015	1/7/2015
Arsenic	0.0492	mg/L	0.05	98.4	1.4	0-20	12/29/2014	12/31/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	12/29/2014	12/31/2014
Dissolved Arsenic	ND	mg/L	0.001	1/7/2015	1/7/2015

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	141224003
Address:	5205 CORPORATE CENTER COURT LACEY, WA 98503	**Project Name:**	EAST BAY
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	141224003-001	**Sampling Date**	12/22/2014	**Date/Time Received**	12/23/2014 1:38 PM
Client Sample ID	GW-MW-12-122214	**Sampling Time**	11:15 AM	**Extraction Date**	1/5/2015
Matrix	Water	**Sample Location**			
Comments	TPH samples subjected to silica gel/acid cleanup				

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	1/7/2015	KFG	NWTPHDX	
Lube Oil	0.572	mg/L	0.5	1/7/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 141224003-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	104.0	50-150

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Attn: TROY BUSSEY

Batch #: 141224003
Project Name: EAST BAY

Analytical Results Report

Sample Number	141224003-002	**Sampling Date**	12/22/2014	**Date/Time Received**	12/23/2014 1:38 PM
Client Sample ID	GW-MW-18-122214	**Sampling Time**	10:00 AM	**Extraction Date**	1/5/2015
Matrix	Water	**Sample Location**			
Comments	TPH samples subjected to silica gel/acid cleanup				

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	1/7/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	1/7/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 141224003-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	106.4	50-150

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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141224003
Project Name: EAST BAY

Analytical Results Report

Sample Number	141224003-003	**Sampling Date**	12/22/2014	**Date/Time Received**	12/23/2014 1:38 PM
Client Sample ID	GW-MW-26-122214	**Sampling Time**	11:50 AM	**Extraction Date**	1/5/2015
Matrix	Water	**Sample Location**			
Comments	TPH samples subjected to silica gel/acid cleanup				

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	1/7/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	1/7/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 141224003-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	102.4	50-150

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LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141224003
Project Name: EAST BAY

Analytical Results Report

Sample Number	141224003-004	**Sampling Date**	12/22/2014	**Date/Time Received**	12/23/2014 1:38 PM
Client Sample ID	GW-MW-27-122214	**Sampling Time**	2:25 PM	**Extraction Date**	1/5/2015
Matrix	Water	**Sample Location**			
Comments	TPH samples subjected to silica gel/acid cleanup				

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	1/7/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	1/7/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 141224003-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	109.2	50-150

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141224003
Project Name: EAST BAY

Analytical Results Report

Sample Number	141224003-005	**Sampling Date**	12/22/2014	**Date/Time Received**	12/23/2014 1:38 PM
Client Sample ID	GW-MW-18-122214-(01)	**Sampling Time**	10:05 AM	**Extraction Date**	1/5/2015
Matrix	Water	**Sample Location**			
Comments	TPH samples subjected to silica gel/acid cleanup				

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	1/7/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	1/7/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 141224003-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	106.0	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 141224003
Project Name: EAST BAY

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.540	mg/L	0.5	108.0	50-150	1/5/2015	1/7/2015

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141224003-002	Diesel	ND	0.560	mg/L	0.5	112.0	50-150	1/5/2015	1/7/2015

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.482	mg/L	0.5	96.4	15.0	0-50	1/5/2015	1/7/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	1/5/2015	1/7/2015
Lube Oil	ND	mg/L	0.5	1/5/2015	1/7/2015

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 141224003
Order Date: 12/24/2014

Contact Name: TROY BUSSEY
Project Name: EAST BAY
Comment:

Sample #: 141224003-001 **Customer Sample #:** GW-MW-12-122214

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 12/22/2014
Quantity: 2 **Date Received:** 12/23/2014 1:38:00 PM **Time Collected:** 11:15 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
TPHDX MOSC	M	EPA 8015D	1/8/2015	***Normal (~10 Days)***

Sample #: 141224003-002 **Customer Sample #:** GW-MW-18-122214

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 12/22/2014
Quantity: 4 **Date Received:** 12/23/2014 1:38:00 PM **Time Collected:** 10:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
TPHDX MOSC	M	EPA 8015D	1/8/2015	***Normal (~10 Days)***

Sample #: 141224003-003 **Customer Sample #:** GW-MW-26-122214

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 12/22/2014
Quantity: 2 **Date Received:** 12/23/2014 1:38:00 PM **Time Collected:** 11:50 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
TPHDX MOSC	M	EPA 8015D	1/8/2015	***Normal (~10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 141224003
Order Date: 12/24/2014

Contact Name: TROY BUSSEY
Project Name: EAST BAY

Comment:

Sample #: 141224003-004 **Customer Sample #:** GW-MW-27-122214

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 12/22/2014
Quantity: 3 **Date Received:** 12/23/2014 1:38:00 PM **Time Collected:** 2:25 PM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
TPHDX MOSC	M	EPA 8015D	1/8/2015	***Normal (~10 Days)***

Sample #: 141224003-005 **Customer Sample #:** GW-MW-18-122214-(01)

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 12/22/2014
Quantity: 2 **Date Received:** 12/23/2014 1:38:00 PM **Time Collected:** 10:05 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	1/8/2015	***Normal (~10 Days)***
TPHDX MOSC	M	EPA 8015D	1/8/2015	***Normal (~10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	3.8
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

141224 003 PITC Last Due 1/8/2015
1st SAMP 12/22/201 1st RCVD 12/23/2014
EAST BAY

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PIONEER TECHNOLOGIES
Address: 5205 CORPORATE CENTER CRT SE A
City: OLYMPIA State: WA Zip: 98503
Phone: 3605701700
Fax:

Project Manager: TROY BUSSEY
Project Name & #: EAST BAY
Email Address: Swains@Upioneer.com
Purchase Order #: EAST BAY
Sampler Name & phone: SHELLA SWAIN, 360-570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-Dx (Preservative: HCl)	Total/Diss Arsenic (Preservative: HNO3)
1	GW-MW-12-122214	12/22/14; 11:15	WATER	2		X	X
2	GW-MW-18-122214	12/22/14; 10:00	WATER	2		X	X
3	GW-MW-26-122214	12/22/14; 11:50	WATER	2		X	X
4	GW-MW-27-122214	12/22/14; 2:25	WATER	3		X	X
5	GW-MW8 122214-(01)	12/22/14; 10:05	WATER	2		X	X

Note Special Instructions/Comments

- Received two unlabeled TPH-Dx samples for MS/MSD.
- MS/MSD for MW-18 per Shella 12/23-TL

* Lab filter Arsenic
← MS/MSD

MWBS

	Printed Name	Signature	Company	Date	Time
Relinquished by	SHELLA SWAIN		PIONEER	12/22/14	3:30
Received by	TRAVIS HOOK		ANATEK	12/23/14	13:38
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? Y N
Labels & Chains Agree? Y N
Containers Sealed? Y N
VOC Head Space? Y N

Fedex

Temperature (°C) 3.8°
Preservative: HCl
Date & Time 12/23/14 13:38
Inspected By: TL

CASE NARRATIVE February 24, 2015

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com *FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM*

Project Tracking No.: EAST BAY
Anatek Batch: 150218029

Project Summary: One (1) water sample was received on 2/18/2015. The sample was received with the appropriate chain of custody. The sample was received at 1.9C.

QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Y	NA
Surrogate Recoveries Valid?	Y	NA
QC Sample(s) Recoveries Valid?	Y	NA
Method Blank(s) Valid?	Y	NA
Tune(s) Valid?	Y	NA
Internal Standard Responses Valid?	Y	NA
Initial Calibration Curve(s) Valid?	Y	NA
Continuing Calibration(s) Valid?	Y	NA
Comments:	Y	NA

1. Holding Time Requirements

No problems encountered.

2. GC/MS Tune Requirements

No problems encountered

3. Calibration Requirements

No problems encountered.

4. Surrogate Recovery Requirements

No problems encountered.

5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

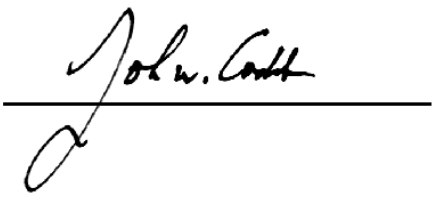
7. Internal Standard(s) Response Requirements

No problems encountered.

8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by: 

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150218029
Project Name: EAST BAY

Analytical Results Report

Sample Number	150218029-001	**Sampling Date**	2/16/2015	**Date/Time Received**	2/18/2015	2:30 PM
Client Sample ID	GW-MW-12-021615	**Sampling Time**	10:20 AM	**Extraction Date**	2/19/2015	
Matrix	Water	**Sample Location**				

Comments: Sample extract subjected to silica gel/acid cleanup prior to analysis

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	2/20/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	2/20/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150218029-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	97.2	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150218029
Project Name: EAST BAY

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.433	mg/L	0.5	86.6	50-150	2/19/2015	2/20/2015

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.475	mg/L	0.5	95.0	9.3	0-50	2/19/2015	2/20/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	2/19/2015	2/20/2015
Lube Oil	ND	mg/L	0.5	2/19/2015	2/20/2015

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 150218029
Order Date: 2/18/2015

Contact Name: TROY BUSSEY
Project Name: EAST BAY
Comment:

Sample #: 150218029-001 **Customer Sample #:** GW-MW-12-021615

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA **Date Collected:** 2/16/2015
Quantity: 1 **Date Received:** 2/18/2015 2:30:00 PM **Time Collected:** 10:20 AM
Comment:

Test	Lab	Method	Due Date	Priority
TPHDX-NW	M	NWTPHDX	2/24/2015	***4 Days***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature of the sample(s)? (°C)	2.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

150218 029 **PITC** Last Due 2/24/2015
1st SAMP 2/16/2015 1st RCVD 2/18/2015
EAST BAY

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 882-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek #

Company Name: PIONEER TECHNOLOGIES CORP
Address: 5205 CORPORATE CENTER CRT SE
City: LACEY State: WA Zip: 98503
Phone: 360-570-1700
Fax:

Project Manager: TROY BUSSEY
Project Name & #: EAST BAY
Email Address: SWAINS@USPIONEER.COM
Purchase Order #: EAST BAY
Sampler Name & phone: STELLA SWAIN 3605701700

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

__Normal __Next Day* __2nd Day* X Other* By 2/25
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email

Provide Sample Description / **List Analyses Requested** / **Note Special Instructions/Comments**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: NW TPH-Dx								
	~~GW-MW-12~~													
	GW-MW-12-021615	2/16/15; 10:20	WATER	1	1L	X								

MWBS

silica gel prep

	Printed Name	Signature	Company	Date	Time
Relinquished by	STELLA SWAIN		PIONEER	10:45 2/16/15	
Received by	Justin Kora		Anatek	2/18/15	1430
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? (Y) N
Labels & Chains Agree? (Y) N
Containers Sealed? (Y) N
VOC Head Space? Y N

Fed Ex

Temperature (°C): 1.9°C IR-1
Preservative: HCl
Date & Time: 2/18/15 1430
Inspected By: JK

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DATA GAP INVESTIGATION REGARDING POC GWM (MARCH 2015 GWM EVENT)

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Data Quality Review
East Bay Redevelopment Site – March 2015 GWM Event

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs were within acceptable ranges identified in the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP; PIONEER 2014).

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. As shown in the analytical reports, no constituents were detected in the laboratory method blanks, and recoveries in the blank spikes, matrix spikes, and surrogates were within acceptable ranges identified in the SAP/QAPP (PIONEER 2014).

3. Representativeness

Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. All samples were collected, preserved, handled, and analyzed in accordance with the SAP/QAPP, which was designed to obtain representative samples. In addition, all samples were extracted and analyzed within appropriate holding times listed in the SAP/QAPP (PIONEER 2014).

4. Comparability

Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity

Sensitivity was assessed by comparing actual reporting limits (RLs) with target RLs (PIONEER 2014). The actual RLs were equal to or less than the target RLs.

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 20 sample analyses were performed. All of the analyte results are useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory, subject to any qualifications noted in this document. No corrective action or additional data qualification is necessary.

References

PIONEER 2014. SAP/QAPP for Point of Compliance Groundwater Monitoring, East Bay Redevelopment Site, June 18.

CASE NARRATIVE April 13, 2015

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com *FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM*

Project Tracking No.: EAST BAY
Anatek Batch: 150331029

Project Summary: Five (5) water samples were received on 3/31/2015. All samples were received with the appropriate chain of custody. Samples were received at 2.5C. All samples were analyzed for total and dissolved arsenic and NW-TPHDx (with silica gel/acid cleanup)

QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Y	NA
Surrogate Recoveries Valid?	Y	NA
QC Sample(s) Recoveries Valid?	Y	NA
Method Blank(s) Valid?	Y	NA
Tune(s) Valid?	Y	NA
Internal Standard Responses Valid?	Y	NA
Initial Calibration Curve(s) Valid?	Y	NA
Continuing Calibration(s) Valid?	Y	NA
Comments:	Y	NA

1. Holding Time Requirements

No problems encountered.

2. GC/MS Tune Requirements

No problems encountered

3. Calibration Requirements

No problems encountered.

4. Surrogate Recovery Requirements

No problems encountered.

5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

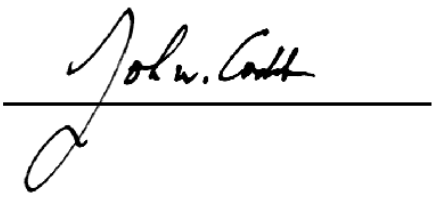
7. Internal Standard(s) Response Requirements

No problems encountered.

8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by: 

Anatek Labs, Inc.

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	150331029
Address:	5205 CORPORATE CENTER COURT LACEY, WA 98503	**Project Name:**	EAST BAY POC GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	150331029-001	**Sampling Date**	3/25/2015	**Date/Time Received**	3/31/2015	10:30 AM
Client Sample ID	GW-MW-26-032515	**Sampling Time**	5:10 AM	**Extraction Date**	4/7/2015	
Matrix	Water	**Sample Location**				

Comments: Sample extracts subjected to silica gel/acid cleanup prior to analysis

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	4/8/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	4/8/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150331029-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	85.0	50-150

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150331029
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	150331029-002	**Sampling Date**	3/25/2015	**Date/Time Received**	3/31/2015	10:30 AM
Client Sample ID	GW-MW-27-032515	**Sampling Time**	4:10 AM	**Extraction Date**	4/7/2015	
Matrix	Water	**Sample Location**				

Comments Sample extracts subjected to silica gel/acid cleanup prior to analysis

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	4/8/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	4/8/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150331029-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	86.2	50-150

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	150331029
Address:	5205 CORPORATE CENTER COURT LACEY, WA 98503	**Project Name:**	EAST BAY POC GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	150331029-003	**Sampling Date**	3/25/2015	**Date/Time Received**	3/31/2015	10:30 AM
Client Sample ID	GW-MW-27-032515-(01)	**Sampling Time**	4:20 AM	**Extraction Date**	4/7/2015	
Matrix	Water	**Sample Location**				

Comments Sample extracts subjected to silica gel/acid cleanup prior to analysis

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	4/8/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	4/8/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150331029-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	87.6	50-150

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150331029
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	150331029-004	**Sampling Date**	3/26/2015	**Date/Time Received**	3/31/2015	10:30 AM
Client Sample ID	GW-MW-12-032615	**Sampling Time**	5:10 AM	**Extraction Date**	4/7/2015	
Matrix	Water	**Sample Location**				

Comments Sample extracts subjected to silica gel/acid cleanup prior to analysis

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	4/8/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	4/8/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150331029-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	87.4	50-150

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150331029
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number	150331029-005	**Sampling Date**	3/30/2015	**Date/Time Received**	3/31/2015	10:30 AM
Client Sample ID	GW-MW-18-033015	**Sampling Time**	8:35 AM	**Extraction Date**	4/7/2015	
Matrix	Water	**Sample Location**				

Comments Sample extracts subjected to silica gel/acid cleanup prior to analysis

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	4/8/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	4/8/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150331029-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	83.0	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150331029
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.359	mg/L	0.5	71.8	50-150	4/7/2015	4/8/2015

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.337	mg/L	0.5	67.4	6.3	0-50	4/7/2015	4/8/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	4/7/2015	4/8/2015
Lube Oil	ND	mg/L	0.5	4/7/2015	4/8/2015

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150331029
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 150331029-001 **Sampling Date** 3/25/2015 **Date/Time Received** 3/31/2015 10:30 AM
Client Sample ID GW-MW-26-032515 **Sampling Time** 5:10 AM
Matrix Water **Sample Location**
Comments Lab filtered dissolved As

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	4/7/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	4/7/2015	HSW	EPA 200.8	

Sample Number 150331029-002 **Sampling Date** 3/25/2015 **Date/Time Received** 3/31/2015 10:30 AM
Client Sample ID GW-MW-27-032515 **Sampling Time** 4:10 AM
Matrix Water **Sample Location**
Comments Lab filtered dissolved As

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	4/7/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	4/7/2015	HSW	EPA 200.8	

Sample Number 150331029-003 **Sampling Date** 3/25/2015 **Date/Time Received** 3/31/2015 10:30 AM
Client Sample ID GW-MW-27-032515-(01) **Sampling Time** 4:20 AM
Matrix Water **Sample Location**
Comments Lab filtered dissolved As

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	4/7/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	4/7/2015	HSW	EPA 200.8	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150331029
Project Name: EAST BAY POC GWM

Analytical Results Report

Sample Number 150331029-004 **Sampling Date** 3/26/2015 **Date/Time Received** 3/31/2015 10:30 AM
Client Sample ID GW-MW-12-032615 **Sampling Time** 5:10 AM
Matrix Water **Sample Location**
Comments Lab filtered dissolved As

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00109	mg/L	0.001	4/7/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	4/7/2015	HSW	EPA 200.8	

Sample Number 150331029-005 **Sampling Date** 3/30/2015 **Date/Time Received** 3/31/2015 10:30 AM
Client Sample ID GW-MW-18-033015 **Sampling Time** 8:35 AM
Matrix Water **Sample Location**
Comments Lab filtered dissolved As

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	4/7/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	4/7/2015	HSW	EPA 200.8	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Batch #: 150331029
Project Name: EAST BAY POC GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Arsenic	0.0474	mg/L	0.05	94.8	85-115	4/7/2015	4/7/2015
Arsenic	0.0482	mg/L	0.05	96.4	85-115	4/6/2015	4/7/2015

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
150331029-001	Dissolved Arsenic	ND	0.0496	mg/L	0.05	99.2	70-130	4/7/2015	4/7/2015
150403024-001A	Arsenic	ND	0.0478	mg/L	0.05	95.6	70-130	4/6/2015	4/7/2015

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dissolved Arsenic	0.0483	mg/L	0.05	96.6	2.7	0-20	4/7/2015	4/7/2015
Arsenic	0.0480	mg/L	0.05	96.0	0.4	0-20	4/6/2015	4/7/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	4/6/2015	4/7/2015
Dissolved Arsenic	ND	mg/L	0.001	4/7/2015	4/7/2015

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 150331029
Order Date: 3/31/2015

Contact Name: TROY BUSSEY

Project Name: EAST BAY POC GWM

Comment:

Sample #: 150331029-001 **Customer Sample #:** GW-MW-26-032515

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 3/25/2015
Quantity: 3 **Date Received:** 3/31/2015 10:30:00 AM **Time Collected:** 5:10 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	4/10/2015	***Normal (~10 Days)***

Sample #: 150331029-002 **Customer Sample #:** GW-MW-27-032515

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 3/25/2015
Quantity: 3 **Date Received:** 3/31/2015 10:30:00 AM **Time Collected:** 4:10 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	4/10/2015	***Normal (~10 Days)***

Sample #: 150331029-003 **Customer Sample #:** GW-MW-27-032515-(01)

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 3/25/2015
Quantity: 3 **Date Received:** 3/31/2015 10:30:00 AM **Time Collected:** 4:20 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	4/10/2015	***Normal (~10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 150331029
Order Date: 3/31/2015

Contact Name: TROY BUSSEY

Project Name: EAST BAY POC GWM

Comment:

Sample #: 150331029-004 **Customer Sample #:** GW-MW-12-032615

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 3/26/2015
Quantity: 3 **Date Received:** 3/31/2015 10:30:00 AM **Time Collected:** 5:10 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	4/10/2015	***Normal (~10 Days)***

Sample #: 150331029-005 **Customer Sample #:** GW-MW-18-033015

Recv'd: ☑ **Matrix:** Water **Collector:** SHELLA SWAIN **Date Collected:** 3/30/2015
Quantity: 3 **Date Received:** 3/31/2015 10:30:00 AM **Time Collected:** 8:35 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	4/10/2015	***Normal (~10 Days)***
TPHDX-NW	M	NWTPHDX	4/10/2015	***Normal (~10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature of the sample(s)? (°C)	2.5
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

150331 029 PITC Last Due 4/10/2015
1st SAMP 3/25/2015 1st RCVD 3/31/2015
EAST BAY POC GWM

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Lab #

Company Name: PIONEER Technologies
Address: 5205 CORPORATE CENTER CRTSE
City: OLYMPIA State: WA Zip: 98503
Phone: 360-570-1700
Fax:

Project Manager: TROY BUSSEY
Project Name & #: EAST BAY POC GWM
Email Address: swains@uspioneer.com
Purchase Order #:
Sampler Name & phone: SHELLA SWAIN, 360-570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: HCl MW-TPH Dx	Total/Diss Arsenic	Diss. Arsenic							
1	GW-MW-26-032515	3/25/15; 3:10	WATER	3		X	X	X							
2	GW-MW-27-032515	3/25/15; 4:10	WATER	3		X	X	X							
3	GW-MW-27-032515(D)	3/25/15; 4:20	WATER	3		X	X	X							
4	GW-MW-12-032615	3/26/15; 5:10	WATER	3		X	X	X							
5	GW-MW-18-033015	3/30/15; 8:35	WATER	3		X	X	X							

MW-TPH Dx
* silica gel prep
* lab-filtered Arsenic

	Printed Name	Signature	Company	Date	Time
Relinquished by					
Received by					
Relinquished by	Shella Swain		PIONEER	3/30/15	11:15
Received by	Justin Doty		AmCol	3/31/15	1030
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	N

Fedex
Temperature (°C) 2.5 IR-1
Preservative: HCl
Date & Time:
Inspected By:

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DATA GAP INVESTIGATION REGARDING POC GWM (JUNE 2015 GWM EVENT)

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Data Quality Review
East Bay Redevelopment Site – June 2015 GWM Event

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs were within acceptable ranges identified in the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP; PIONEER 2014).

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. As shown in the analytical reports, no constituents were detected in the laboratory method blanks, and recoveries in the blank spikes, matrix spikes, and surrogates were within acceptable ranges identified in the SAP/QAPP (PIONEER 2014).

3. Representativeness

Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. All samples were collected, preserved, handled, and analyzed in accordance with the SAP/QAPP, which was designed to obtain representative samples. In addition, all samples were extracted and analyzed within appropriate holding times listed in the SAP/QAPP (PIONEER 2014).

4. Comparability

Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity

Sensitivity was assessed by comparing actual reporting limits (RLs) with target RLs (PIONEER 2014). The actual RLs were equal to or less than the target RLs.

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 20 sample analyses were performed. All of the analyte results are useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory, subject to any qualifications noted in this document. No corrective action or additional data qualification is necessary.

References

PIONEER 2014. SAP/QAPP for Point of Compliance Groundwater Monitoring, East Bay Redevelopment Site, June 18.

CASE NARRATIVE June 23, 2015

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com *FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM*

Project Tracking No.: EAST BAY
Anatek Batch: 150610061

Project Summary: Five (5) water samples were received on 6/10/2015. All samples were received with the appropriate chain of custody. Samples were received at 3.3C. All samples were analyzed for total and dissolved arsenic and NW-TPHDx (with silica gel/acid cleanup)

QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Y	NA
Surrogate Recoveries Valid?	Y	NA
QC Sample(s) Recoveries Valid?	Y	NA
Method Blank(s) Valid?	Y	NA
Tune(s) Valid?	Y	NA
Internal Standard Responses Valid?	Y	NA
Initial Calibration Curve(s) Valid?	Y	NA
Continuing Calibration(s) Valid?	Y	NA
Comments:	Y	NA

1. Holding Time Requirements

No problems encountered.

2. GC/MS Tune Requirements

No problems encountered

3. Calibration Requirements

No problems encountered.

4. Surrogate Recovery Requirements

No problems encountered.

5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

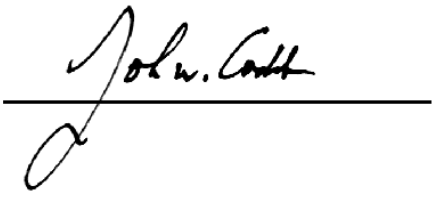
7. Internal Standard(s) Response Requirements

No problems encountered.

8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by: 

Anatek Labs, Inc.

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	150610061
Address:	5205 CORPORATE CENTER COURT LACEY, WA 98503	**Project Name:**	EAST BAY
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	150610061-001	**Sampling Date**	6/9/2015	**Date/Time Received**	6/10/2015	11:50 AM
Client Sample ID	GW-MW-18-060915	**Sampling Time**	4:50 AM	**Extraction Date**	6/15/2015	
Matrix	Water	**Sample Location**				
Comments	Silica gel/acid cleanup performed					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	6/18/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	6/18/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150610061-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	86.2	50-150

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150610061
Project Name: EAST BAY

Analytical Results Report

Sample Number	150610061-002	**Sampling Date**	6/9/2015	**Date/Time Received**	6/10/2015	11:50 AM
Client Sample ID	GW-MW-18-060915-(01)	**Sampling Time**	4:55 AM	**Extraction Date**	6/15/2015	
Matrix	Water	**Sample Location**				
Comments	Silica gel/acid cleanup performed					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	6/18/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	6/18/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150610061-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	88.0	50-150

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Address: 5205 CORPORATE CENTER COURT
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Attn: TROY BUSSEY

Batch #: 150610061
Project Name: EAST BAY

Analytical Results Report

Sample Number	150610061-003	**Sampling Date**	6/9/2015	**Date/Time Received**	6/10/2015	11:50 AM
Client Sample ID	GW-MW-12-060915	**Sampling Time**	5:35 AM	**Extraction Date**	6/15/2015	
Matrix	Water	**Sample Location**				
Comments	Silica gel/acid cleanup performed					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	6/18/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	6/18/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150610061-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	87.6	50-150

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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
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Batch #: 150610061
Project Name: EAST BAY

Analytical Results Report

Sample Number	150610061-004	**Sampling Date**	6/9/2015	**Date/Time Received**	6/10/2015	11:50 AM
Client Sample ID	GW-MW-27-060915	**Sampling Time**	6:25 AM	**Extraction Date**	6/15/2015	
Matrix	Water	**Sample Location**				
Comments	Silica gel/acid cleanup performed					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	6/18/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	6/18/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150610061-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	87.4	50-150

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Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150610061
Project Name: EAST BAY

Analytical Results Report

Sample Number	150610061-005	**Sampling Date**	6/9/2015	**Date/Time Received**	6/10/2015	11:50 AM
Client Sample ID	GW-MW-26-060915	**Sampling Time**	7:15 AM	**Extraction Date**	6/15/2015	
Matrix	Water	**Sample Location**				
Comments	Silica gel/acid cleanup performed					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	6/18/2015	KFG	NWTPHDX	
Lube Oil	ND	mg/L	0.5	6/18/2015	KFG	NWTPHDX	

Surrogate Data

Sample Number 150610061-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	86.0	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Attn: TROY BUSSEY

Batch #: 150610061
Project Name: EAST BAY

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.372	mg/L	0.5	74.4	50-150	6/15/2015	6/18/2015

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
150610061-005	Diesel	ND	0.387	mg/L	0.5	77.4	50-150	6/15/2015	6/18/2015

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.423	mg/L	0.5	84.6	8.9	0-50	6/15/2015	6/18/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	6/15/2015	6/18/2015
Lube Oil	ND	mg/L	0.5	6/15/2015	6/18/2015

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150610061
Project Name: EAST BAY

Analytical Results Report

Sample Number 150610061-006 **Sampling Date** 6/9/2015 **Date/Time Received** 6/10/2015 10:50 AM
Client Sample ID GW-MW-18-060915 **Sampling Time** 4:50 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	6/12/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	6/19/2015	HSW	EPA 200.8	

Sample Number 150610061-007 **Sampling Date** 6/9/2015 **Date/Time Received** 6/10/2015 10:50 AM
Client Sample ID GW-MW-18-060915-(01) **Sampling Time** 4:55 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	6/12/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	6/19/2015	HSW	EPA 200.8	

Sample Number 150610061-008 **Sampling Date** 6/9/2015 **Date/Time Received** 6/10/2015 10:50 AM
Client Sample ID GW-MW-12-060915 **Sampling Time** 5:35 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00109	mg/L	0.001	6/12/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	6/19/2015	HSW	EPA 200.8	

Sample Number 150610061-009 **Sampling Date** 6/9/2015 **Date/Time Received** 6/10/2015 10:50 AM
Client Sample ID GW-MW-27-060915 **Sampling Time** 6:25 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	6/12/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	6/22/2015	HSW	EPA 200.8	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150610061
Project Name: EAST BAY

Analytical Results Report

Sample Number	150610061-010	**Sampling Date**	6/9/2015	**Date/Time Received**	6/10/2015	10:50 AM
Client Sample ID	GW-MW-26-060915	**Sampling Time**	7:15 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	6/12/2015	HSW	EPA 200.8	
Dissolved Arsenic	ND	mg/L	0.001	6/19/2015	HSW	EPA 200.8	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 5205 CORPORATE CENTER COURT
LACEY, WA 98503
Attn: TROY BUSSEY

Batch #: 150610061
Project Name: EAST BAY

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Arsenic	0.0508	mg/L	0.05	101.6	85-115	6/22/2015	6/22/2015
Dissolved Arsenic	0.0495	mg/L	0.05	99.0	85-115	6/19/2015	6/19/2015
Arsenic	0.0498	mg/L	0.05	99.6	85-115	6/12/2015	6/12/2015

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
150610061-009	Dissolved Arsenic	ND	0.494	mg/L	0.5	98.8	70-130	6/22/2015	6/22/2015
150610061-006	Dissolved Arsenic	ND	0.0530	mg/L	0.05	106.0	70-130	6/19/2015	6/19/2015
150610061-006	Arsenic	ND	0.0532	mg/L	0.05	106.4	70-130	6/12/2015	6/12/2015

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dissolved Arsenic	0.507	mg/L	0.5	101.4	2.6	0-20	6/22/2015	6/22/2015
Dissolved Arsenic	0.0524	mg/L	0.05	104.8	1.1	0-20	6/19/2015	6/19/2015
Arsenic	0.0530	mg/L	0.05	106.0	0.4	0-20	6/12/2015	6/12/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	6/12/2015	6/12/2015
Dissolved Arsenic	ND	mg/L	0.001	6/22/2015	6/22/2015
Dissolved Arsenic	ND	mg/L	0.001	6/19/2015	6/19/2015

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 150610061
Order Date: 6/10/2015

Contact Name: TROY BUSSEY

Project Name: EAST BAY

Comment:

Sample #: 150610061-001 **Customer Sample #:** GW-MW-18-060915

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 2 **Date Received:** 6/10/2015 11:50:00 AM **Time Collected:** 4:50 AM
Comment:

Test	Lab	Method	Due Date	Priority
TPHDX-NW	M	NWTPHDX	6/22/2015	***Normal (~10 Days)***

Sample #: 150610061-002 **Customer Sample #:** GW-MW-18-060915-(01)

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 2 **Date Received:** 6/10/2015 11:50:00 AM **Time Collected:** 4:55 AM
Comment:

Test	Lab	Method	Due Date	Priority
TPHDX-NW	M	NWTPHDX	6/22/2015	***Normal (~10 Days)***

Sample #: 150610061-003 **Customer Sample #:** GW-MW-12-060915

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 2 **Date Received:** 6/10/2015 11:50:00 AM **Time Collected:** 5:35 AM
Comment:

Test	Lab	Method	Due Date	Priority
TPHDX-NW	M	NWTPHDX	6/22/2015	***Normal (~10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 150610061
Order Date: 6/10/2015

Contact Name: TROY BUSSEY
Project Name: EAST BAY

Comment:

Sample #: 150610061-004 **Customer Sample #:** GW-MW-27-060915

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 2 **Date Received:** 6/10/2015 11:50:00 AM **Time Collected:** 6:25 AM
Comment:

Test	Lab	Method	Due Date	Priority
TPHDX-NW	M	NWTPHDX	6/22/2015	***Normal (~10 Days)***

Sample #: 150610061-005 **Customer Sample #:** GW-MW-26-060915

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 6 **Date Received:** 6/10/2015 11:50:00 AM **Time Collected:** 7:15 AM
Comment:

Test	Lab	Method	Due Date	Priority
TPHDX-NW	M	NWTPHDX	6/22/2015	***Normal (~10 Days)***

Sample #: 150610061-006 **Customer Sample #:** GW-MW-18-060915

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 2 **Date Received:** 6/10/2015 10:50:00 AM **Time Collected:** 4:50 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***

Sample #: 150610061-007 **Customer Sample #:** GW-MW-18-060915-(01)

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 2 **Date Received:** 6/10/2015 10:50:00 AM **Time Collected:** 4:55 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CENTER COURT
LACEY WA 98503

Order ID: 150610061
Order Date: 6/10/2015

Contact Name: TROY BUSSEY
Project Name: EAST BAY

Comment:

Sample #: 150610061-008 **Customer Sample #:** GW-MW-12-060915

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 2 **Date Received:** 6/10/2015 10:50:00 AM **Time Collected:** 5:35 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***

Sample #: 150610061-009 **Customer Sample #:** GW-MW-27-060915

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 2 **Date Received:** 6/10/2015 10:50:00 AM **Time Collected:** 6:25 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***

Sample #: 150610061-010 **Customer Sample #:** GW-MW-26-060915

Recv'd: ☑ **Matrix:** Water **Collector:** **Date Collected:** 6/9/2015
Quantity: 2 **Date Received:** 6/10/2015 10:50:00 AM **Time Collected:** 7:15 AM
Comment:

Test	Lab	Method	Due Date	Priority
ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***
DISSOLVED ARSENIC	M	EPA 200.8	6/22/2015	***Normal (~10 Days)***

Customer Name:	PIONEER TECHNOLOGIES CORPORATION			**Order ID:**	150610061
	5205 CORPORATE CENTER COURT			**Order Date:**	6/10/2015
	LACEY	WA	98503		
Contact Name:	TROY BUSSEY			**Project Name:**	EAST BAY
Comment:					

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature of the sample(s)? (°C)	3.3 / 4.7
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

150610 061 PITC Last Due 6/22/2015
1st SAMP 6/9/2015 1st RCVD 6/10/2015
EAST BAY

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Lo #

Company Name: PIONEER TECHNOLOGIES CORP	Project Manager: TROY BUSSEY
Address: 5205 CORPORATE CENTER COURT SE	Project Name & #: EAST BAY
City: LACEY State: WA Zip: 98503	Email Address: SWAINS@USPIONEER.COM
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone: SHELLA SWAIN 1 360-570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: HCl / NaOH-ZA	MWRS	Silica gel prep
1	GW-MW-18-060915	6/9/15; 4:50	WATER	2		X		
2	GW-MW-18-060915-D01	6/9/15; 4:55	WATER	2		X		
3	GW-MW-12-060915	6/9/15; 5:35	WATER	2		X		
4	GW-MW-27-060915	6/9/15; 6:25	WATER	2		X		
5	GW-MW-26-060915	6/9/15; 7:15	WATER	6		X		

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

Samples did not appear to be preserved. HCl added upon receipt - no bubbles. 4 bottles are MS/MSD associated w/ GW-MW-26-060915

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

FedEx

Temperature (°C) 3.3°C IR-1
Preservative: HCl
Date & Time: 6/10/15 1150
Inspected By: X

	Printed Name	Signature	Company	Date	Time
Relinquished by	SHELLA SWAIN		PIONEER	6/9/15	10:00
Received by	Justin Kora		Anatek	6/10/15	1150
Relinquished by					
Received by					
Relinquished by					
Received by					

Chain of Custody Record

Anatek Labs, Inc.

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name: PIONEER TECHNOLOGIES CORP
Address: 5205 CORPORATE CENTER CT SE STE A
City: LACEY State: WA Zip: 98503
Phone: 360-570-1700
Fax:

Project Manager: TROY BUSSEY
Project Name & #: EAST BAY
Email Address: SWAINS@USPIONEER.COM
Purchase Order #:
Sampler Name & phone: SHELLA SWAIN 360-870-1700 425-301

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

Lab ID	Sample Identification	Sampling Date/Time	Matrix	Preservative: # of Containers	Sample Volume	Total Arsenic	Dissolved Arsenic	Note Special Instructions/Comments
6	GW-MW-18-060915	6/9/15 ; 4:50	WATER	2		X	X	
7	GW-MW-18-060915-(D)	6/9/15 ; 4:55	WATER	2		X	X	Lab-filtered
8	GW-MW-12-060913	6/9/15 ; 5:35	WATER	2		X	X	
9	GW-MW-27-060915	6/9/15 ; 6:25	WATER	2		X	X	
10	GW-MW-26-060915	6/9/15 ; 7:15	WATER	2		X	X	

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	N

FedEx
Temperature (°C): 4.7°C IR-1
Preservative: None
Date & Time: 6/10/15 1050
Inspected By: X

	Printed Name	Signature	Company	Date	Time
Relinquished by	SHELLA SWAIN		PIONEER	6/9/15	10:00
Received by	Justin Kora		Anatek	6/10/15	1050
Relinquished by					
Received by					
Relinquished by					
Received by					

Appendix K

Lithologic Logs and Monitoring Well Construction Diagrams

This page has been left blank intentionally to allow for double-sided printing.

Date(s) Drilled	09/25/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	2
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		48	P					CR	Gray gravel with trace silt and fine to medium sand (fill)	NS	0.0	
				010	CA			SM	Brown and gray fine to medium sand with trace silt and occasional gravel (loose, wet)			
						▼			Brown fine to coarse sand with trace silt			
		48	P						Gray and white fine to medium sand with trace silt and occasional gravel			
5												
10												

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

LOG OF BORING DP01

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-2
Sheet 1 of 1

V6_ENVBORING P:\0\04150521\01\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	09/25/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	1.5
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		40	P					CR	Gray gravel with fine to coarse sand and trace silt (fill) (crushed rock)	NS	0.0	
								SM	Gray and brown fine to medium sand with trace silt and occasional gravel (loose, wet)			
				010	CA	▼						
									Gray and brown fine to coarse sand with silt			
		36	P						Gray coarse sand with silt			
5								ML	Black and brown silt with organic matter			
10												

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

LOG OF BORING DP02

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-3
Sheet 1 of 1

V6_ENVBORING P:\0\04150521\01\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	09/25/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	2
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		48	P					CR	Gray fine to coarse sand with trace silt and gravel (fill)	NS	0.0	
								SM	Brown fine to medium sand with trace silt and occasional gravel (loose, moist)			
				010	CA	▼			Grades to wet			
		48	P						Gray fine to coarse sand with silt and occasional gravel	NS	0.0	
5								ML	Dark brown and black silt with fine sand			
									Grades to with organic matter	NS	0.0	
10												

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

LOG OF BORING DP03

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-4
Sheet 1 of 1

V6_ENVBORING P:\0\04150521\01\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	09/25/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	2.5
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		48	P					CR	Gray fine to coarse sand with gravel and trace silt (fill)	NS	0.0	
								SM	Brown and gray fine sand with silt and occasional gravel			
				010	CA	▼						
									Gray fine to coarse sand with silt and gravel			
		48	P									Slight organic odor; slight sheet at 4.5 feet
5				040	CA				Brown and gray fine to medium sand with silt and organic matter			No sheen below 4.5 feet
10												

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

LOG OF BORING DP04

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-5
Sheet 1 of 1

V6_ENVBORING P:\0\04150521\01\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	09/25/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	2.5
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		36	P					CR	Crushed rock (fill)	NS	0.0	
								SM	Brown fine to coarse sand with trace silt and occasional gravel (loose, moist)			
				015	CA	▼			Grades to wet			
									Brown fine to medium sand with trace silt			
		40	P									
5									Gray fine to medium sand with trace silt			
								ML	Brown silt with organic matter			
10												

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

LOG OF BORING DP05

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-6
Sheet 1 of 1

V6_ENVBORING P:\0\04150521\01\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	09/26/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	4
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		36	P					AC	Asphalt	NS	0.0	
								SM	Brown fine to medium sand with trace silt and occasional gravel (loose, moist)			
				030	CA				Organic matter (wood) with brown silt and fine sand (moist)			
		24	P			▼			Grades to wet			
5									Brown and gray fine to coarse sand with silt and organic matter			
10												

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

LOG OF BORING DP06

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-7
Sheet 1 of 1

V6_ENVBORING P:\0\04150521\01\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	09/26/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	5.5
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		48	P					CR	Gravel fill (crushed rock)	NS	0.0	
								SM	Brown fine to coarse sand with trace silt and occasional gravel (loose, moist)			
		48	P									
5				045	CA	▼			Gray fine to medium sand with trace silt (loose, wet)			
10												

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

LOG OF BORING DP07

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-8
Sheet 1 of 1

V6_ENVBORING P:\0\041505201\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	09/26/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	2
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		36	P					CR	Crushed rock (fill)	NS	0.0	
								SM	Brown fine to coarse sand with trace silt and occasional gravel (loose, moist)			
				010	CA	▼			Grades to wet			
									Gray fine to medium sand with trace silt			
		40	P									
5												
								ML	Brown and gray silt with organic material			
10												

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

LOG OF BORING DP08

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-9
Sheet 1 of 1

V6_ENVBORING P:\0\04150521\01\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	09/25/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	3.5
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		40	P					CR	Gray gravel with fine to coarse sand and trace silt (fill)	NS	0.0	
								SM	Gray fine to coarse sand with trace silt and occasional gravel (loose, moist)			
				010	CA							
						▼			Grades to wet			
		24	P						Gray fine to medium sand with trace silt			
5								ML	Brown and black silt with fine sand and organic material			
									Brown and black silt with woody debris			
10												

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

LOG OF BORING DP09

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-10
Sheet 1 of 1

V6_ENVBORING P:\0\04150521\01\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	09/26/06	Logged By	AJF	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Macrocore
Auger Data		Hammer Data	156 lb pneumatic	Drilling Equipment	StrataProbe SP-20
Total Depth (ft)	8	Surface Elevation (ft)		Groundwater Level (ft. bgs)	3
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		48	P					CR	Crushed rock (fill)	NS	0.0	
								SM	Brown fine to coarse sand with trace silt and occasional gravel (loose, moist)			
									Brown fine to medium sand with trace silt (wet)			
				020	CA	▼						
		48	P									
5									Gray fine to medium sand with trace silt			
10												

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

LOG OF BORING DP10

GeoEngineers

Project: 1022 Marine Drive NE
Project Location: Olympia, Washington
Project Number: 0415-052-01

Figure A-11
Sheet 1 of 1

V6_ENVBORING P:\0\04150521\01\FINALS\041505201.GPJ GEIV6_1.GDT 11/3/06

Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Depth (ft)	12	Surface Elevation (ft)	Not Surveyed	Groundwater Level (ft. bgs)	7
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.0481593953 -122.896766753

Depth feet	Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		36		000	CA			SM	Brown gravelly sand with trace silt (dense, moist)	NS	No PID	Slight asphalt odor
				020				ML	Gray silt with lenses of coarse sand (very dense, moist)	NS		No odor
		48						GM	Gravel with silt (loose, very wet)			
5				040				ML	Gray silt with trace sand (soft to very stiff, moist to wet)			
				060		▼				NS		No odor
		36						OL	Dark brown clay with wood and organics(stiff, moist)			
				080	CA					NS		No odor
10												
15												
20												

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

LOG OF BORING DP11

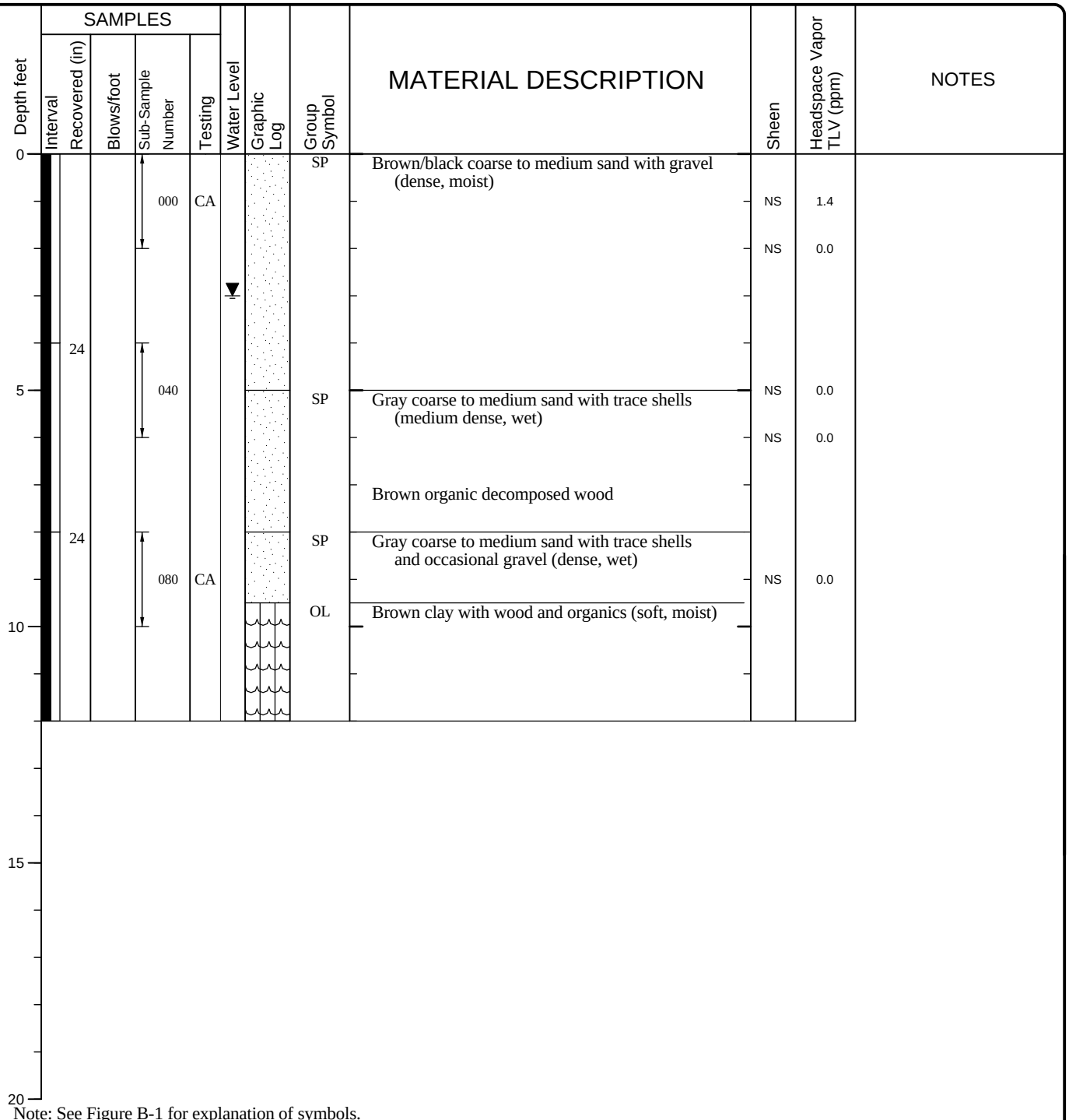
GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

Figure B-2
Sheet 1 of 1

V6_ENVBORING P:\0\06150330\0FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Depth (ft)	12	Surface Elevation (ft)	Not Surveyed	Groundwater Level (ft. bgs)	3
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.0480573478 -122.896364937



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

LOG OF BORING DP12

GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

Figure B-3
Sheet 1 of 1

V6_ENVBORING P:\0\0615033\00\FINALS\0615033000.GPJ GEIV6_1.GDT 2/6/07

Date(s) Drilled	01/15/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Depth (ft)	10	Surface Elevation (ft)	Not Measured	Groundwater Level (ft. bgs)	4
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126225.007 23998.52739

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		26		1				SM	Brown slightly silty fine to coarse sand with gravel (moist)		0.0	
		24		2		▼		SM	Dark brown to black silty fine to coarse sand with gravel with occasional wood and brick debris (wet)	SS	0.0	
5		20		3				SM	Dark brown to black fine to coarse sand with gravel and silt, with occasional wood, brick and white rubber? debris	SS	0.0	
10												
15												

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

LOG OF BORING DP-13

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

Figure B-2
Sheet 1 of 1

V6_ENVBORING P:\0\04150\203\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/17/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Depth (ft)	12	Surface Elevation (ft)	Not Measured	Groundwater Level (ft. bgs)	4
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126174.548 23950.24795

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		12		1				GP-GW	Gravel parking lot		0.0	
								SM	Dark brown silty fine to coarse sand with gravel (moist)			
					CA							
		12		2		▼		SM	Dark brown to black silty fine to coarse sand with gravel	NS	0.0	
5												
		10		3				SM	Gray fine to coarse sand with gravel and occasional silt (wet) (wood debris)	NS	0.0	
10												
15												

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

LOG OF BORING DP-14

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

Figure B-3
Sheet 1 of 1

V6_ENVBORING P:\0\04150520\3\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/15/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Depth (ft)	12	Surface Elevation (ft)	Not Measured	Groundwater Level (ft. bgs)	4
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126106.308 24103.8368

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		12		1				AC	Asphalt		0.0	
					CA			SW	Brown to gray fine to coarse sand with gravel (moist)			
		30		2		▼		SM	Brown to gray silty fine to coarse sand with gravel and wood debris (wet)			
5												
		12		3				ML	Brown fine to coarse sandy silt with wood debris (wet)			
10					CA							
15												

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

LOG OF BORING DP-15

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

Figure B-4
Sheet 1 of 1

V6_ENVBORING P:\0\04150\203\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/17/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Depth (ft)	12	Surface Elevation (ft)	Not Measured	Groundwater Level (ft. bgs)	4
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126023.978 23838.34841

Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)	NOTES
0		28		1	CA			SM	Brown to gray fine to coarse sand with gravel and silt (moist)		0.0	
		20		2		▼		SM	Gray fine to coarse sand with gravel and silt (wet)	SS	0.4	
5				3				SW	Dark brown fine to medium sand with coarse sand to fine gravel, occasional silt (wet)	SS	0.0	
10												
15												

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

LOG OF BORING DP-16

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

Figure B-5
Sheet 1 of 1

V6_ENVBORING P:\0\04150520\3\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)	12	Groundwater Elevation (ft)	6
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126163.32326 24213.3045274

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	NOTES
	0		36		000				AC	Asphalt			
									GW	Gray gravel with silt and sand (medium dense, moist)	SS	0	
10													
									ASH	1-inch layer of possible ash			
			24		020				WD	Brown wood 1-inch pieces (not solid) shredded (moist)	NS	60.8	
											NS	98.6	
5					040	CA							
			24										
5					060					Solid 4-inch piece of wood			
											SS	60.2	
									WD	Black shredded wood with silt (muck) (wet, soft)			
			24		080								
10												22.0	
					100	CA			ML	Brown silt with sand (minor wood) (localized) (moist)		22.0	
0													
15													
-5													
	20												

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

LOG OF DIRECT-PUSH BORING DP-17

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-2
Sheet 1 of 1

V6_ENVBORING P:\0\06150340\2\FINALS\0616034O2_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)	12	Groundwater Elevation (ft)	3
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126112.11959 24246.6597901

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	NOTES
	0								AC	Asphalt			
									SW	Brown sand with gravel and silt (medium dense, moist)	NS	3.5	
10					000						SS	98.3	
			36		020	CA			WD	Shredded wood (light brown, not decomposing) 1/2 to 1-inch bit working (soft, moist)			
	5										NS	12.6	
					040								
			18								NS	13.8	
5					060								
							▼						
			26		080				WD	Burnt wood 6-inch layer silty muck (soft, wet)	NS	3.2	
									WD	Solid wood (moist to wet)	NS	3.2	
	10												
					100	CA							
0			24										
	15												
-5													
	20												

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

LOG OF DIRECT-PUSH BORING DP-18

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-3
Sheet 1 of 1

V6_ENVBORING P:\0\06150340\2\FINALS\0616034O2_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)	12	Groundwater Elevation (ft)	9
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125802.54687 24221.6530879

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	NOTES
	0								SOD	Sod			
					000				SW	Gray sand with gravel and silt (medium dense, moist)	NS	0	
10					020								
			12						SM	Gray sand with silt and gravel (loose, wet)	SS		
5	5												
					060	CA					MS		Petroleum odor
5									WD	Burnt wood for 2 inches then woodshreds (2 inches)	SS		
			36		080				GW	Gray gravel with sand, trace silt (loose, wet)	SS		Petroleum odor and wood odor Petroleum odor
	10								WD	Shredded wood 1 centimeter pieces (medium dense, moist)			
					100	CA							Wood odor
0			36						ML	Gray silt with occasional fine sand (stiff, moist)	NS		
	15												
-5													
	20												

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

LOG OF DIRECT-PUSH BORING DP-19

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-4
Sheet 1 of 1

V6_ENVBORING P:\0\06150340\2\FINALS\0616034O2_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)	12	Groundwater Elevation (ft)	9
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125992.98089 24534.088692

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	NOTES
	0								SM	Brown fine to coarse gravel (medium dense, moist)	NS	47.2	
					000					Gray silty fine to medium sand (medium dense, moist)	NS	250	
10						CA			WD	1/2 centimeter of burnt wood	NS		
									SW	Gray fine to medium sand with occasional silt and shells (medium dense, wet)			
			36		020		▼				NS		
	5				040								
			36								NS	18.3	
5					060								
									ML	Silt with fragments of decomposing wood chips	NS	7.4	
			36		080				SW	Gray fine to medium sand with occasional silt (medium dense, wet)	NS	3.2	
	10					CA							
					100				WD	Mulched wood, light brown (1/2 centimeter)	NS	10.3	
0													
	15												
-5													
	20												

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

LOG OF DIRECT-PUSH BORING DP-20

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-5
Sheet 1 of 1

V6_ENVBORING P:\0\0615034\02\FINALS\0616034O2_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)	12	Groundwater Elevation (ft)	6
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125961.19463 24766.013864

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	NOTES
	0								AC	Asphalt			
									GW	Brown gravel with sand and silt (medium dense, moist)	NS		No Odor
10					000								
			36		020				SM	Gray silty sand (medium dense, moist)	NS		No Odor
											NS		
5					040				SM	Gray sand with silt (stiff, moist)			No Odor
						CA	▼		ML	Gray sandy silt (soft, wet)	NS		No Odor
5					060				WD	Shredded wood with some burnt wood 1/4 centimeter to 1 inch wood chips	SS		Moderate Odor
											SS		
					080								Moderate Odor
											SS		
10						CA							
					100						SS		Moderate Odor
0													Moderate Odor
15													
-5													
	20												

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

LOG OF DIRECT-PUSH BORING DP-21

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-6
Sheet 1 of 1

V6_ENVBORING P:\0\06150340\2\FINALS\0616034O2_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)	12	Groundwater Elevation (ft)	8
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125865.36037 24711.7092151

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	NOTES
	0								GW	Brown gravel with sand and silt (dense, moist)	NS	0.2	
									SM	Gray sand with silt (dense, moist)	NS	0.3	
10					000								
			12		020				ML	Gray sandy silt (stiff, wet)	NS	1.1	
						CA	▼				NS	1.0	
5	5				040				SW	Gray fine to medium sand with occasional silt and shells (medium dense, wet)	NS	3.1	
			36										
0					060						NS	0.6	
											NS	1.0	
			36		080								
	10					CA			ML	Gray silt with occasional fine sand (soft, wet)	NS	0.1	
					100				WD	Wood chips	NS	0.6	
-5													
	15												
-10													
	20												

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

LOG OF DIRECT-PUSH BORING DP-22

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-7
Sheet 1 of 1

V6_ENVBORING P:\0\0615034\02\FINALS\0616034O2_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Depth (ft)	16	Surface Elevation (ft)	12	Groundwater Elevation (ft)	Not Measured
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126238.98315 23852.4157292

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	NOTES
	0									Advanced rod to 12 feet. See log of MW06 for substrate detail			
10													
	5												
5													
	10												
0					120	CA			SM	Brown/black sand and silt with wood shreds (stiff, wet)			
									SW				
										Gray fine to medium sand with silt (medium dense, wet)			
			36						SM	Gray silty fine sand (dense, moist) not wet			
15					140								
-5													
	20												

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

LOG OF DIRECT-PUSH BORING DP-23

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-8
Sheet 1 of 1

V6_ENVBORING P:\0\0615034\02\FINALS\0616603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)	12	Groundwater Elevation (ft)	3
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126116.89769 24025.2925398

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	NOTES
0	0									Advanced rod to 6 feet, sampled 6 to 12 feet. See log of DP06 for substrate detail			
10													
5	5								SW	Brown sand with gravel			
									WD	Shredded burnt wood (medium dense, moist)	NS	3.4	
-5					060				SW	Brown/red fine to coarse sand with silt and gravel with brick bits, occasional wood (soft, wet)	NS	2.2	
						CA			WD	Wood shredded (slightly decomposed)			
			36		080		▼		SW	Brown/red fine to coarse sand with brick and gravel and occasional silt (loose, wet)	NS	3.4	
10	10												
					100				WD	Wood (light brown) 6 inches of pulp and 6 inches of shred (medium dense, moist)	NS	4.1	
0			36										
	15												
-5													
	20												

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

LOG OF DIRECT-PUSH BORING DP-24

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-9
Sheet 1 of 1

V6_ENVBORING P:\0\0615034\02\FINALS\0616034O2_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Depth (ft)	16	Surface Elevation (ft)	12	Groundwater Elevation (ft)	Not Measured
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125987.47919 23807.3228334

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)	NOTES
	0									Advanced rod to 10 feet, sampled 10 to 16 feet. See log of MW07 for substrate detail			
10													
	5												
5													
	10				100	CA			SW-SM	Gray fine to coarse sand with gravel and occasional silt (very dense, moist to wet)	NS	25.3	
0			12										
					120					Grades to very dense, moist	NS	5.0	
15													
			12										
-5													
	20												

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

LOG OF DIRECT-PUSH BORING DP-25

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-10
Sheet 1 of 1

V6_ENVBORING P:\0\0615034\02\FINALS\0616034O2_03.GPJ GEIV6_1.GDT 11/5/07

LOG OF BORING DP26

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634419.47193
Sampling Method	: Split-Spoon	Easting Coord.	: 1043177.48953

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Brown to gray silty, fine to coarse GRAVEL with variety of sand sizes, loose, dry						
1				0	1-2	09:00	
2	Brown silty fine SAND with fine to coarse Gravel, loose, dry to moist						
3				0	3-4	09:05	
4							
5	Light brown fine SAND with clay, loose to medium dense, wet		▼	0	5-6	09:10	No visual indications of contamination, odor, or sheens were detected in any interval. Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7	Dark gray to black fine SAND with clay, shell pieces, medium dense, wet			0	7-8	09:15	
8				0	8-9	09:20	
9	Tan to orange to black WOOD chunks, loose to medium dense, moist to wet						
10							
11							
12	Total Depth = 12 Feet						

LOG OF BORING DP27

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634796.85341
Sampling Method	: Split-Spoon	Easting Coord.	: 1042909.79366

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt with minimal basecourse						
	Brown to gray sandy GRAVEL, medium dense, dry to moist			0	0-1	14:40	
1							
2							
	Gray clayey fine SAND with silt, medium dense, moist						
3				0	3-4	14:50	No visual indications of contamination, odor, or sheens were detected in any interval.
	Grayish brown clayey SILT with some fine sand, medium stiff, moist						
4				0	4-5	15:00	Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
	Gray fine SAND, well sorted, with some shells present, wet		▼				
5							
6				0	6-7	15:10	
7							
	Reddish brown fine shredded WOOD debris						
8	Total Depth = 8 Feet						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP28

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634835.06927
Sampling Method	: Split-Spoon	Easting Coord.	: 1043002.79471

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt						
	Light gray to brown sandy GRAVEL with silt, loose to medium dense, dry to moist						
1				0	1-2	11:15	
2							
3							No visual indications of contamination, odor, or sheens were detected in any interval.
	Light gray to dark gray silty fine SAND with gravel, with shells, moist to wet						
4				0.4	4-6	11:20	Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
5			▼				
6	Brownish orange WOOD sawdust, medium dense, wet						
7							
8	Total Depth = 8 Feet						

LOG OF BORING DP29

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634415.67782
Sampling Method	: Split-Spoon	Easting Coord.	: 1043005.56724

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Concrete slab						
1	Gray to brown sandy fine to coarse GRAVEL with silt, medium dense, dry			0	1-2	11:50	
2							
3	Dark gray silty fine SAND, occasional lean clay, medium dense, moist			0.2	3-4	11:55	
4							
5							
6	Dark gray silty fat CLAY, medium stiff, moist to wet		▼	0	5.5-6.5	12:00	
7	Orangish brown sawdust size WOOD debris, moist to wet			1.4	7-8	12:05	
8	Brown sandy fine to coarse GRAVEL, with lean clay, loose						No visual indications of contamination, odor, or sheens were detected in any other intervals.
9				0.4	8.5-9.5	12:10	
10	Orangish brown to tan sawdust-sized to chunk-sized WOOD debris, medium dense, wet						Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
11							
12							
13				0.7	13-14	12:15	Slight petroleum odor in 13-14 feet interval.
14							
15	Dark gray clayey fine to medium SAND, medium dense, wet						Slight sheen observed with groundwater in 12-16 feet core.
16	Total Depth = 16 Feet						

LOG OF BORING DP30

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634254.60094
Sampling Method	: Split-Spoon	Easting Coord.	: 1042676.90312

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt with minimal basecourse						
	Gray silty fine SAND with occasional coarse gravel, moist to wet						
1				0	1-2	13:50	
2							
3				0	3-4	14:00	
4				0	4-5	14:10	No visual indications of contamination, odor, or sheens were detected in any interval.
5			▼				Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7	Gray to black clayey SILT with some fine sand, medium stiff, moist			0	7-7.5	14:20	
	Reddish brown fine shredded WOOD debris						
8	Total Depth = 8 Feet						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP31

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634682.65879
Sampling Method	: Split-Spoon	Easting Coord.	: 1043108.09688

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt						
	Brown sandy fine to coarse GRAVEL with silt, loose to medium dense, dry						
1				0	1-2	10:40	
2	Dark gray to brown silty fine SAND with clay, occasional gravel, medium dense, moist to wet						
3				0.6	3-4	10:50	No visual indications of contamination, odor, or sheens were detected in any interval.
4							Not all containterized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
5			▼	0	4.5-5.5	11:00	
6	@ 5-7', shells observed						
7	Dark gray sandy lean CLAY, soft to medium stiff, wet						
8	Total Depth = 8 Feet						

LOG OF BORING DP32

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634696.22837
Sampling Method	: Split-Spoon	Easting Coord.	: 1043234.78262

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Dark brown sandy SILT loam						
	Gray, brown, and black silty GRAVEL with fine and medium sand, loose to medium dense, moist to wet						
1				0	1-2	09:00	
2							
3							
4				0	4-5	09:05	No visual indications of contamination, odor, or sheens were detected in any interval.
5							Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7							
8				0	8-9	09:10	
9			▼				
10	Total Depth = 10 Feet						

LOG OF BORING DP33

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634276.63140
Sampling Method	: Split-Spoon	Easting Coord.	: 1043263.91444

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Dark brown sandy SILT loam						
	Gray to brown (fines) silty GRAVEL with occasional fine sand, medium dense, dry to moist						
1				0	1-2	09:50	
2							
3	Brown silty medium SAND with frequent whiteish gray or black gravels, medium dense, moist			0	3-4	09:55	No visual indications of contamination, odor, or sheens were detected in any interval.
4							Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
5				0	5-6	10:00	
6							
7	Dark brown to black silty coarse SAND and fine gravel, loose, moist to wet, with some wood debris		▼	0	7-8	10:05	
8	Total Depth = 8 Feet						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP34

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634179.89984
Sampling Method	: Split-Spoon	Easting Coord.	: 1043043.30666

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Concrete						
1	Brown to gray gravelly SAND with silt, medium dense, dry to moist						
2				0	1-3	15:30	
3							
4							No visual indications of contamination, odor, or sheens were detected in any interval.
5				0	4-6	15:40	Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6			▼				
7							
8	Reddish brown fine shredded WOOD debris			0	7.5-9.5	15:50	
9							
10	Reddish brown bark-sized WOOD debris						
	Total Depth = 10 Feet						

LOG OF BORING DP35

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634682.65879
Sampling Method	: Split-Spoon	Easting Coord.	: 1043108.09688

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Tan to black sandy fine to coarse GRAVEL with silt, medium dense, dry						
1				0	1-2	10:00	
2							
3	Tan to gray gravelly fine to coarse SAND with silt, loose to medium dense, dry to moist			0	3-4	10:20	No visual indications of contamination, odor, or sheens were detected in any interval.
4							Not all containterized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
5				0	5-6	10:30	
6	Dark brown silty lean CLAY, soft, moist		▼				
7	Brown sandy fine to coarse GRAVEL with silt, loose to medium dense, wet						
8	Total Depth = 8 Feet						

LOG OF BORING DP36

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634004.81571
Sampling Method	: Split-Spoon	Easting Coord.	: 1043562.94294

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt with minimal basecourse						
	Gray to brown (fines) silty GRAVEL with fine to medium sand, loose to medium dense, dry to wet						
1				0	1-2	11:50	
2							
3				0	3-4	12:00	
4							No visual indications of contamination, odor, or sheens were detected in any interval.
5				0	5-6	12:10	Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7				0	7-8	12:20	
8				0	8-9	12:30	
9			▼				
10	Total Depth = 10 Feet						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP37

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633944.08136
Sampling Method	: Split-Spoon	Easting Coord.	: 1042964.16156

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt						
	Light gray sandy fine to coarse GRAVEL with silt, coarse to medium dense, dry			0	0.5-2	14:50	
2	Gray plastic CLAY, stiff, occasional gravel, moist			2.1	2-3.5	15:00	
4	Dark gray silty lean CLAY, occasional gravel & wood debris, moist to wet		▼				No visual indications of contamination, odor, or sheens were detected in any interval. Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6				0.7	6-7.5	15:10	
8							
9	Gray to brown silty fine SAND, with woody debris, occasional gravel, wet			0.4	9-11	15:20	
11							
12	Total Depth = 12 Feet						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP38

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633813.95331
Sampling Method	: Split-Spoon	Easting Coord.	: 1042974.46115

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Loose coarse GRAVEL and decomposing asphalt						
1	Gray to dark brown (fines) silty GRAVEL with fine to medium sand, medium dense, dry to wet, with wood construction debris or pilings			0	1-2	12:50	
2							
3			▼	0	3-4	13:00	
4							
5	Dark gray clayey fine SAND with silt, medium dense, moist to wet, with wood debris			0	5-6	13:10	No visual indications of contamination, odor, or sheens were detected in any interval.
6	Reddish brown fine shredded WOOD debris			0	6-7	13:20	Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
7							
8							
9	Brown gravelly fine SAND, medium dense, moist to wet			0	9-10	13:30	
10	Total Depth = 10 Feet						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP39

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633951.44462
Sampling Method	: Split-Spoon	Easting Coord.	: 1043280.93889

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Dark brown sandy SILT loam						
1	Gray to light brown sandy fine to coarse GRAVEL with silt, loose to medium dense, dry			0	0.5-2	13:40	
2	Brown to dark brown, silty medium to coarse SAND, with fine gravel, medium dense, moist to wet		▼				
3							No visual indications of contamination, odor, or sheens were detected in any interval.
4				0	3-5	13:50	Boring was approximately 20 feet north of ponded water and two feet higher in elevatior than ponded water, so groundwater depth is likely reflective of ponded water.
5	Weathered brown WOOD chunks, wet to dry						Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7							
8	Total Depth = 8 Feet						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP40

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634029.91253
Sampling Method	: Split-Spoon	Easting Coord.	: 1043335.07223

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt with minimal basecourse						
	Gray to brown (fines) silty GRAVEL with fine and medium sand, loose to medium dense, dry to moist						
1				0	1-2	11:10	
2							
3				0	3-4	11:15	No visual indications of contamination, odor, or sheens were detected in any interval.
4							Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
5	Brown silty fine and medium SAND with occasional gray or black coarse gravel, loose to medium dense, moist to wet			0	5-6	11:20	
6							
7			▼	0	7-8	11:25	
8	Total Depth = 8 Feet						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP41

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633805.88365
Sampling Method	: Split-Spoon	Easting Coord.	: 1043493.80755

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Light gray to brown sandy fine to coarse GRAVEL with silt, loose to medium dense, dry to wet						
1				0	1-2	14:20	
2							
3				1.9	3-4	14:25	
4							No visual indications of contamination, odor, or sheens were detected in any interval.
5				0	5-6	14:30	Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7			▼				
8	Total Depth = 8 Feet						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP42

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634144.85883
Sampling Method	: Split-Spoon	Easting Coord.	: 1043221.73673

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Gray to brown sandy GRAVEL with silt, loose to medium dense, dry						
1				0	1-2	13:00	
2							
3	Light gray to light brown silty fine SAND, occasional fine gravel, loose to medium dense, moist			0	3-4	13:05	
4							
5	Dark brown silty fine to coarse SAND with gravel and wood debris, medium dense, moist to wet			0.3	5-6	13:10	No visual indications of contamination, odor, or sheens were detected in any interval. Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6			▼				
7	Orange to brown WOOD chunks and sawdust-sized wood debris with coarse gravel and lean clay, medium dense, wet			0.5	7-8	13:15	
8							
9							
10							
11							
12	Total Depth = 12 Feet						

BROWN AND CALDWELL

BORING LOG

Project Name: East Bay Parcel 4 and 5 Well Number: DP43

Soil Boring [X] Monitoring Well [ ] Project Number: 138130 Sheet 1 of 1

Boring Location: Parcel 4 / Parcel 5		Elevation:	
Drilling Contractor: ESN Northwest	Driller: Marty	Date Started: 090916	Date Finished: 090916
Drilling Equipment: Geoprobe	Borehole Diameter: 2"	Depth: 12'	Water Depth: 7'
Sampling Method: Soil from acetate sleeve		Well Casing (type, diam.): NA	
Drilling Method: Direct Push	Drilling Fluid: NA	Well Screen (type,diam.): NA	
Backfill Material: Bentonite	Well Seal: NA	Slot Size: NA	Filter Material: NA
Logged By: **Brown and Caldwell**	Checked By:	Development Method: NA	

Depht (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings (ppm)	Remarks
		Conc to 6" / Sand with pebbles							Concrete surface, penetrated by direct push rod
				20					
5		Silt w/ clay							
				60					
		Wood							
		Sand with pebbles							
10				90					
		Wood							

BROWN AND CALDWELL

BORING LOG

Project Name: East Bay Parcel 4 and 5 Well Number: DP44

Soil Boring [X] Monitoring Well [ ] Project Number: 138130 Sheet 1 of 1

Boring Location: Parcel 4 / Parcel 5		Elevation:	
Drilling Contractor: ESN Northwest	Driller: Marty	Date Started: 090916	Date Finished: 090916
Drilling Equipment: Geoprobe	Borehole Diameter: 2"	Depth: 12'	Water Depth: 7'
Sampling Method: Soil from acetate sleeve		Well Casing (type, diam.): NA	
Drilling Method: Direct Push	Drilling Fluid: NA	Well Screen (type,diam.): NA	
Backfill Material: Bentonite	Well Seal: NA	Slot Size: NA	Filter Material: NA
Logged By: **Brown and Caldwell**	Checked By:	Development Method: NA	

Depht (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings (ppm)	Remarks
		Conc to 6" / Sand with pebbles		20					Concrete surface, penetrated by core drill
5		Sand with Pebbles		60					
		Wood							
		Sand		90					
10		Wood							

BROWN AND CALDWELL

BORING LOG

Project Name: East Bay Parcel 4 and 5 Well Number: DP45a

Soil Boring [X] Monitoring Well [ ] Project Number: 138130 Sheet 1 of 1

Boring Location: Parcel 4 / Parcel 5		Elevation:	
Drilling Contractor: ESN Northwest	Driller: Marty	Date Started: 090916	Date Finished: 090916
Drilling Equipment: Geoprobe	Borehole Diameter: 2"	Depth: 12'	Water Depth: 6'
Sampling Method: Soil from acetate sleeve		Well Casing (type, diam.): NA	
Drilling Method: Direct Push	Drilling Fluid: NA	Well Screen (type,diam.): NA	
Backfill Material: Bentonite	Well Seal: NA	Slot Size: NA	Filter Material: NA
Logged By: **Brown and Caldwell**	Checked By:	Development Method: NA	

Depht (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings (ppm)	Remarks
									Surface disturbed by construction
5		No Recovery							
		Sand, brown							
10		Sand, grey		90					
		Wood							

BROWN AND CALDWELL

BORING LOG

Project Name: East Bay Parcel 4 and 5 Well Number: DP45b

Soil Boring [X] Monitoring Well [ ] Project Number: 138130 Sheet 1 of 1

Boring Location: Parcel 4 / Parcel 5		Elevation:	
Drilling Contractor: ESN Northwest	Driller: Marty	Date Started: 090916	Date Finished: 090916
Drilling Equipment: Geoprobe	Borehole Diameter: 2"	Depth: 8'	Water Depth: 6'
Sampling Method: Soil from acetate sleeve		Well Casing (type, diam.): NA	
Drilling Method: Direct Push	Drilling Fluid: NA	Well Screen (type,diam.): NA	
Backfill Material: Bentonite	Well Seal: NA	Slot Size: NA	Filter Material: NA
Logged By: **Brown and Caldwell**	Checked By:	Development Method: NA	

Depht (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings (ppm)	Remarks
		Sand (brown) with rocks		10					Surface disturbed by construction
		No Recovery							
5		Sand (brown) with rocks							2nd boring placed side-by-side with DP45a due to poor recovery in first 8' of DP45a
		Sand, brown to grey		60					
10									

LOG OF BORING DP46

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 634812.14256
Sampling Method	: Split-Spoon	Easting Coord.	: 1043042.5127

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt and gravelly base course, dry						
1	Dark gray silty fine SAND with occasional gravel, medium dense, dry to moist			N/A	1-2	14:10	
2	Dark gray, sandy CLAY, stiff, moist			N/A	2-3	14:20	
3	Gray to dark gray silty fine SAND with shells and occasional fine to medium gravel, silty clay seams, moist to wet						No visual indications of contamination, odor, or sheens were detected in any interval.
4							
5							
6			▼				
7							
8							
9							
10				N/A	9-11	14:30	
11							
12							
13	Reddish-brown WOOD debris, bark-sized with some gray silt clay, moist to wet						
14							
15	Total Depth = 15'						
16							

LOG OF BORING DP47

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 634895.23223
Sampling Method	: Split-Spoon	Easting Coord.	: 1042949.68499

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt and gravel base course						
1	Gray to brown silty GRAVEL with sand and occasional clay and wood debris, dry to moist			N/A	1-2	16:25	
2							
3							
4							
5	Dark gray silty fine SAND with shells with clay seams, moist to wet						
6			▼				
7				N/A	6-8	16:30	No visual indications of contamination, odor, or sheens were detected in any interval.
8							
9							
10							
11							
12							
13	Dark brown silty lean CLAY with finely shredded wood debris, moist			N/A	13-14	16:35	
14							
15	Total Depth = 15'						
16							

LOG OF BORING DP48

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 633948.26537
Sampling Method	: Split-Spoon	Easting Coord.	: 1042931.51716

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Sidewalk						
1	Gray to brown silty fine to medium GRAVEL with fine sand, dry [base course]						
2							
3	Gray silty fine to medium SAND, moist						
	Gray to brown silty lean CLAY, soft to medium stiff, with wood debris chunks, moist			N/A	3-3.5	10:20	
4	Gray to brown silty fine to medium SAND with occasional shells and fine gravel, moist to wet		▼				
5							
6				N/A	5-7	10:25	
7							No visual indications of contamination, odor, or sheens were detected in any interval.
8							
9							
10							
11	Gray silty lean CLAY, soft, moist			N/A	11-12	10:30	
12	Gray gravelly fine to medium SAND with silt, wet						
13							
14							
15	Total Depth = 15'						
16							

LOG OF BORING DP49

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 633813.66181
Sampling Method	: Split-Spoon	Easting Coord.	: 1042937.60056

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Concrete sidewalk						
1	White'ish gray to brown sandy GRAVEL with silt, dry to wet						
2							
3			▼				
4							
5	Dark gray clayey fine SAND with occasional wood debris, wet			N/A	4.5-6	11:20	
6	Dark brown shredded WOOD debris with occasional gray clayey fine sand, moist to wet						No visual indications of contamination, odor, or sheens were detected in any interval.
7							
8							
9							
10	Gray gravelly fine to medium SAND with brownish fines, moist to wet						
11				N/A	10.5-12	11:25	
12							
13							
14				N/A	14-15	11:30	
15	Total Depth = 15'						
16							

LOG OF BORING DP50

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 634091.384698
Sampling Method	: Split-Spoon	Easting Coord.	: 1043339.45645

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Bark and Topsoil						
1	Gray to brown (fines) silty GRAVEL with fine and medium sand, loose to medium dense, dry to moist to wet [1982 Fill]						
2							
3							
4							
5							
6							No samples collected since 1982 Fill extended to 15 feet.
7							Second side-by-side boring to verfiy lithology.
8							No visual indications of contamination, odor, or sheens were detected in any interval.
9							
10			▼				
11	Clean fine to medium GRAVEL and coarse sand with few fines [1982 Fill]						
12							
13	@12' and 15' - 1" layer of wood, wet						
14							
15	Total Depth = 15'						
16							

LOG OF BORING DP51

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 634264.85295
Sampling Method	: Split-Spoon	Easting Coord.	: 1043304.81861

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Bark and brown loamy topsoil						
1	Light gray to brown (fines) silty GRAVEL with fine to medium sand, dry to wet [1982 Fill]						No samples collected since 1982 Fill extended to 15 feet. Second side-by-side boring to verify lithology. No visual indications of contamination, odor, or sheens were detected in any interval.
2							
3							
4							
5							
6							
7							
8							
9			▼				
10							
11							
12	@ 12 to 15'; significant amount of gravel						
13							
14							
15	Total Depth = 15'						
16							

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP52

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 634419.85603
Sampling Method	: Split-Spoon	Easting Coord.	: 1043237.66772

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Grass roots and brown loamy topsoil						
1	Gray to brown (fines) silty fine to coarse GRAVEL, dry to moist						
2				N/A	1-3.5	15:15	
3							
4							
5							
6	Mixture of brown gravelly SAND and brown sandy lean CLAY with no distinct lithology, moist to wet						No visual indications of contamination, odor, or sheens were detected in any interval.
7							
8			▼	N/A	7-10	15:20	
9							
10							
11							
12							
13				N/A	12-13.5	15:25	
14	Reddish brown bark-sized WOOD debris, decomposing, wet						
15	Total Depth = 15'						
16							

LOG OF BORING DP53

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 634297.7553
Sampling Method	: Split-Spoon	Easting Coord.	: 1042719.38398

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Black asphalt						
1	Gray sandy GRAVEL, dry [base course]						
2	Gray to brown sandy GRAVEL with clay, dry to moist						
3							
4	Gray to dark gray silty fine SAND, with some shells, moist to wet						
5			▼				
6							
7	Gray silty CLAY, soft, moist to wet			N/A	7-7.5	08:15	No visual indications of contamination, odor, or sheens were detected in any interval.
8	Brown to black WOOD debris, sandust-sized to bark-sized or larger, moist						
9	Gray to dark gray silty fine SAND with some shells, moist to wet			N/A	8-9	08:25	
10							
11	@ 11' - dark brown, almost decomposed fine wood debris, wet						
12							
13							
14							
15	Light gray to light brown silty CLAY, soft to stiff, moist						
16	Total Depth = 15'						

LOG OF BORING DP54

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 634227.59667
Sampling Method	: Split-Spoon	Easting Coord.	: 1042651.17886

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Topsoil/Gravel						No visual indications of contamination, odor, or sheens were detected in any interval.
1	Gray to brown gravelly fine to medium SAND with silt, dry to moist						
2							
3							
4							
5	Light gray to dark gray silty fine to medium SAND with occasional coarse gravel and shells		▼				
6							
7	Gray silty CLAY, soft, moist to wet			N/A	7-7.5	09:10	
8	Brown to black WOOD debris, bark-sized, moist						
	Gray to dark gray fine to medium SAND with occasional fine gravels			N/A	8-9	09:20	
9							
10							
11	@ 11' - wood seen decomposing						
12							
13	@ 12-14' - thick wood chunks, 0.5" to 1' thick						
14							
15	Total Depth = 15'						
16							

LOG OF BORING DP55

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 634230.57021
Sampling Method	: Split-Spoon	Easting Coord.	: 1042724.24312

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt						No visual indications of contamination, odor, or sheens were detected in any interval.
1	Gray to brown sandy GRAVEL with silt [base course/gravel fill]						
2	Gray gravelly fine to medium SAND with silt, moist						
3							
4			▼				
5	Light gray to dark gray silty fine to medium SAND with shells, wet						
6							
7	Gray silty lean CLAY, soft, moist to wet			N/A	7-7.5	09:40	
8	Brown to black WOOD debris, shredded to bark-sized, moist						
9	Gray to dark gray fine to medium SAND with shells and occasional gravel			N/A	8-9	09:45	
10							
11							
12	@ 11-12' - layer of brown sandust to bark-sized WOOD debris, moist to wet						
13							
14							
15							
16	Total Depth = 15'						

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP56

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 10/18/2011	Logged By	: T. Bussey (PTC)
Date Completed	: 10/18/2011	Drilling Firm	: ESN
Drilling Method	: Direct-Push	Northing Coord.	: 634157.56705
Sampling Method	: Split-Spoon	Easting Coord.	: 1043260.68888

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Grass roots and brown loamy topsoil						No visual indications of contamination, odor, or sheens were detected in any interval.
1	Brown to gray sandy GRAVEL with silt, dry to moist (different from 1982 fill)						
2				N/A	1-3	13:35	
3							
4							
5							
6	Brownish-gray silty fine SAND, grading slightly coarser with depth, moist to wet						
7				N/A	7-8	13:40	
8							
9			▼				
10							
11							
12							
13	Mixture of gray silty fine SAND and grey lean silty CLAY with wood debris seams, wet			N/A	13-14	13:45	
14							
15	Total Depth = 15'						
16							

PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP57

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 9/22/2014	Logged By	: S. Swain (PTC)
Date Completed	: 9/22/2014	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633964.7805
Sampling Method	: Split-Spoon	Easting Coord.	: 1043197.17932

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Light gray SAND and GRAVEL						No visual indications of contamination, odor, or sheens were detected in any interval, with possible exception of darker color from 3 to 5 ft bgs.
3	Dark brown silty SAND with woody debris and small gravel mixed in.			N/A	3-5	13:15	
5	Groundwater encountered at 5 feet.		▼				
7	Dark gray and lean silty CLAY with wood debris.						
8	High amount of WOOD debris mixed with light brown silt and gravel						
12	Dark gray fine SAND mixed with low amount of silt, clay and gravel.			N/A	12-14	13:30	
15	Total Depth = 15 Feet						

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PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING DP58

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 9/22/2014	Logged By	: S. Swain (PTC)
Date Completed	: 9/22/2014	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633959.5216
Sampling Method	: Split-Spoon	Easting Coord.	: 1043243.35107

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Dirt and debris						
1	Light brown and gray silty SAND.						
2							
3							
4	Dark brown large WOOD pieces.		▼				
5	Dark gray to brown silty SAND with woody debris.						
6				N/A	6-8	12:30	Petroleum stains and odors were observed between 6 and 10 feet.
7							
8							
9							
10	Total Depth = 10 Feet						

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PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING SVP-1SO

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 5/7/2013	Logged By	: G. Mallari (PTC)
Date Completed	: 5/7/2013	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634800.52553
Sampling Method	: Split-Spoon	Easting Coord.	: 1043004.67364

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	No recovery						
1	Gray SAND with gravel						
2	Gray SAND with clay						
3							
4			▼		3-5	13:30	
5							
6	Brown WOOD						
	Total Depth = 6 Feet						

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PIONEER TECHNOLOGIES CORPORATION

LOG OF BORING SVP-2SO

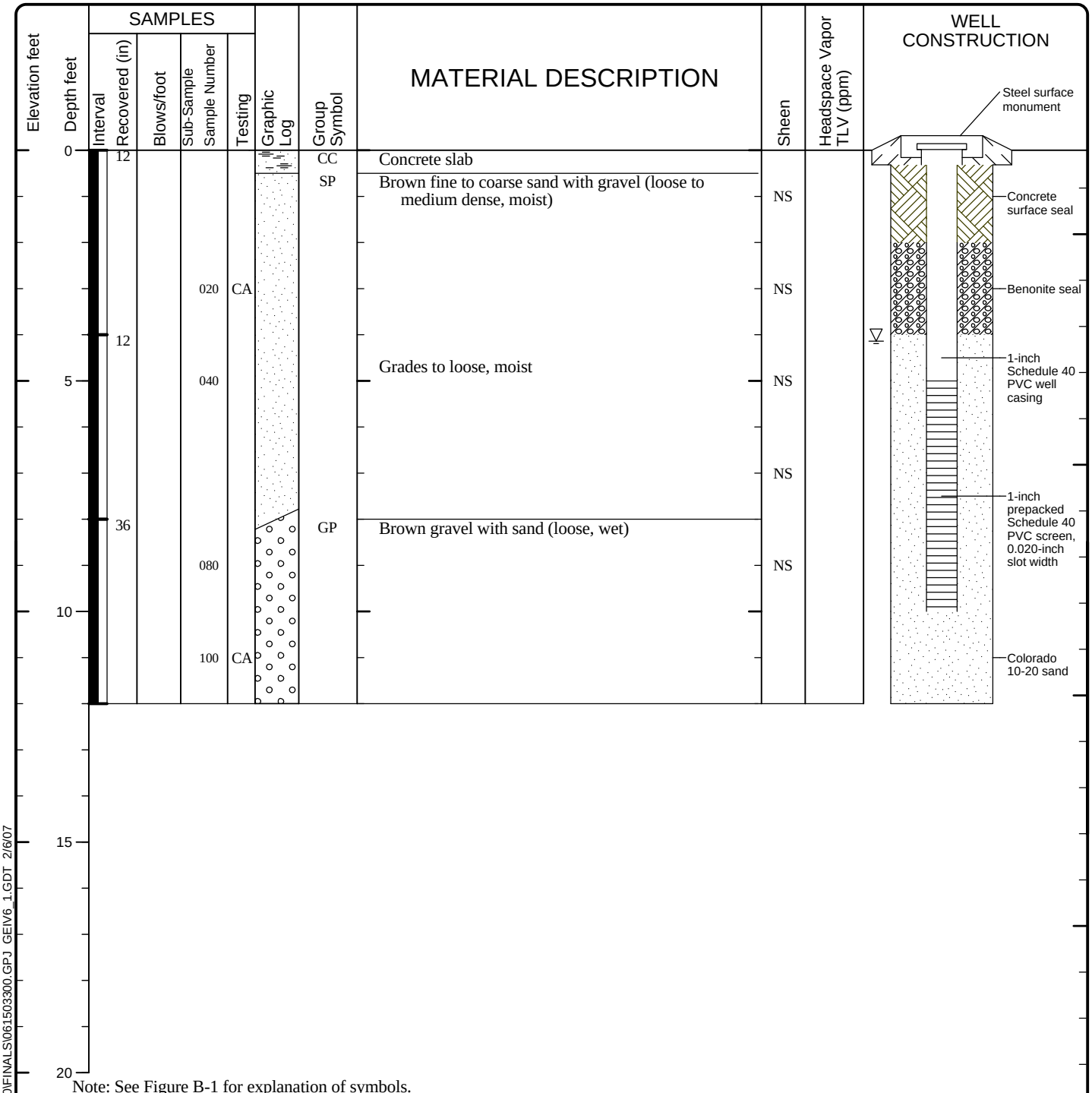
Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 5/7/2013	Logged By	: G. Mallari (PTC)
Date Completed	: 5/7/2013	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634029.58067
Sampling Method	: Split-Spoon	Easting Coord.	: 1043118.81681

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Gray SAND and GRAVEL						
2	Dark brown SAND with wood						
3	Brown SAND with gravel		▼				
4	Dark brown SAND with some wood						
5	Brown-gray SAND with gravel			N/A	4-6	13:45	Noted strong odor from 4-6 feet.
6	Total Depth = 6 feet						

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Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Exploration Depth (ft)	12	Ground Surface Elevation (ft)	101.82	Groundwater Elevation (ft)	97.68
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.0483000631 -122.896724939



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

LOG OF MONITORING WELL MW01 (AKA 425)

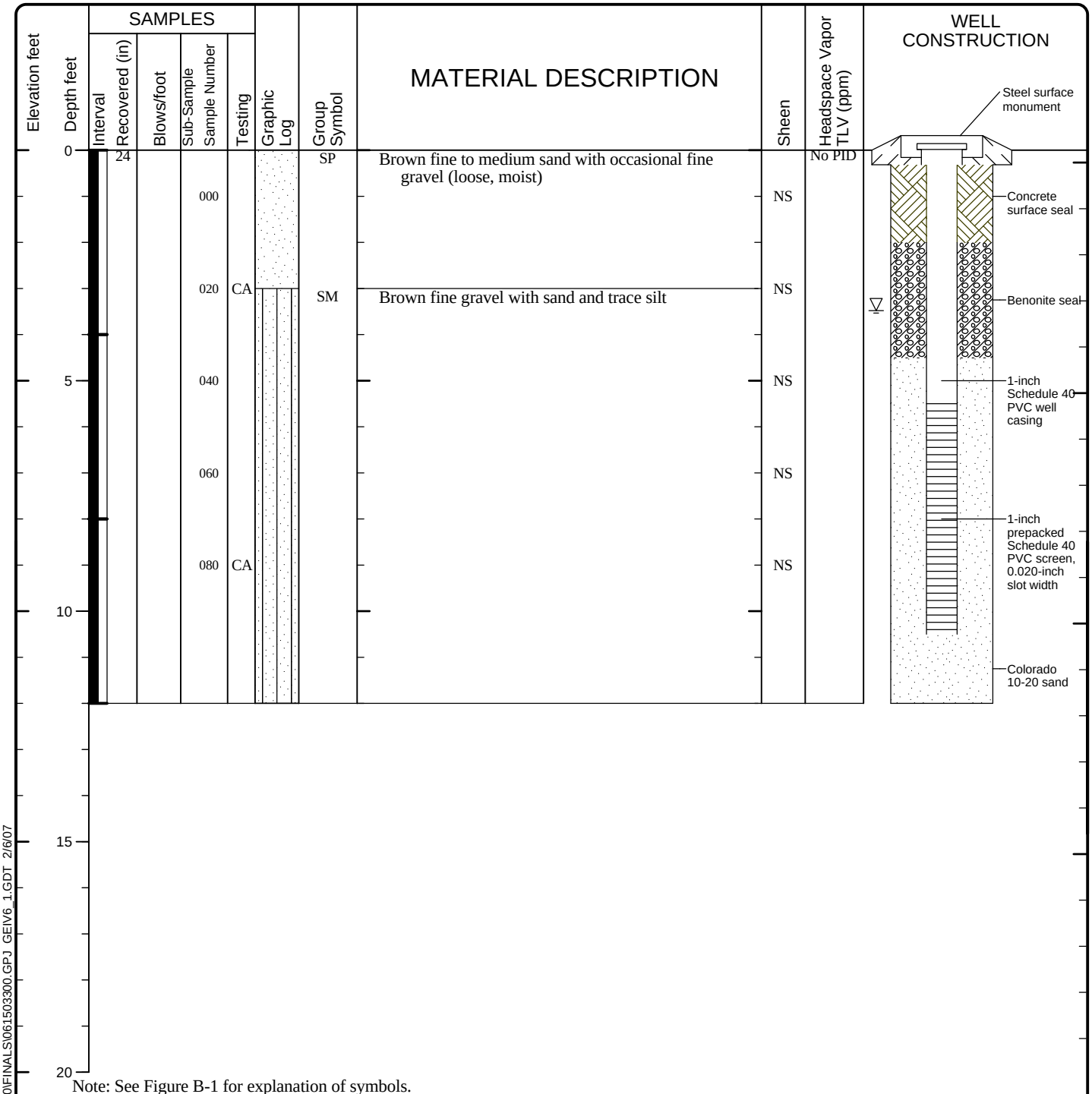
GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

Figure B-4
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Exploration Depth (ft)	12	Ground Surface Elevation (ft)	100.27	Groundwater Elevation (ft)	96.79
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.0481962236 -122.897072584



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

LOG OF MONITORING WELL MW02 (AGT 115)

GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

Figure B-5
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

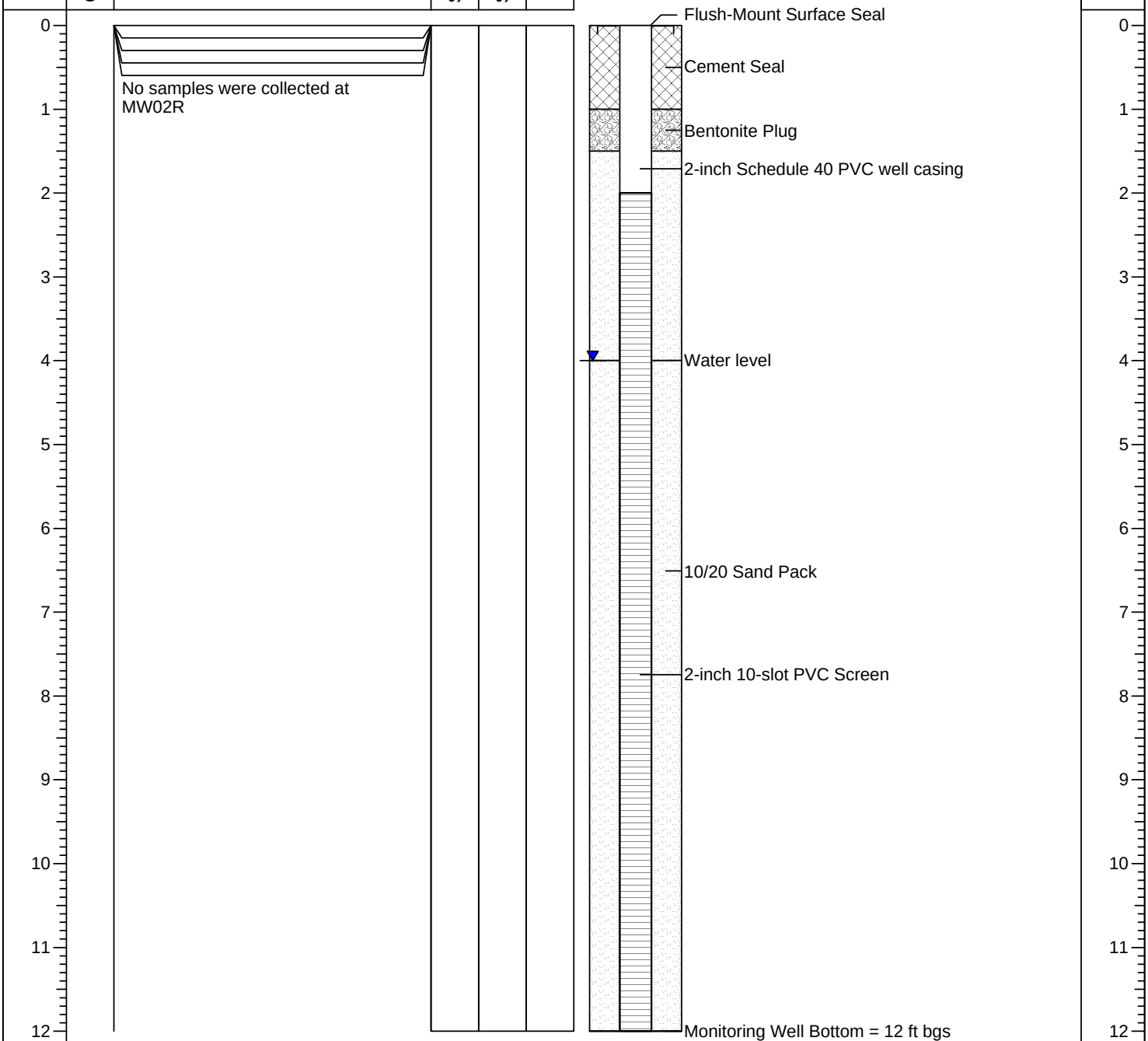
PIONEER TECHNOLOGIES CORPORATION

LOG OF MONITORING WELL MW02R

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 9/16/2009	Logged By	: K. Roberts (PTC)
Date Completed	: 9/16/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634461.86
Sampling Method	: Split-Spoon	Easting Coord.	: 1042882.94

Agency Well Tag No: BBK 346

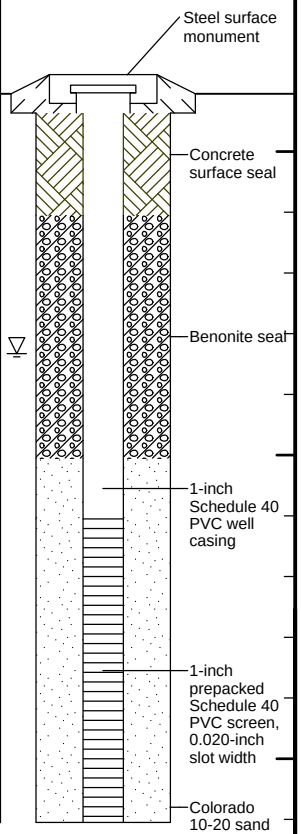


05-19-2015 P:\Port of Olympia\East Bay\RIFS Tasks\3_RIFS Report\Appendices\Appendix K Sce for New Logs since 2013 IAWP\Src\MW02R_Well.bor

Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Exploration Depth (ft)	12	Ground Surface Elevation (ft)	100.95	Groundwater Elevation (ft)	96.67
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.04784838 -122.896712081

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		12					CC	Concrete slab		
								SP	Brown fine to coarse sand with gravel (medium dense, moist)		
					000					NS	0.0
					020					NS	0.0
			48								
	5				040	CA				NS	0.0
										NS	0.0
			24					GP	Gray/brown gravel with sand (medium dense, wet)		
					080	CA				NS	0.0
	10										
	15										
	20										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW03 (AKA 427)

GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

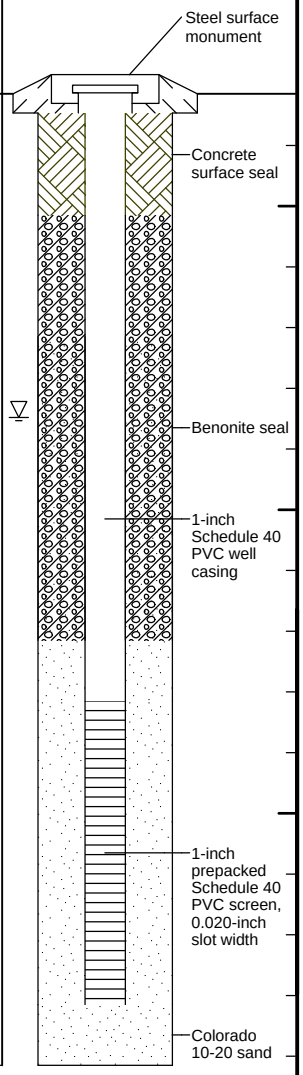
Figure B-6
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Exploration Depth (ft)	16	Ground Surface Elevation (ft)	101.85	Groundwater Elevation (ft)	96.52
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.048155726 -122.896040672

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0	40						GP	Medium brown gravel with sand (medium dense, moist to dry)		
					000					NS	0.0
								SP	Dark brown sand with gravel and brick (fill)		
					020	CA				NS	0.0
								OL	Brown organic silt		
		24									
								ML/SP	Gray silt with layers of fine to coarse graded sand with shells (dense/loose, wet)		
	5				040					NS	0.0
		40								NS	0.0
					080					NS	0.0
	10										
					100			SP	Black sand with decomposing wood material (moist)	NS	0.0
		48							Dark brown coarse sand with occasional gravel (loose, wet) Preservative odor		
					120				Sewage odor	NS	0.0
	15				140	CA			Dark brown/black coarse sand with gravel and wood debris (loose, wet) Intense preservative odor	NS	0.0
	20										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW04 (AKA 424)

GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

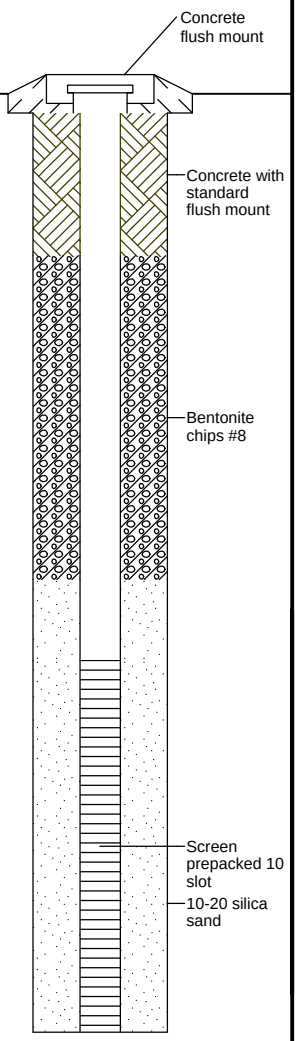
Figure B-7
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

Date(s) Drilled	01/15/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	11.59	Top of Casing Elevation (ft)	101.66	Groundwater Elevation (ft)	97.45
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126252.22 24078.30508

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		30		1			TS	Grass and topsoil		0.0
								SM	Brown to gray fine to coarse sand with gravel and silt (moist)		
			32		2			ML	Brown to black silty fine to coarse sand with gravel (wet)	SS	0.0
	5										
			14		3			SM	Dark brown to black silty fine to coarse sand with gravel (wet)	SS	0.0
	10					CA					
	15										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-05

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

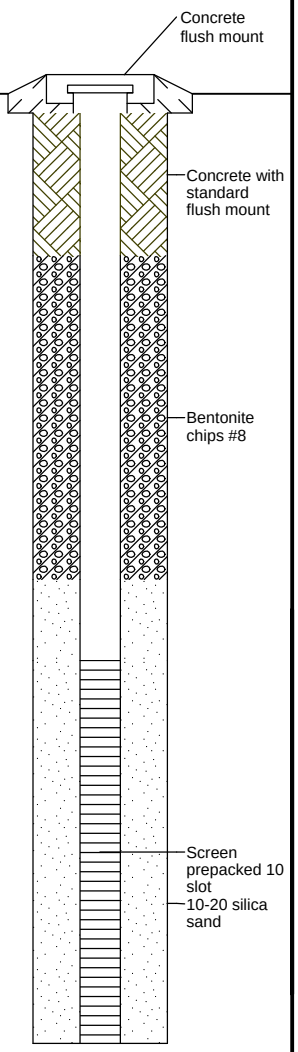
Figure B-6
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/15/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	11.73	Top of Casing Elevation (ft)	100.15	Groundwater Elevation (ft)	99.4
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126234.941 23866.98668

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		12		1			SM	Brown to gray fine to coarse sand with silt and gravel (wet)		0.0
						CA					
			30		2			SM	Dark brown silty fine to coarse sand with gravel, wood debris		
	5										
			30		3			SM	Brown to gray silty gravely fine to coarse sand	SS	0.0
	10					CA		ML	Dark brown to black fine to coarse sandy silt with wood debris		
	15										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-06

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

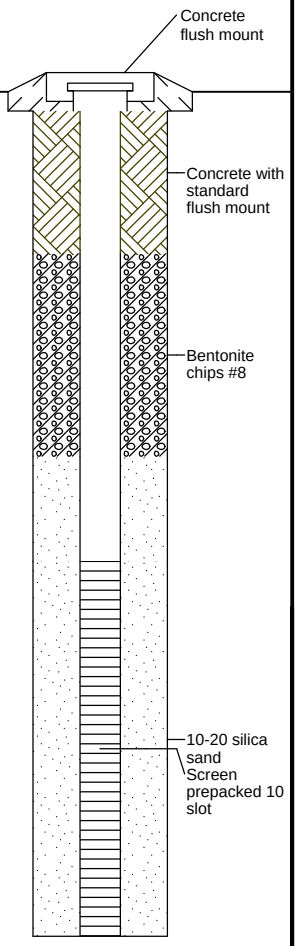
Figure B-7
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/17/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	10.43	Top of Casing Elevation (ft)	101.12	Groundwater Elevation (ft)	96.41
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126004.866 23757.36587

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		28		1			GRAV	Gravel parking lot		0.0
								SM	Brown to gray silty fine to coarse sand with gravel (moist)		
	5		24		2			SM	Dark brown to black silty fine to medium sand, occasional wood debris (wet)		0.0
			29		3			SM	Gray fine to coarse sand with silt and fine gravel (wet)		0.0
	10										
	15										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-07

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

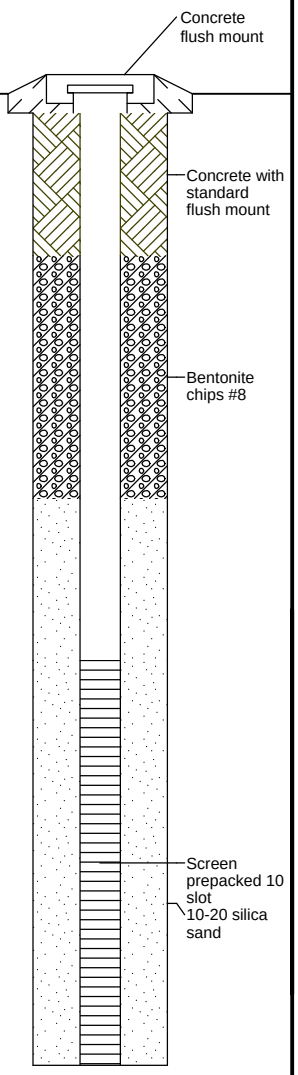
Figure B-8
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/17/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	12	Top of Casing Elevation (ft)	101.4	Groundwater Elevation (ft)	Not Encountered
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126015.008 23976.86119

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		37		1			SM	Brown fine to coarse sand with gravel and silt, occasional concrete debris (moist)		0.0
						CA		SM	Gray silty fine to coarse sand with gravel		
			14		2	CA		SM	Gray silty fine to coarse sand with gravel (wet)	SS	0.0
	5										
			24		3	CA					0.0
									Wood debris		
	10										
	15										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-08

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

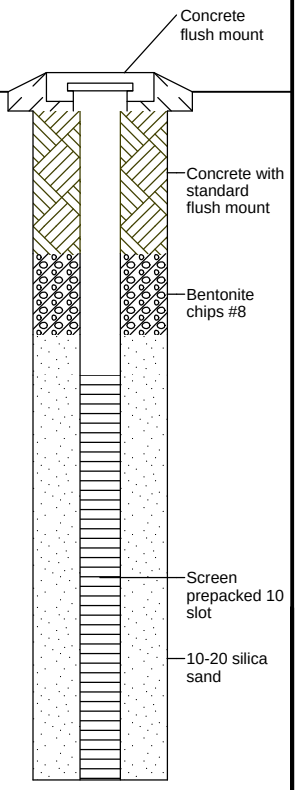
Figure B-9
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/17/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	8.15	Top of Casing Elevation (ft)	101.79	Groundwater Elevation (ft)	99.18
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126031.66 24077.90447

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		30		1			CC	5 inches concrete slab		
								SM	Brown to gray fine to coarse sand with gravel and silt (moist)		
						CA				NS	0.0
	10				2	CA		SM	Brown to gray fine to coarse sand with gravel and silt (wet)		
5										SS	0.0
	0				3				No recovery. Rock in tip of sampler.		
10											
15											

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-09

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

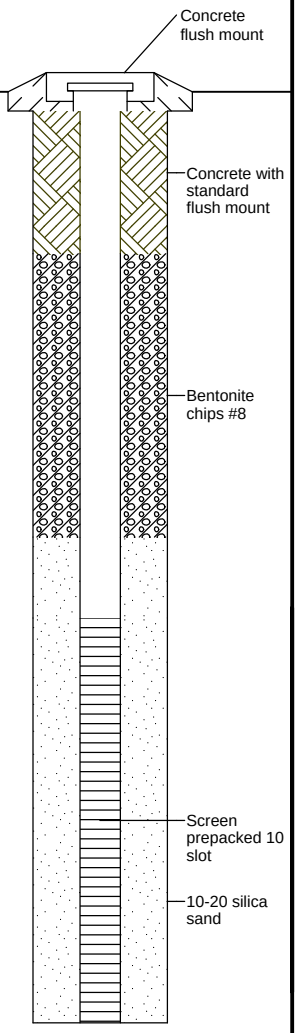
Figure B-10
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/15/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	12	Top of Casing Elevation (ft)	101.38	Groundwater Elevation (ft)	Not Encountered
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126158.842 24072.36851

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		25		1			AC	Asphalt	NS	0.0
								SM	Brown to gray fine to coarse sand with gravel and silt, brick debris in tip of sampler (moist)		
			30		2	CA		SM	Dark brown to black silty fine to coarse sand with gravel, occasional brick debris	SS	0.8
	5										
			8		3			SM	Dark brown to back silty fine to coarse sand with gravel, occasional wood and brick debris (wet)	SS	0.0
	10					CA					
	15										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-10

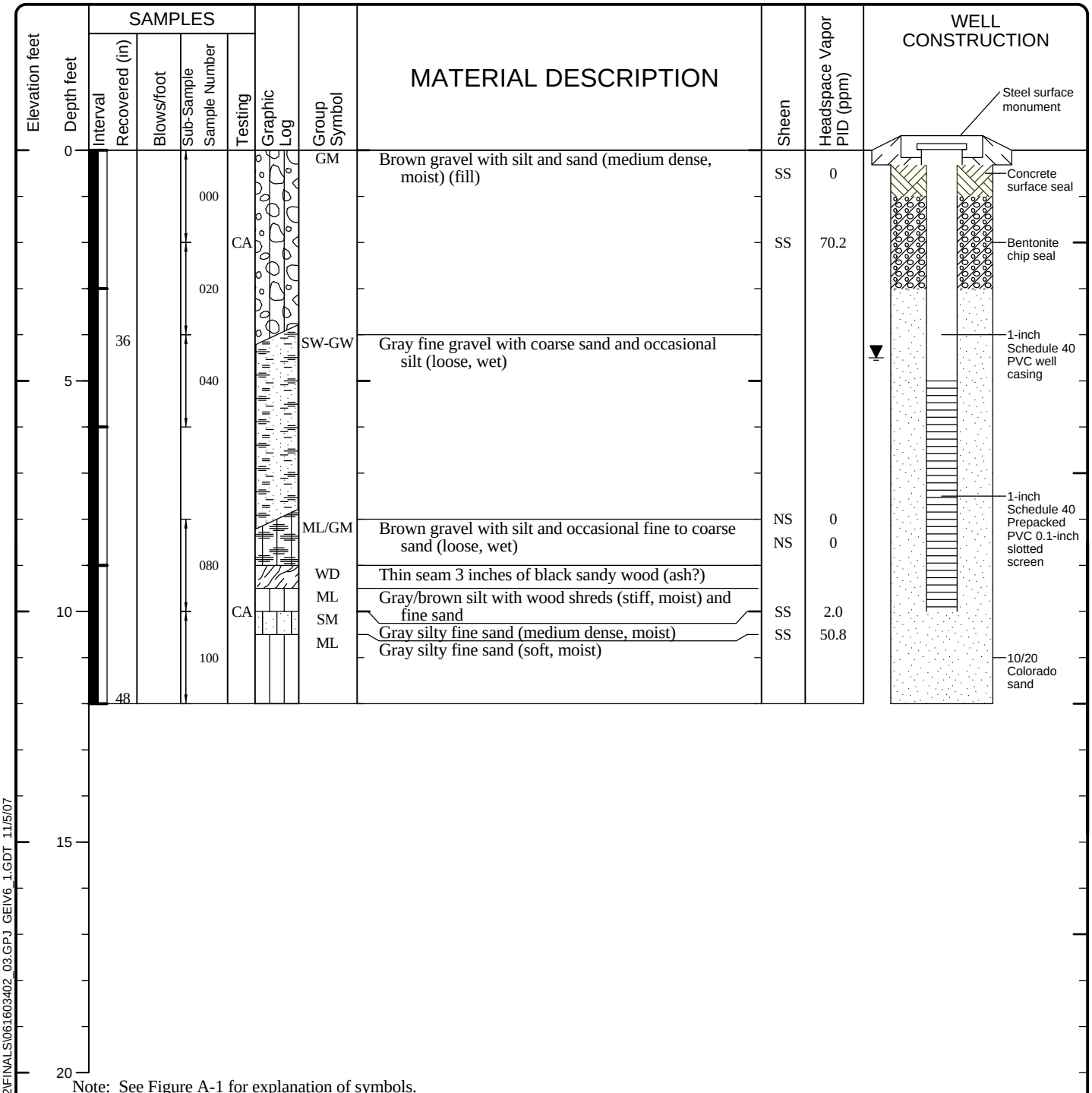
GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

Figure B-11
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	7.5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126736.65701 24022.2700981



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

LOG OF MONITORING WELL MW-11

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

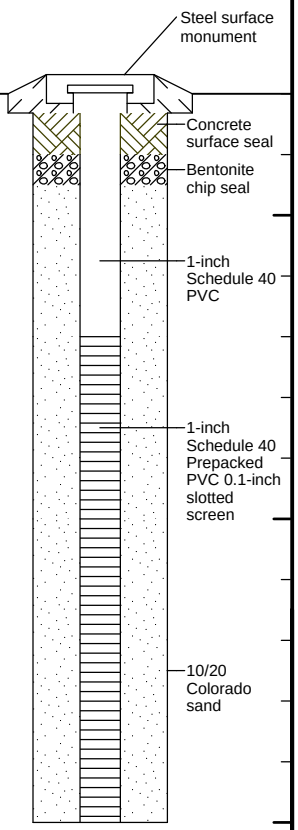
Figure A-11
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/01/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	Not Encountered
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126391.2635 24014.473978

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0				000			GW	Brown fine gravel with fine to coarse sand and silt (dense, moist to dry)	NS	16.9
					020			SW	Brown fine to coarse sand with occasional gravel and silt (dense, moist to dry)	NS	81
			48			CA					
	5				040					NS	0
								SW	Brown fine to coarse sand with occasional gravel and trace silt (medium dense, wet)		
					060			SW	Brown coarse sand with occasional gravel and trace silt (medium dense, wet) circular rock, possible clay	NS	0
			36								1.6
					080						
	10					CA				SS	1.0
					100					NS	
			30								
	15										
	20										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-12

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

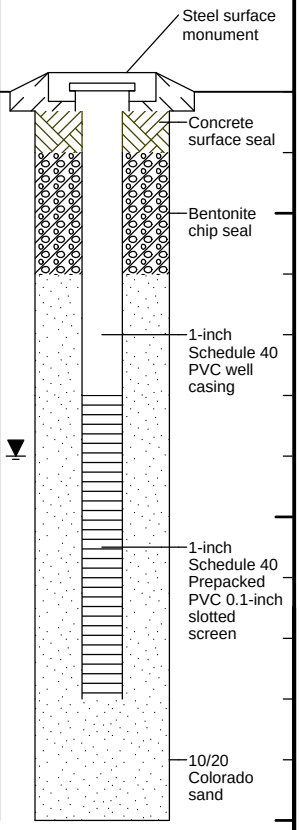
Figure A-12
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/01/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	6
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126377.54827 23808.4551652

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0							SOD	6 inches topsoil and sod		
					000			GW	Brown gravel with fine to coarse sand and occasional silt (medium dense, moist)	NS	2.0
											85.5
					020			SW	Brown fine to coarse sand with gravel and silt (medium dense, moist) potential historic working surface	SS	1.0
			40								
	5				040			SW	Gray coarse sand with occasional gravel (medium dense, wet)		
						CA					
					060			SM	Black sand with silt and occasional shredded wood (medium dense, moist to wet)	NS	0
			36					SW	Gray coarse sand with occasional gravel (medium dense, wet)		
								ML	Black sandy silt with occasional shreds of wood (medium stiff, moist)		
					080					NS	75
	10					CA		ML	Brown silt with occasional fine sand and trace shreds of wood (very stiff, moist)	NS	0
					100			SW	Gray fine to medium sand with trace silt (medium dense, moist)	NS	0
			36								
	15										
	20										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-13

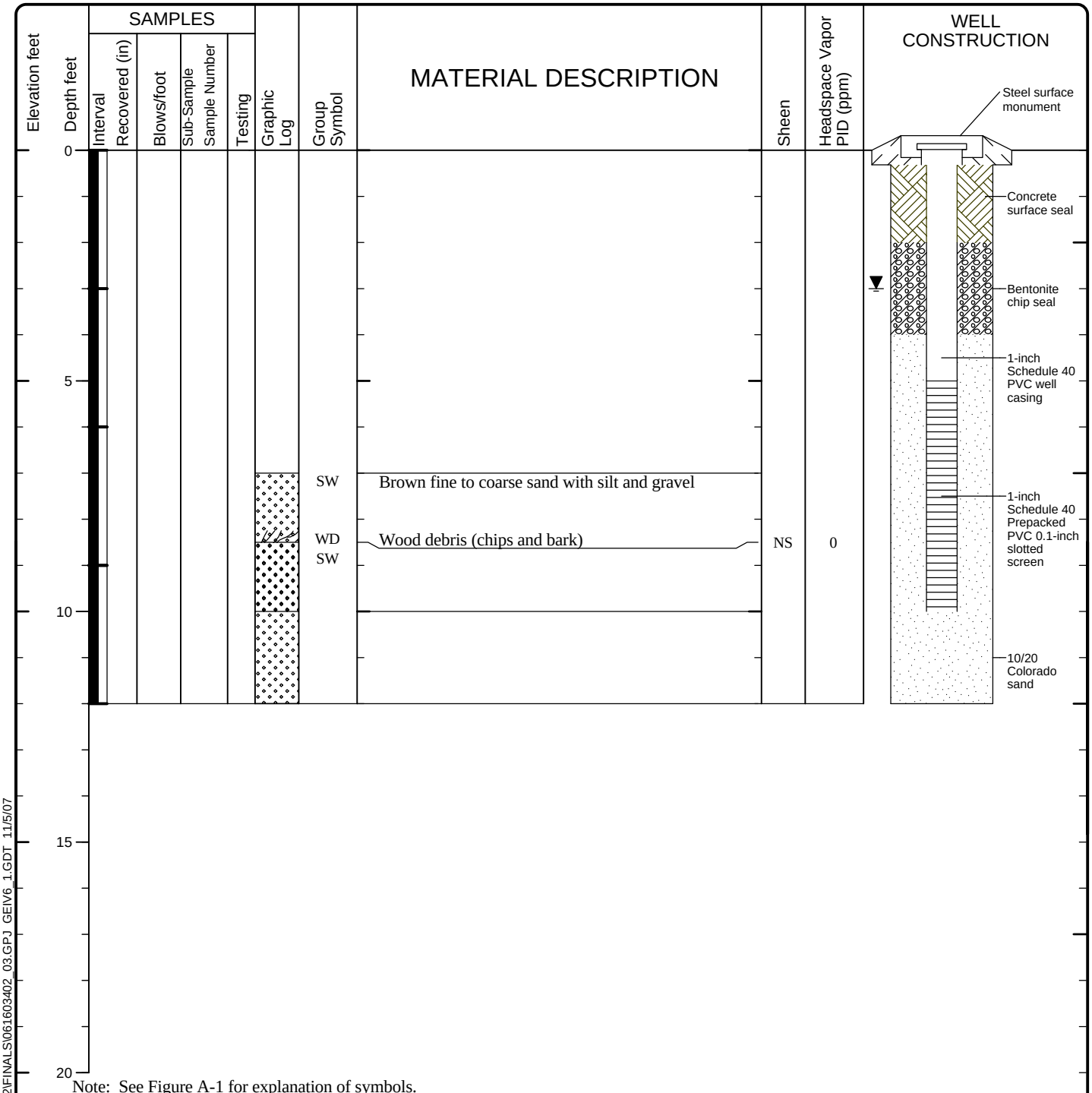
GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-13
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/07/07	Logged By	JCD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Powerprobe 9630
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	9
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126121.72214 23892.6846638



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

LOG OF MONITORING WELL MW-14

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

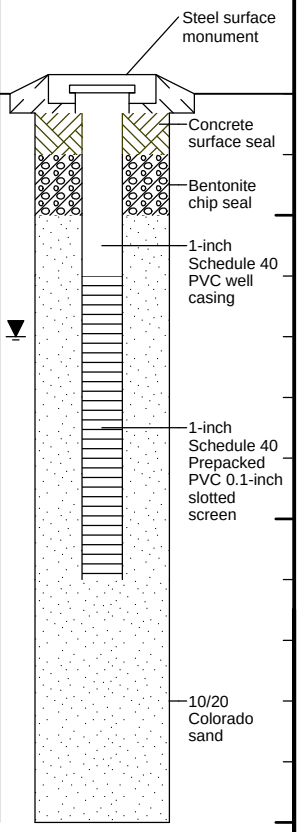
Figure A-14
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	8
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125674.2296 24199.1161341

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0							AC	3 inches asphalt		
								GW	Brown gravel with sand and silt (medium dense, moist)	NS	0
					000			SW	Brown fine to medium sand with occasional silt and occasional gravel (medium dense, moist)	SS	0
			36		020						
	5					CA		SW	Gray fine to medium sand with occasional silt and gravel and shells (dense, wet)	SS	0
					040						
			36							NS	0
					060						
								ML	Gray silt		
								SW	Gray fine to medium sand with occasional silt and gravel (medium dense, wet)	NS	0
			36		080	CA					
	10							WD	Pulp/shredded wood 1/2-1/4 centimeter, not decomposed	NS	0
					100						
								ML	Gray silt with sand and gravel (soft, wet)	NS	0
	15										
	20										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-15

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

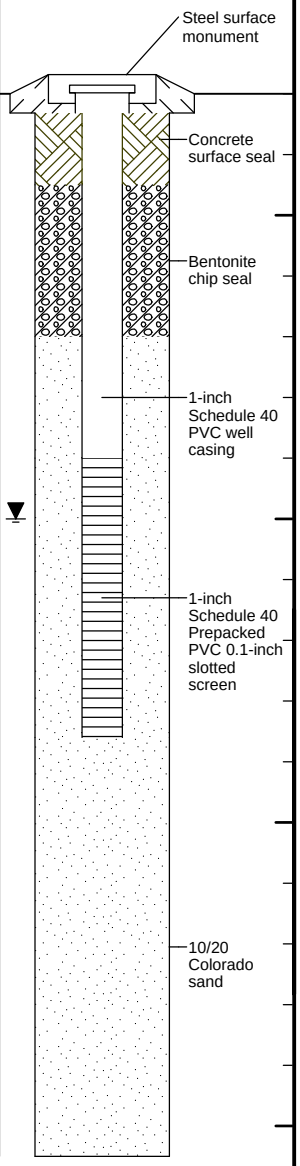
Figure A-15
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	07/31/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	17.5	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126199.16148 24288.4074665

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0		12	21	1			GW	Brown fine to coarse gravel with sand, trace silt (dense, moist)	SS	0
								GW	Brown fine to coarse gravel with sand, trace silt (medium dense, moist)	NS	0
	2		12		2						
	5		6	7	3	CA		SW	Gray fine to medium sand with trace silt and small chunks of wood (loose, moist)		
			5							SS	0
			12	5	4			SW	Gray fine to medium sand with trace silt (loose, wet)	NS	0
										NS	0
			15	52	5			WD	Light brown silt, in mostly solid wood chunks (whole tube) looked like rotting wood	SS	0
	10		3	15	6			SW	Gray fine to medium sand with trace silt and wood chunks		
										SS	0
			5	10	7						
			13			CA				SS	0
			2	3	8						
	15					CA					
			18	2/18"	9			ML	Gray fine sandy silt with shells and occasional wood bits (stiff, moist)		
	20										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-16

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

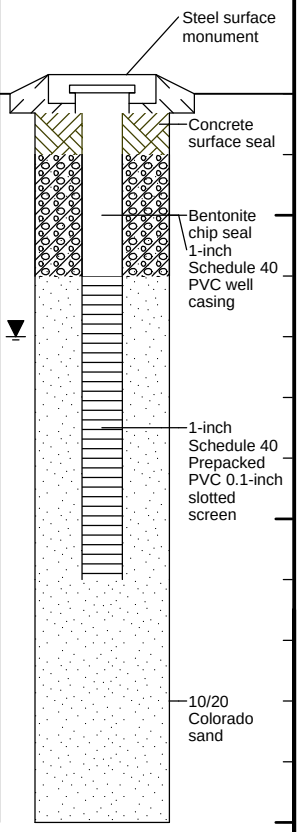
Figure A-16
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/02/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous Split Spoon
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Powerprobe 9630
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	8
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125771.79202 24572.6003773

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample	Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0								AC	Asphalt		
									GW	Brown/gray gravel with sand and silt (dense, moist)	NS	0
						000			SW	Brown fine to medium sand with silt (medium dense, moist)		
											MS	0
						020			SW	Gray fine to medium sand with silt (medium dense, moist)	NS	0
			48								NS	0
	5					040	CA					
									ML	Gray silt with occasional sand (soft, wet)		
						060			WD	Black shredded wood (burnt)	NS	0
										2 inches of laminated silty sand (wet)	NS	0
			48						SM	Black/gray silty fine to medium sand with black wood bits (mutchy) (wet)		
						080					NS	0
	10						CA		WD	Brown shredded wood (not burnt) pretty solid		
						100						
	15											
	20											

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-17

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

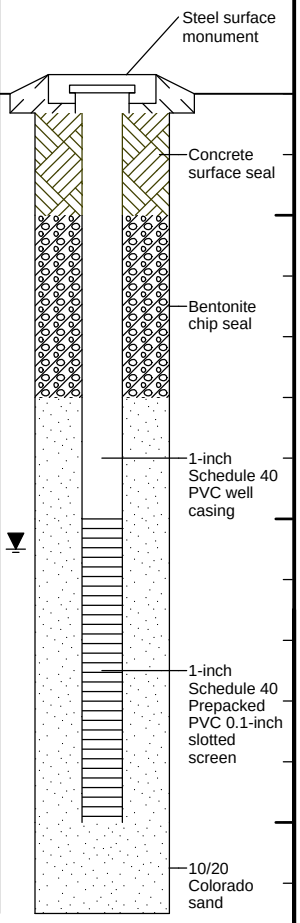
Figure A-17
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/02/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	13.5	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	4.5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126205.92375 24712.3138997

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0		12	26	1			TS	Topsoil		
								GM	Brown fine gravel with silt and sand (medium dense, moist)	NS	13.4
			8	27	2	CA			Grades to dense	NS	0.8
			5	48	3					SS	7.1
	5								Grades to very dense		
			8	66	4					NS	18.5
			3	20	5			GW	Gray gravel with sand and trace silt (medium dense, wet)	SS	47.3
	10		3	15	6	CA					
			2	4	7			GW	Gray fine gravel with sand trace silt (loose, wet)	NS	10.8
	15										
	20										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-18

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-18
Sheet 1 of 1

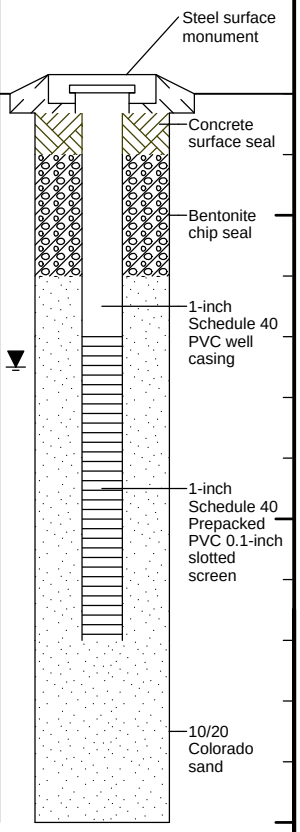
V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/01/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	7.5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125982.35546 24852.0294173

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0							AC	Asphalt		
					000			SW	Brown silty fine to coarse sand with silt and gravel (medium dense, moist)	SS	2.2
								WD	3-inch thick, 3-inch pieces of wood (moist) (not solid)	SS	0
					020			ML	Brown silt with fine sand (stiff, moist)	SS	
								ML	Gray silt with fine sand (stiff, moist)		
			48			CA		SW	Gray fine to medium sand with silt (medium dense, moist)	SS	0
	5				040						
								ML	Silt with shredded wood (stiff, wet)		32.1
					060					NS	0
						CA				NS	0
					080						
	10		18								
	15										
	20										

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

WELL CONSTRUCTION



LOG OF MONITORING WELL MW-19

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

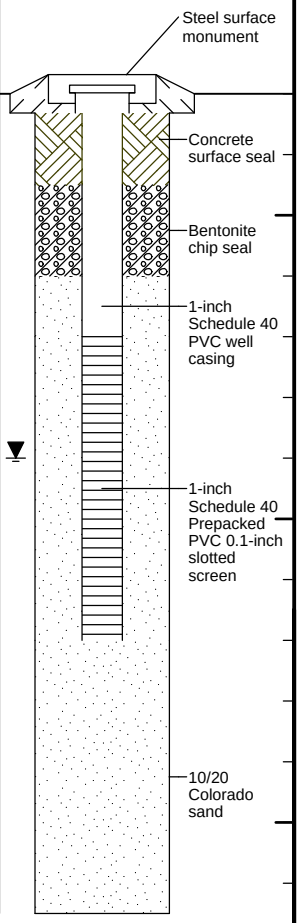
Figure A-19
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/02/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	13.5	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	6
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125840.17135 24875.8803879

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0		12	22	1			AC	Asphalt		
								GP	Brown fine gravel with sand, trace silt (medium dense, moist)	SS	468
								SW	Gray fine to medium sand with trace silt and occasional gravel (medium dense, moist)	SS	585
			12	6	2	CA				NS	101
			8	4	3			ML	Silt with black, hard shredded wood (some burnt)		
	5									NS	18
			3	2/18"	4	CA					
										NS	0.8
			6	5	5					NS	0.0
	10		0	1/6"	6						
								WD ML	2 inch pieces of shredded wood in shoe (loose, wet)	NS	0.0
	15										
	20										

WELL CONSTRUCTION



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

LOG OF MONITORING WELL MW-20

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-20
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

PIONEER TECHNOLOGIES CORPORATION

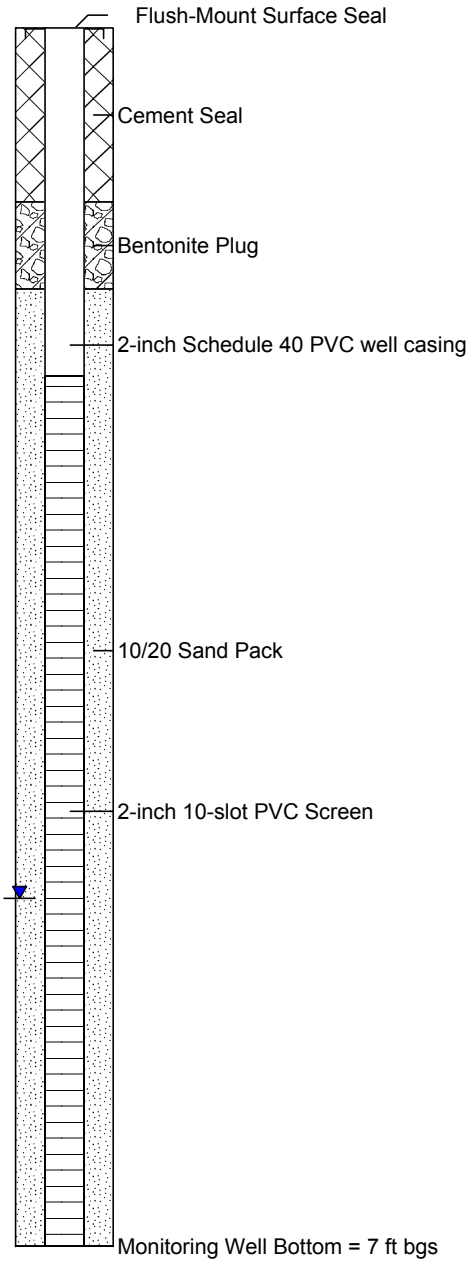
LOG OF MONITORING WELL MW21S

Port of Olympia
East Bay Redevlopment Site
Olympia, WA

Date Started	: 6/12/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/12/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634811.83000
Sampling Method	: Split-Spoon	Easting Coord.	: 1043023.00000

Depth in Feet	GRAPHIC	DESCRIPTION	Sample PID (ppm)	Sample Interval	Time	Water Level
0		Asphalt				
		Brown to gray sandy fine to coarse GRAVEL with silt, loose to medium dense, dry	0	0.5-1.5	08:00	
1						
		Brown WOOD debris				
2		Dark gray silty CLAY, high plasticity lean clay, medium stiff, moist				
		Gray silty fine to medium SAND, with gravel and shells, moist to wet	0	2.5-4	08:10	
3						
4						
			0	4.5-6	08:20	
5						
6						
7		Total Depth = 7 Feet				

Agency Well Tag No: BAF 399



Depth in Feet

LOG OF MONITORING WELL MW22S

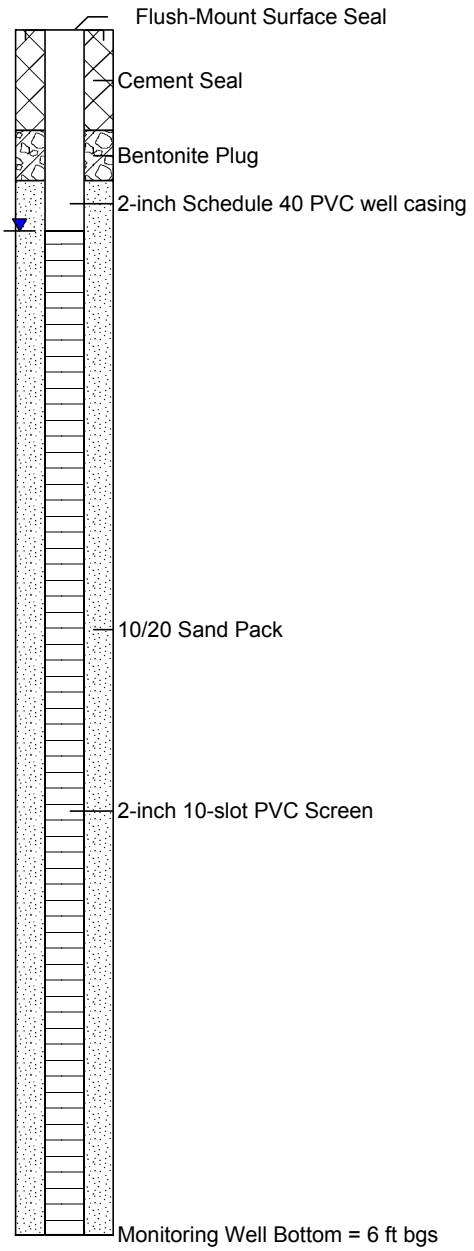
PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/12/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/12/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633854.84000
Sampling Method	: Split-Spoon	Easting Coord.	: 1043255.63000

Agency Well Tag No: BBK 332

Depth in Feet	GRAPHIC	DESCRIPTION	Sample PID (ppm)	Sample Interval	Time	Water Level
0		Grass and topsoil				
		Brown to gray sandy fine to coarse GRAVEL, with silt, loose to medium dense, moist to wet				
1			0	0.5-2	14:25	
2						
3			0	2-4	14:30	
4		Total Depth = 4 Feet				
5						
6						



Depth in Feet

LOG OF MONITORING WELL MW23S

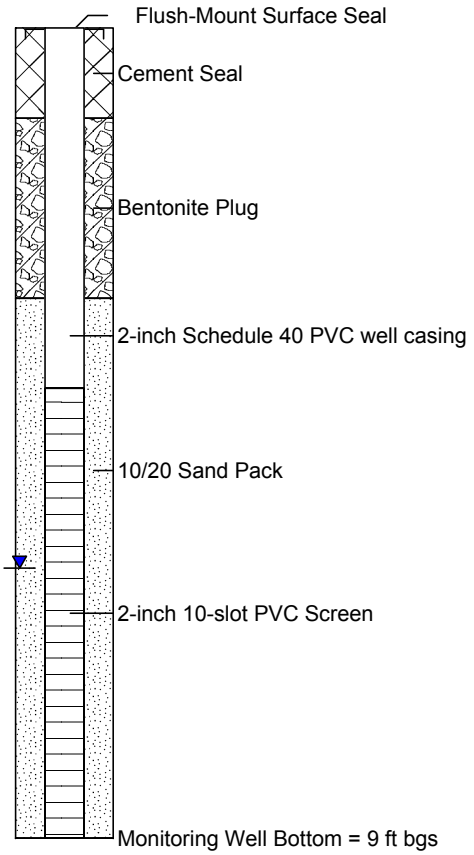
PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/12/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/12/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634227.24000
Sampling Method	: Split-Spoon	Easting Coord.	: 1043131.67000

Depth in Feet	GRAPHIC	DESCRIPTION	Sample PID (ppm)	Sample Interval	Time	Water Level
0		Asphalt				
1		Gray to brown sandy fine to coarse GRAVEL, with silt, loose, dry				
2		Gray to chocolate brown silty CLAY, soft to medium stiff, moist	0	1.5-3	09:50	
3						
4						
5			0.1	5-6	10:10	
6		Tan to orange brown WOOD chunks and sawdust sized wood, wet				
7		1 ft layer of gray CLAY, soft, wet, observed in one core				
8						
9		Dark brown silty fine to medium SAND mixed with sawdust sized wood, loose, wet	0	9-10.5	10:05	
10						
11						
12		Tan to orange WOOD chunks with occasional gray clay, soft, wet				
13						
14		Total Depth = 14 Feet				

Agency Well Tag No: BAF 400



Depth in Feet

LOG OF MONITORING WELL MW24S

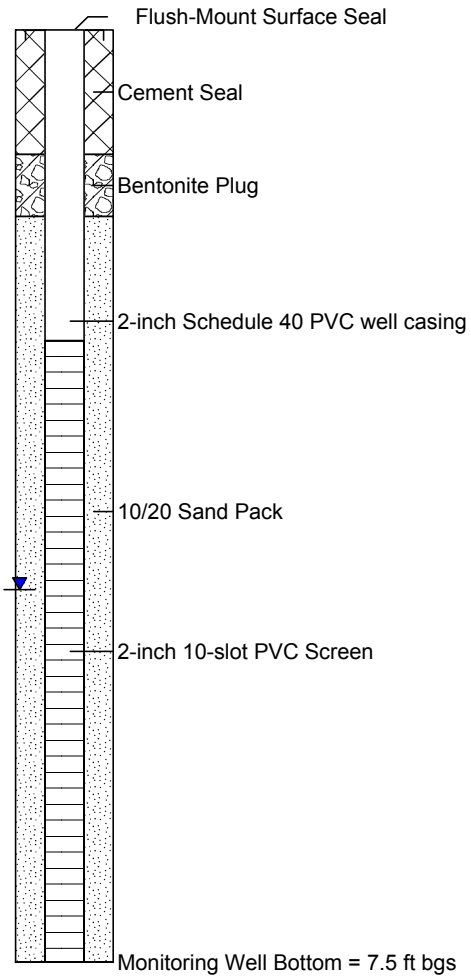
PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/12/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/12/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633999.13000
Sampling Method	: Split-Spoon	Easting Coord.	: 1043241.52000

Agency Well Tag No: BAF 249

Depth in Feet	GRAPHIC	DESCRIPTION	Sample PID (ppm)	Sample Interval	Time	Water Level
0		Gray to brown sandy fine to coarse GRAVEL, medium dense, dry to wet				
1						
2			0	1-2.5	11:40	
3						
4			0	3-4.5	11:50	
5						
6						
7		Black-stained decomposing WOOD with sand	0	6.5-8	12:00	
8		Gray to brown sandy fine to coarse GRAVEL, medium dense, wet				
9		Dark brown to black silty lean CLAY, with wood debris, wet	0.4	9-10	12:10	
10		Total Depth = 10 Feet				



Depth in Feet
0
1
2
3
4
5
6
7
8
9
10

PIONEER TECHNOLOGIES CORPORATION

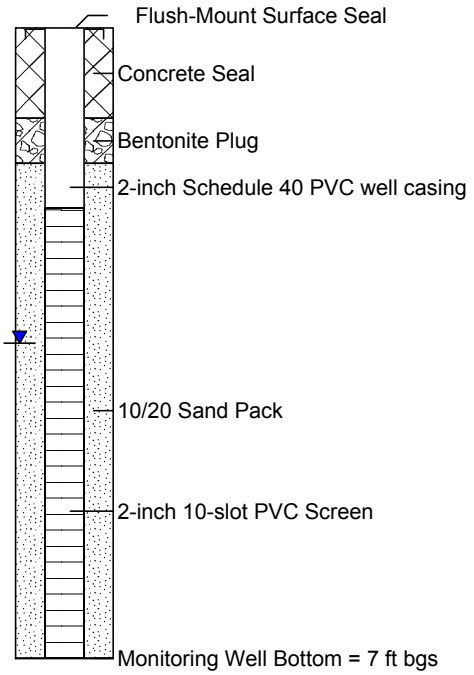
LOG OF MONITORING WELL MW25S

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/12/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/12/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633830.57000
Sampling Method	: Split-Spoon	Easting Coord.	: 1043032.27000

Depth in Feet	GRAPHIC	DESCRIPTION	Sample PID (ppm)	Sample Interval	Time	Water Level
0		Gray to light brown sandy fine to coarse GRAVEL, with silt, medium dense, dry				
1			0	1-2.5	13:00	
2						
3		Dark gray clayey GRAVEL with sand, wood chunks				
4			0.1	3.5-5	13:10	
5						
6						
7		Thin 3 inch layer of black stained sandy CLAY, medium dense, moist to wet	0.8	6.5-7.5	13:20	
8						
9						
10		Dark brown gravelly fine to medium SAND, medium dense, wet				
11			0.6	10.5-12	13:30	
12						
13			0.2	12.5-14	13:40	
14		Total Depth = 14 Feet				

Agency Well Tag No: BBK 331



Depth in Feet
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

PIONEER TECHNOLOGIES CORPORATION

LOG OF MONITORING WELL MW26

Port of Olympia
East Bay Redevlopment Site
Olympia, WA

Date Started	: 9/22/2014	Logged By	: T. Bussey (PTC)
Date Completed	: 9/22/2014	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634112.17
Sampling Method	: Split-Spoon	Easting Coord.	: 1043323.97

Depth in Feet | GRAPHIC | DESCRIPTION | Sample PID (ppm) | Sample Interval | Time

Agency Well Tag No: BIM 028

0 Asphalt

Base course / Broken up asphalt

1 Brown to gray sandy coarse GRAVEL with silts, dry to wet [1982 gravel fill]

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16 Total Depth = 16 Feet

Flush-Mount Surface Seal

Cement Seal

Bentonite Plug

2-inch Schedule 40 PVC well casing

Water Level

2-inch 10-slot PVC Screen with 10/20 Silica Sand pre-pack

Monitoring Well Bottom = 16 ft bgs

Depth in Feet

05-27-2015 P:\Port of Olympia\East Bay\RIFS Tasks\t3_RIFS Report\Appendices\Appendix K Sce for New Logs since 2013 IAWP\Src\MW26.bor

PIONEER TECHNOLOGIES CORPORATION

LOG OF MONITORING WELL MW27

Port of Olympia
East Bay Redevlopment Site
Olympia, WA

Date Started	: 9/22/2014	Logged By	: T. Bussey (PTC)
Date Completed	: 9/22/2014	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634393.48
Sampling Method	: Split-Spoon	Easting Coord.	: 1043288.51

Agency Well Tag No: BIM 027

Depth in Feet	GRAPHIC	DESCRIPTION	Sample PID (ppm)	Sample Interval	Time
0		Asphalt			
		Base course / Broken up asphalt			
1		Brown to gray sandy coarse GRAVEL with silts, dry to wet [1982 gravel fill]			
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16		Total Depth = 16 Feet			

Flush-Mount Surface Seal
Cement Seal
Bentonite Plug
2-inch Schedule 40 PVC well casing
2-inch 10-slot PVC Screen with 10/20 Silica Sand pre-pack
Water Level
Monitoring Well Bottom = 16 ft bgs

Depth in Feet

05-27-2015 P:\Port of Olympia\East Bay\RIFS Tasks\3_RIFS Report\Appendices\Appendix K Sce for New Logs since 2013 IAWP\Src\MW27.bor

Date Excavated: 10/04/07 Logged by: JCD

Equipment: Kubota 121 Excavator Surface Elevation (ft): ~11

Elevation feet / Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor ()	OTHER TESTS AND NOTES
0					SW	Brown fine to coarse sand with gravel and silt (medium dense, moist)			
			CA		SM	Brown to gray silty fine to coarse sand with gravel (medium dense, moist) occasional wood, brick and rock debris			
						Test pit completed at 3 feet on 10/04/07 No groundwater seepage observed No caving observed			
5									

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP01

GeoEngineers

Project: Port of Olympia
Project Location: Olympia, Washington
Project Number: 0615-034-01

Figure A-2
Sheet 1 of 1

V6_ENVTPIT P:\0\0615034\01\FINALS\061503401.GPJ GEIV6_1.GDT 11/7/07

Date Excavated: 10/04/07 Logged by: JCD

Equipment: Kubota 121 Excavator Surface Elevation (ft): ~11

Elevation feet / Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor ()	OTHER TESTS AND NOTES
0					SW	Brown fine to coarse sand with gravel and silt (medium dense, moist)			
			CA		SM	Brown to gray silty fine to coarse sand with gravel (medium dense, moist) (occasional gravel and brick debris			
						Test pit completed at 4 feet on 10/04/07 No groundwater seepage observed No caving observed			
5									

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP02

GeoEngineers

Project: Port of Olympia
Project Location: Olympia, Washington
Project Number: 0615-034-01

Figure A-3
Sheet 1 of 1

V6_ENVTPIT P:\0\0615034\01\FINALS\061503401.GPJ GEIV6_1.GDT 11/7/07

Date Excavated: 10/04/07 Logged by: JCD

Equipment: Kubota 121 Excavator Surface Elevation (ft): ~11

Elevation feet / Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor ()	OTHER TESTS AND NOTES
0					SW	Brown fine to coarse sand with gravel and silt (medium dense, moist)			
	X		CA		SW	Dark brown to black fine to coarse sand with gavel and silt (medium dense, moist) concrete brick and glass debris			
						Test pit completed at 4 feet on 10/04/07 No groundwater seepage observed No caving observed			
5									

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP03

GeoEngineers

Project: Port of Olympia
Project Location: Olympia, Washington
Project Number: 0615-034-01

Figure A-4
Sheet 1 of 1

V6_ENVTPIT P:\0\0615034\01\FINALS\061503401.GPJ GEIV6_1.GDT 11/7/07

Date Excavated: 10/04/07 Logged by: JCD

Equipment: Kubota 121 Excavator Surface Elevation (ft): ~11

Elevation feet / Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor ()	OTHER TESTS AND NOTES
0					SW	Brown fine to coarse sand with gravel and silt (medium dense, moist) occasional concrete and brick debris			
	X		CA		SW	Dark brown to black fine to coarse sand with silt and gravel (medium dense, wet) wood ceramic and brick debris			
						Test pit completed at 2 feet on 10/04/07 No groundwater seepage observed No caving observed			
5									

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP04

GeoEngineers

Project: Port of Olympia
Project Location: Olympia, Washington
Project Number: 0615-034-01

Figure A-5
Sheet 1 of 1

V6_ENVTPIT P:\0\0615034\01\FINALS\061503401.GPJ GEIV6_1.GDT 11/7/07

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Appendix L

Data Tables of Analytical Laboratory Results

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Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																				
	DP01	DP02	DP03	DP04		DP05	DP06	DP07	DP08	DP09	DP10	*DP11*		DP11-1	DP11-2			DP11-3		DP11-4		DP11-4
	(1-3' bgs)	(1-3' bgs)	(1-3' bgs)	(1-3' bgs)	(4-6' bgs)	(1.5-3.5' bgs)	(3-5' bgs)	(4.5-5.5' bgs)	(1-3' bgs)	(1-3' bgs)	(2-4' bgs)	*(0-2' bgs)*	*(8-10' bgs)*	(9' bgs)	(1' bgs)	(3.5' bgs)	(9' bgs)	(3' bgs)	(9' bgs)	(1.5' bgs)	(3' bgs)	(9' bgs)
Total Petroleum Hydrocarbons (mg/kg)																						
TPH-D	22 J	580	77	25 J	3,900	9.1 J	97	27 U	7,300	28 U	6.4 J	*51 J*	*220 J*	--	--	--	607	--	--	--	--	--
TPH-G	2.5 J	24	1.7 J	1.6 J	13	0.78 J	290	2.1 J	60	0.82 J	8.7	*7.6 J*	*13 J*	--	--	--	--	--	--	--	--	--
TPH-HO	100	9,900	620	77	7,200	51 U	320	53 U	8,800	55 U	50 U	*160*	*1,000*	--	--	--	3,500	--	--	--	--	--
Volatile Organic Compounds (mg/kg)																						
1,1,1-Trichloroethane	0.032 U	0.032 U	0.026 U	0.029 U	0.048 U	0.026 U	1.5 U	0.030 U	0.030 U	0.028 U	0.024 U	*0.020 U*	*0.13 U*	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	0.016 U	0.016 U	0.013 U	0.014 U	0.024 U	0.013 U	0.75 U	0.015 U	0.015 U	0.014 U	0.012 U	*0.010 U*	*0.067 U*	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	0.032 U	0.032 U	0.026 U	0.029 U	0.048 U	0.026 U	1.5 U	0.030 U	0.030 U	0.028 U	0.024 U	*0.020 U*	*0.13 U*	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	0.016 U	0.016 U	0.013 U	0.014 U	0.024 U	0.013 U	0.75 U	0.015 U	0.015 U	0.014 U	0.012 U	*0.010 U*	*0.067 U*	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	0.054 U	0.079 U	0.054 U	0.053 U	0.063 U	0.050 U	0.22 U	0.051 U	0.075 U	0.052 U	0.051 U	*0.0055 U*	*0.026 U*	--	--	--	--	--	--	--	--	--
Benzene	0.016 U	0.016 U	0.013 U	0.014 U	0.024 U	0.013 U	0.75 U	0.015 U	0.015 U	0.014 U	0.012 U	*0.0064 J*	*0.067 U*	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Bromoform	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Bromomethane	0.40 U	0.40 U	0.32 U	0.36 U	0.59 U	0.32 U	19 U	0.37 U	0.38 U	0.35 U	0.30 U	*0.25 U*	*1.7 U*	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	0.032 U	0.032 U	0.026 U	0.029 U	0.048 U	0.026 U	1.5 U	0.030 U	0.030 U	0.028 U	0.024 U	*0.020 U*	*0.13 U*	--	--	--	--	--	--	--	--	--
Chlorobenzene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Chloroform	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Chloromethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Dibromochloromethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Ethyl Chloride	0.40 U	0.40 U	0.32 U	0.36 U	0.59 U	0.32 U	19 U	0.37 U	0.38 U	0.35 U	0.30 U	*0.25 U*	*1.7 U*	--	--	--	--	--	--	--	--	--
Ethylbenzene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
m&p-Xylene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Methylene Chloride	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
o-Xylene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.014 J	0.069 U	0.060 U	*0.051 U*	*0.72*	--	--	--	--	--	--	--	--	--
Styrene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	0.050 U	0.049 U	0.040 U	0.045 U	0.074 U	0.040 U	2.3 U	0.047 U	0.047 U	0.043 U	0.037 U	*0.032 U*	*0.21 U*	--	--	--	--	--	--	--	--	--
Toluene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.017 J*	*0.33 U*	--	--	--	--	--	--	--	--	--
Total Xylenes	0.16 U	0.16 U	0.13 U	0.14 U	0.24 U	0.13 U	7.4 U	0.15 U	0.15 U	0.14 U	0.12 U	*0.10 U*	*0.66 U*	--	--	--	--	--	--	--	--	--
Trichloroethylene	0.032 U	0.032 U	0.026 U	0.029 U	0.048 U	0.026 U	1.5 U	0.030 U	0.030 U	0.028 U	0.024 U	*0.020 U*	*0.13 U*	--	--	--	--	--	--	--	--	--
Vinyl Chloride	0.032 U	0.032 U	0.026 U	0.029 U	0.048 U	0.026 U	1.5 U	0.030 U	0.030 U	0.028 U	0.024 U	*0.020 U*	*0.13 U*	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																						
1,1,1,2-Tetrachloroethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	0.054 U	0.079 U	0.054 U	0.053 U	0.063 U	0.050 U	0.22 U	0.051 U	0.075 U	0.052 U	0.051 U	*0.0055 U*	*0.026 U*	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.16 J*	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	0.054 U	0.079 U	0.054 U	0.053 U	0.063 U	0.050 U	0.22 U	0.051 U	0.075 U	0.052 U	0.051 U	*0.0055 U*	*0.026 U*	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.13 J*	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	0.054 U	0.079 U	0.054 U	0.053 U	0.063 U	0.050 U	0.22 U	0.051 U	0.075 U	0.052 U	0.051 U	*0.0055 U*	*0.026 U*	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	0.032 U	0.032 U	0.026 U	0.029 U	0.048 U	0.026 U	1.5 U	0.030 U	0.030 U	0.028 U	0.024 U	*0.020 U*	*0.13 U*	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	0.032 U	0.30 U	0.032 U	0.032 U	0.038 U	0.030 U	0.57	0.030 U	0.30 U	0.031 U	0.031 U	*0.099*	*0.048*	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																				
	DP01	DP02	DP03	DP04		DP05	DP06	DP07	DP08	DP09	DP10	*DP11*		DP11-1	DP11-2			DP11-3		DP11-4		DP11-4
	(1-3' bgs)	(1-3' bgs)	(1-3' bgs)	(1-3' bgs)	(4-6' bgs)	(1.5-3.5' bgs)	(3-5' bgs)	(4.5-5.5' bgs)	(1-3' bgs)	(1-3' bgs)	(2-4' bgs)	*(0-2' bgs)*	*(8-10' bgs)*	(9' bgs)	(1' bgs)	(3.5' bgs)	(9' bgs)	(3' bgs)	(9' bgs)	(1.5' bgs)	(3' bgs)	(9' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
2,4,5-Trichlorophenol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	0.16 U	1.5 U	0.16 U	0.16 U	0.19 U	0.15 U	0.66 U	0.15 U	1.5 U	0.16 U	0.15 U	*0.016 U*	*0.079 U*	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	1.1 U	10 U	1.1 U	1.1 U	1.3 U	1.0 U	4.4 U	1.0 U	9.9 U	1.0 U	1.0 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.033 J	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
2-Chlorophenol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	0.021 U	0.20 U	0.022 U	0.021 U	0.025 U	0.020 U	0.97	0.020 U	0.20 U	0.021 U	0.021 U	*0.15*	*0.089*	--	--	--	--	--	--	--	--	--
2-Nitroaniline	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.11 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
2-Nitrophenol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	0.21 U	2.0 U	0.22 U	0.21 U	0.25 U	0.20 U	0.88 U	0.20 U	2.0 U	0.21 U	0.21 U	*0.022 U*	*0.16*	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	0.21 U	2.0 U	0.22 U	0.21 U	0.25 U	0.20 U	0.88 U	0.20 U	2.0 U	0.21 U	0.21 U	*0.022 U*	*0.11 U*	--	--	--	--	--	--	--	--	--
3-Nitroaniline	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	1.1 U	10 U	1.1 U	1.1 U	1.3 U	1.0 U	4.4 U	1.0 U	9.9 U	1.0 U	1.0 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
4-Nitroaniline	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
4-Nitrophenol	1.1 U	10 U	1.1 U	1.1 U	1.3 U	1.0 U	4.4 U	1.0 U	9.9 U	1.0 U	1.0 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--
Acenaphthene	0.021 U	0.20 U	0.022 U	0.021 U	0.025 U	0.020 U	1.9	0.020 U	0.20 U	0.021 U	0.021 U	*0.14*	*0.011 U*	--	--	--	--	--	--	--	--	--
Acenaphthylene	0.021 U	0.20 U	0.0047 J	0.0048 J	0.025 U	0.020 U	0.037 J	0.020 U	0.20 U	0.021 U	0.021 U	*0.068*	*0.033*	--	--	--	--	--	--	--	--	--
Anthracene	0.021 U	0.20 U	0.0099 J	0.011 J	0.025 U	0.020 U	0.13	0.020 U	0.20 U	0.021 U	0.021 U	*0.40*	*0.031*	--	--	--	--	--	--	--	--	--
Benz[a]anthracene	0.0083	0.39	0.041	0.033	0.0063 U	0.0030 J	0.074	0.0051 U	0.034	0.0052 U	0.0051 U	*0.74*	*0.11*	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	0.011 J	0.058 J	0.023 J	0.019 J	0.0063 U	0.0037 J	0.032 J	0.00047 J	0.16 J	0.0015 J	0.00061 J	*0.44*	*0.11*	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	0.014 J	0.13 J	0.041 J	0.037 J	0.045 J	0.0039 J	0.071 J	0.00072 J	0.22 J	0.0028 J	0.00077 J	*0.78*	*0.12*	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	0.016 J	0.10 J	0.052 J	0.044 J	0.0063 U	0.0040 J	0.070 J	0.0016 J	0.066 J	0.0031 J	0.0013 J	*0.71*	*0.24*	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	0.0051 J	0.022 J	0.016 J	0.017 J	0.0063 U	0.0037 J	0.047 J	0.0051 U	0.036 J	0.0022 J	0.00042 J	*0.22*	*0.054*	--	--	--	--	--	--	--	--	--
Benzofluoranthene	0.022 J	0.15 J	0.070 J	0.061 J	0.013 U	0.0075 J	0.094 J	0.0014 J	0.11 J	0.0052 J	0.0014 J	*0.91*	*0.23*	--	--	--	--	--	--	--	--	--
Benzoic Acid	2.7 U	25 U	2.7 U	2.7 U	3.2 U	2.5 U	11 U	2.5 U	25 U	2.6 U	2.6 U	*0.27 U*	*1.3 U*	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	0.021 U	0.20 U	0.022 U	0.021 U	0.025 U	0.020 U	0.088 U	0.020 U	0.20 U	0.021 U	0.021 U	*0.0022 U*	*0.011 U*	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	0.16 U	1.5 U	0.16 U	0.16 U	0.19 U	0.15 U	0.66 U	0.15 U	1.5 U	0.16 U	0.15 U	*0.016 U*	*0.079 U*	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	0.73 J	15 U	1.6 U	0.71 J	1.9 U	1.5 U	30 J	1.5 U	15 U	1.6 U	1.5 U	*0.16 U*	*0.79 U*	--	--	--	--	--	--	--	--	--
Bromobenzene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Bromochloromethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	0.043 J	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
Carbazole	0.16 U	1.5 U	0.16 U	0.16 U	0.19 U	0.15 U	0.66 U	0.15 U	1.5 U	0.16 U	0.15 U	*0.069*	*0.079 U*	--	--	--	--	--	--	--	--	--
Chrysene	0.018	0.14	0.056	0.041	0.0063 U	0.0050 U	0.071	0.0051 U	0.12	0.0052 U	0.0051 U	*0.75*	*0.17*	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Cumene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	0.0054 U	0.019 J	0.0042 J	0.0092 J	0.0063 U	0.0039 J	0.0075 J	0.0010 J	0.018 J	0.0035 J	0.00038 J	*0.067*	*0.021 U*	--	--	--	--	--	--	--	--	--
Dibenzofuran	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.94	0.10 U	0.99 U	0.10 U	0.10 U	*0.039*	*0.053 U*	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	0.051 J	0.43 J	0.052 J	0.048 UJ	0.29 J	0.041 J	0.19 J	0.042 J	2.0 U	0.044 J	0.041 J	*0.022 U*	*0.20*	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	0.21 U	2.0 U	0.22 U	0.14 J	0.25 U	0.20 U	0.58 J	0.20 U	1.4 J	0.21 U	0.14 J	*0.022 U*	*0.11 U*	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																				
	DP01	DP02	DP03	DP04		DP05	DP06	DP07	DP08	DP09	DP10	*DP11*		DP11-1	DP11-2			DP11-3		DP11-4		DP11-4
	(1-3' bgs)	(1-3' bgs)	(1-3' bgs)	(1-3' bgs)	(4-6' bgs)	(1.5-3.5' bgs)	(3-5' bgs)	(4.5-5.5' bgs)	(1-3' bgs)	(1-3' bgs)	(2-4' bgs)	*(0-2' bgs)*	*(8-10' bgs)*	(9' bgs)	(1' bgs)	(3.5' bgs)	(9' bgs)	(3' bgs)	(9' bgs)	(1.5' bgs)	(3' bgs)	(9' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
Fluoranthene	0.023	0.10 J	0.078	0.044	0.025 U	0.020 U	0.43	0.020 U	0.20 U	0.021 U	0.021 U	*1.3*	*0.23*	--	--	--	--	--	--	--	--	--
Fluorene	0.021 U	0.20 U	0.022 U	0.011 J	0.025 U	0.020 U	1.1	0.020 U	0.20 U	0.021 U	0.021 U	*0.24*	*0.027*	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	0.054 U	0.50 U	0.054 U	0.053 U	0.063 U	0.050 U	0.22 U	0.051 U	0.50 U	0.052 U	0.051 U	*0.0055 U*	*0.026 U*	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	0.054 U	0.079 U	0.054 U	0.053 U	0.063 U	0.050 U	0.22 U	0.051 U	0.075 U	0.052 U	0.051 U	*0.0055 U*	*0.026 U*	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
Hexachloroethane	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	0.012 J	0.025 J	0.025 J	0.024 J	0.0063 U	0.0054 J	0.041 J	0.00066 J	0.034 J	0.0025 J	0.00058 J	*0.46*	*0.10*	--	--	--	--	--	--	--	--	--
Isophorone	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
Naphthalene	0.021 U	0.014 J	0.0088 J	0.0086 J	0.018 J	0.020 U	140	0.020 U	0.11	0.021 U	0.021 U	*0.21*	*0.26 J*	--	--	--	--	--	--	--	--	--
n-Butylbenzene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Nitrobenzene	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	0.054 U	0.50 U	0.054 U	0.053 U	0.063 U	0.050 U	0.22 U	0.051 U	0.50 U	0.052 U	0.051 U	*0.0055 U*	*0.026 U*	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
o-Cresol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
p-Chloroaniline	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.036*	*0.12*	--	--	--	--	--	--	--	--	--
Phenanthrene	0.027	0.18 J	0.021 J	0.024	0.025 U	0.020 U	1.6	0.020 U	0.20 U	0.021 U	0.021 U	*1.6*	*0.24*	--	--	--	--	--	--	--	--	--
Phenol	0.11 U	1.0 U	0.11 U	0.11 U	0.13 U	0.10 U	0.44 U	0.10 U	0.99 U	0.10 U	0.10 U	*0.011 U*	*0.053 U*	--	--	--	--	--	--	--	--	--
Propyl benzene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Pyrene	0.025	0.34	0.081	0.053	0.025 U	0.020 U	0.45	0.020 U	0.29	0.021 U	0.021 U	*1.7*	*0.23*	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	0.080 U	0.037 J	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	0.080 U	0.079 U	0.065 U	0.072 U	0.12 U	0.064 U	3.7 U	0.075 U	0.075 U	0.069 U	0.060 U	*0.051 U*	*0.33 U*	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	0.019 J	0.19 J	0.055 J	0.050 J	0.047 J	0.0059 J	0.096 J	0.0016 J	0.24 J	0.0042 J	0.0013 J	*1.0*	*0.17*	--	--	--	--	--	--	--	--	--
Total Naphthalenes	0.074 U	0.26 J	0.036 J	0.035 J	0.0495 J	0.070 U	142	0.070 U	0.36	0.073 U	0.073 U	*0.46*	*0.40 J*	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans (ng/kg)																						
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																				
	DP01	DP02	DP03	DP04		DP05	DP06	DP07	DP08	DP09	DP10	*DP11*		DP11-1	DP11-2			DP11-3		DP11-4		DP11-4
	(1-3' bgs)	(1-3' bgs)	(1-3' bgs)	(1-3' bgs)	(4-6' bgs)	(1.5-3.5' bgs)	(3-5' bgs)	(4.5-5.5' bgs)	(1-3' bgs)	(1-3' bgs)	(2-4' bgs)	*(0-2' bgs)*	*(8-10' bgs)*	(9' bgs)	(1' bgs)	(3.5' bgs)	(9' bgs)	(3' bgs)	(9' bgs)	(1.5' bgs)	(3' bgs)	(9' bgs)
Polychlorinated Biphenyls (mg/kg)																						
Aroclor 1016	0.010 U	0.010 U	0.010 U	0.011 U	0.013 U	0.010 U	0.023 U	0.0099 U	0.011 U	0.010 U	0.011 U	*0.11 U*	*0.54 U*	--	--	--	--	--	--	--	--	--
Aroclor 1221	0.010 U	0.010 U	0.010 U	0.011 U	0.013 U	0.010 U	0.023 U	0.0099 U	0.011 U	0.010 U	0.011 U	*0.11 U*	*0.54 U*	--	--	--	--	--	--	--	--	--
Aroclor 1232	0.010 U	0.010 U	0.010 U	0.011 U	0.013 U	0.010 U	0.023 U	0.0099 U	0.011 U	0.010 U	0.011 U	*0.11 U*	*0.54 U*	--	--	--	--	--	--	--	--	--
Aroclor 1242	0.010 U	0.010 U	0.010 U	0.011 U	0.013 U	0.010 U	0.023 U	0.0099 U	0.011 U	0.010 U	0.011 U	*0.11 U*	*0.54 U*	--	--	--	--	--	--	--	--	--
Aroclor 1248	0.010 U	0.010 U	0.010 U	0.011 U	0.013 U	0.010 U	0.023 U	0.0099 U	0.011 U	0.010 U	0.011 U	*0.11 U*	*0.54 U*	--	--	--	--	--	--	--	--	--
Aroclor 1254	0.010 U	0.010 U	0.010 U	0.011 U	0.013 U	0.010 U	0.023 U	0.0099 U	0.011 U	0.010 U	0.011 U	*0.11 U*	*0.54 U*	--	--	--	--	--	--	--	--	--
Aroclor 1260	0.010 U	0.010 U	0.0080 J	0.011 U	0.013 U	0.010 U	0.023 U	0.0099 U	0.027	0.010 U	0.011 U	*0.11 U*	*0.54 U*	--	--	--	--	--	--	--	--	--
Metals (mg/kg)																						
Arsenic	5.7	3.7	4.4	3.8	52	1.7	5.8	2.9	1.8	3.3	2.0	*2.8*	*14*	2.7 J	2.1 J	2.5	7.1 J	3.6 J	2.6	3.7 J	3.6 J	4.1 J
Barium	52	47	59	29	130	32	50	22	110	35	44	*56 J*	*97 J*	--	--	--	--	--	--	--	--	--
Cadmium	0.046 J	0.19 U	0.17 J	0.18 J	5.2	0.18 U	0.31 J	0.023 J	0.24	0.20 U	0.18 U	*0.25 U*	*1.2 U*	--	--	--	--	--	--	--	--	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	19	12	18	22	120	15	23	16	13	26	23	*19*	*8.8*	--	--	--	--	--	--	--	--	--
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	15	15	21	28	22	12	20	19	28
Lead	38 J	12 J	19 J	12 J	140 J	2.2 J	48 J	1.5 J	37 J	2.5 J	2.6 J	*8.2*	*2,500*	6.4	4.6	108	56	8.9	3.2	7.6	4.9	153
Mercury	0.015 J	0.014 U	0.070	0.019	0.049	0.019	0.056	0.011 J	0.038	0.033	0.019 U	*0.019 U*	*0.095 U*	--	--	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	30	28	19	4.5 J	36	28	29	32	4.3 J
Selenium	2.0 J	3.4	1.3 J	2.7	73	2.2 J	2.8 J	0.44 J	2.5	2.6	2.9	*1.2 UJ*	*4.0 J*	--	--	--	--	--	--	--	--	--
Silver	0.52 U	0.46 U	0.54 U	0.50 U	2.0	0.45 U	1.2 U	0.42 U	0.45 U	0.49 U	0.46 U	*0.50 U*	*0.66 J*	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP11-5			DP12		DP13		DP14			DP15		DP16			*DP17*		DP17-1	DP17-2	DP17-2		
	(4' bgs)	(5' bgs)	(9' bgs)	(0-2' bgs)	(8-10' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	*(4-6' bgs)*	*(10-12' bgs)*	(15' bgs)	(2.5' bgs)	(6' bgs)	(10.5' bgs)	(12' bgs)
Total Petroleum Hydrocarbons (mg/kg)																						
TPH-D	--	--	--	43 UJ	36 U	2,900	69	28 U	190	76	72	140 U	26 U	34	29 U	*130*	*88 U*	--	--	--	--	--
TPH-G	--	--	--	0.92 UJ	1.0 UJ	--	--	--	--	--	15 U	73 U	--	--	--	*72 U*	*51 U*	--	--	--	--	--
TPH-HO	--	--	--	290	69 J	21,000	400	56 U	1,300	490	720	1,200	53 U	61 U	59 U	*230 U*	*490*	--	--	--	--	--
Volatile Organic Compounds (mg/kg)																						
1,1,1-Trichloroethane	--	--	--	0.016 U	0.021 U	--	--	--	--	--	0.061 U	0.15 U	--	--	--	*0.29 U*	*0.21 U*	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.0082 U	0.010 U	--	--	--	--	--	0.031 U	0.076 U	--	--	--	*0.14 U*	*0.10 U*	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,1-Dichloroethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	0.016 U	0.021 U	--	--	--	--	--	0.061 U	0.15 U	--	--	--	*0.29 U*	*0.21 U*	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,2-Dichloroethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,2-Dichloropropane	--	--	--	0.0082 U	0.010 U	--	--	--	--	--	0.031 U	0.076 U	--	--	--	*0.14 U*	*0.10 U*	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	0.0052 U	0.0071 U	--	--	--	--	--	0.066 U	0.029 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Benzene	--	--	--	0.0082 U	0.010 U	--	--	--	--	--	0.031 U	0.076 U	--	--	--	*0.14 U*	*0.10 U*	--	--	--	--	--
Bromodichloromethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 UJ*	*0.51 UJ*	--	--	--	--	--
Bromoform	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 UJ*	*0.51 UJ*	--	--	--	--	--
Bromomethane	--	--	--	0.21 U	0.26 U	--	--	--	--	--	0.76 U	0.35 J	--	--	--	*3.6 U*	*2.6 U*	--	--	--	--	--
Carbon Tetrachloride	--	--	--	0.016 U	0.021 U	--	--	--	--	--	0.061 U	0.15 U	--	--	--	*0.29 UJ*	*0.21 UJ*	--	--	--	--	--
Chlorobenzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Chloroform	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Chloromethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.032 J	0.09 J	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Dibromochloromethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 UJ*	*0.51 UJ*	--	--	--	--	--
Ethyl Chloride	--	--	--	0.21 U	0.26 U	--	--	--	--	--	0.76 U	1.9 U	--	--	--	*3.6 UJ*	*2.6 UJ*	--	--	--	--	--
Ethylbenzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
m&p-Xylene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Methylene Chloride	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
o-Xylene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
p-Isopropyltoluene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	4.3	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Styrene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Tetrachloroethylene	--	--	--	0.026 U	0.032 U	--	--	--	--	--	0.096 U	0.24 U	--	--	--	*0.45 U*	*0.32 U*	--	--	--	--	--
Toluene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Total Xylenes	--	--	--	0.082 U	0.10 U	--	--	--	--	--	0.3 U	0.76 U	--	--	--	*1.4 U*	*1.02 U*	--	--	--	--	--
Trichloroethylene	--	--	--	0.016 U	0.021 U	--	--	--	--	--	0.061 U	0.15 U	--	--	--	*0.29 U*	*0.21 U*	--	--	--	--	--
Vinyl Chloride	--	--	--	0.016 U	0.021 U	--	--	--	--	--	0.061 U	0.15 U	--	--	--	*0.29 U*	*0.21 U*	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																						
1,1,1,2-Tetrachloroethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 UJ*	*0.51 UJ*	--	--	--	--	--
1,1-Dichloropropene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	0.0052 U	0.0071 U	--	--	--	--	--	0.066 U	0.029 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 UJ*	*0.51 UJ*	--	--	--	--	--
1,2-Dibromoethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 UJ*	*0.51 UJ*	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	0.0052 U	0.0071 U	--	--	--	--	--	0.066 U	0.029 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	0.0052 U	0.0071 U	--	--	--	--	--	0.066 U	0.029 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
1,3-Dichloropropane	--	--	--	0.016 U	0.021 U	--	--	--	--	--	0.061 U	0.15 U	--	--	--	*0.29 U*	*0.21 U*	--	--	--	--	--
1-Methylnaphthalene	--	--	--	0.018	0.0042 U	--	--	--	--	--	0.04 U	0.018 U	--	--	--	*0.14 U*	*0.10 U*	--	--	--	--	--
2,2-Dichloropropane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP11-5			DP12		DP13		DP14			DP15		DP16			*DP17*		DP17-1	DP17-2	DP17-2		
	(4' bgs)	(5' bgs)	(9' bgs)	(0-2' bgs)	(8-10' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	*(4-6' bgs)*	*(10-12' bgs)*	(15' bgs)	(2.5' bgs)	(6' bgs)	(10.5' bgs)	(12' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
2,4,5-Trichlorophenol	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	0.016 U	0.021 U	--	--	--	--	--	0.20 U	0.088 U	--	--	--	*0.70 U*	*0.52 U*	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	0.10 U	0.14 U	--	--	--	--	--	1.3 U	0.59 U	--	--	--	*4.7 U*	*3.4 U*	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
2-Chlorophenol	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
2-Methylnaphthalene	--	--	--	0.049	0.0028 U	--	--	--	--	--	0.026 U	0.012 U	--	--	--	*0.093 U*	*0.069 U*	--	--	--	--	--
2-Nitroaniline	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
2-Nitrophenol	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	0.021 U	0.028 U	--	--	--	--	--	0.26 U	0.12 U	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	0.021 U	0.028 U	--	--	--	--	--	0.26 U	0.12 U	--	--	--	*0.93 U*	*0.69 U*	--	--	--	--	--
3-Nitroaniline	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	0.10 U	0.14 U	--	--	--	--	--	1.3 U	0.59 U	--	--	--	*4.7 U*	*3.4 U*	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
4-Nitroaniline	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
4-Nitrophenol	--	--	--	0.10 U	0.14 U	--	--	--	--	--	1.3 U	0.59 U	--	--	--	*4.7 U*	*3.4 U*	--	--	--	--	--
Acenaphthene	--	--	--	0.0024	0.0028 U	--	--	--	--	--	0.026 U	0.014	--	--	--	*0.24*	*0.069 U*	--	--	--	--	--
Acenaphthylene	--	--	--	0.0097	0.0028 U	--	--	--	--	--	0.026 U	0.021	--	--	--	*0.093 U*	*0.069 U*	--	--	--	--	--
Anthracene	--	--	--	0.012	0.0028 U	--	--	--	--	--	0.026 U	0.12	--	--	--	*0.093 U*	*0.069 U*	--	--	--	--	--
Benz[a]anthracene	--	--	--	0.024	0.0047	0.62 U	0.0071	0.028 U	0.071	0.029 U	0.033 U	0.53	0.028 U	0.03 U	0.03 U	*0.12 U*	*0.095*	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	0.043	0.0055	--	--	--	--	--	0.033 U	0.18	--	--	--	*0.12 U*	*0.086 U*	--	--	--	--	--
Benzo[a]pyrene	--	--	--	0.030	0.0061	0.74 U	0.013	0.033 U	0.15	0.034 U	0.040 U	0.40	0.034 U	0.079	0.14	*0.14 U*	*0.10 U*	--	--	--	--	--
Benzo[b]fluoranthene	--	--	--	0.042	0.0044	0.49 U	0.013	0.022 U	0.15	0.026	0.026 U	0.22	0.023 U	0.024 U	0.024 U	*0.093 U*	*0.069 U*	--	--	--	--	--
Benzo[k]fluoranthene	--	--	--	0.013	0.0035 U	0.62 U	0.0063	0.028 U	0.056	0.029 U	0.033 U	0.32	0.028 U	0.03 U	0.03 U	*0.12 U*	*0.086 U*	--	--	--	--	--
Benzofluoranthene	--	--	--	0.040	0.0062	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	0.26 U	0.35 U	--	--	--	--	--	3.3 U	1.5 U	--	--	--	*12 U*	*8.6 U*	--	--	--	--	--
Benzyl Alcohol	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	0.0021 U	0.0028 U	--	--	--	--	--	0.026 U	0.012 U	--	--	--	*0.093 U*	*0.069 U*	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	0.016 U	0.021 U	--	--	--	--	--	0.20 U	0.088 U	--	--	--	*0.70 U*	*0.52 U*	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	0.16 U	0.21 U	--	--	--	--	--	2.0 U	0.88 U	--	--	--	*7.0 U*	*5.2 U*	--	--	--	--	--
Bromobenzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Bromochloromethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Carbazole	--	--	--	0.016 U	0.021 U	--	--	--	--	--	0.20 U	0.088 U	--	--	--	*0.70 U*	*0.52 U*	--	--	--	--	--
Chrysene	--	--	--	0.032	0.0042	0.62 U	0.011	0.028 U	0.10	0.029 U	0.042	0.49	0.028 U	0.03 U	0.03 U	*0.12 U*	*0.089*	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 UJ*	*0.51 UJ*	--	--	--	--	--
Cumene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Dibenz[a,h]anthracene	--	--	--	0.011	0.0056 U	0.99 U	0.0053	0.044 U	0.072 U	0.046 U	0.053 U	0.090	0.045 U	0.048 U	0.049 U	*0.19 U*	*0.14 U*	--	--	--	--	--
Dibenzofuran	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	0.021 U	0.028 U	--	--	--	--	--	0.26 U	0.12 U	--	--	--	*0.93 U*	*0.69 U*	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Diethyl Phthalate	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Dimethyl Phthalate	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	0.021 U	0.028 U	--	--	--	--	--	0.26 U	0.12 U	--	--	--	*0.93 U*	*0.69 U*	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP11-5			DP12		DP13		DP14			DP15		DP16			*DP17*		DP17-1	DP17-2	DP17-2		
	(4' bgs)	(5' bgs)	(9' bgs)	(0-2' bgs)	(8-10' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	*(4-6' bgs)*	*(10-12' bgs)*	(15' bgs)	(2.5' bgs)	(6' bgs)	(10.5' bgs)	(12' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
Fluoranthene	--	--	--	0.050	0.0080	--	--	--	--	--	0.027	0.64	--	--	--	*0.093 U*	*0.13*	--	--	--	--	--
Fluorene	--	--	--	0.0052	0.0028 U	--	--	--	--	--	0.026 U	0.024	--	--	--	*0.093 U*	*0.069 U*	--	--	--	--	--
Hexachlorobenzene	--	--	--	0.0052 U	0.0071 U	--	--	--	--	--	0.066 U	0.029 U	--	--	--	*0.23 U*	*0.17 U*	--	--	--	--	--
Hexachlorobutadiene	--	--	--	0.0052 U	0.0071 U	--	--	--	--	--	0.066 U	0.029 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Hexachloroethane	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	--	--	0.025	0.0056 U	0.99 U	0.023	0.044 U	0.18	0.051	0.053 U	0.24	0.045 U	0.048 U	0.049 U	*0.19 U*	*0.14 U*	--	--	--	--	--
Isophorone	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Naphthalene	--	--	--	0.022	0.0028 U	--	--	--	--	--	0.026 U	0.018	--	--	--	*0.075 J*	*0.51 U*	--	--	--	--	--
n-Butylbenzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Nitrobenzene	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	0.0052 U	0.0071 U	--	--	--	--	--	0.066 U	0.029 U	--	--	--	*0.23 U*	*0.17 U*	--	--	--	--	--
o-Chlorotoluene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
o-Cresol	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
p-Chloroaniline	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
p-Chlorotoluene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*0.93 U*	*0.69 U*	--	--	--	--	--
Pentachlorophenol	--	--	--	0.026	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Phenanthrene	--	--	--	0.055	0.0035	--	--	--	--	--	0.026 U	0.15	--	--	--	*0.093 U*	*0.098*	--	--	--	--	--
Phenol	--	--	--	0.010 U	0.014 U	--	--	--	--	--	0.13 U	0.059 U	--	--	--	*0.47 U*	*0.34 U*	--	--	--	--	--
Propyl benzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Pyrene	--	--	--	0.065	0.0083	--	--	--	--	--	0.042	0.67	--	--	--	*0.093 U*	*0.15*	--	--	--	--	--
sec-Butylbenzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
tert-Butylbenzene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 UJ*	*0.51 UJ*	--	--	--	--	--
Trichlorofluoromethane	--	--	--	0.041 U	0.051 U	--	--	--	--	--	0.15 U	0.38 U	--	--	--	*0.72 U*	*0.51 U*	--	--	--	--	--
Total cPAHs [1]	--	--	--	0.042	0.0078	1.1 U	0.019	0.050 U	0.20	0.030	0.030	0.54	0.051 U	0.088	0.15	*0.21 U*	*0.082*	--	--	--	--	--
Total Naphthalenes	--	--	--	0.089	0.0098 U	--	--	--	--	--	0.092 U	0.033	--	--	--	*0.19 J*	*0.68 U*	--	--	--	--	--
Total Dioxins/Furans (ng/kg)																						
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP11-5			DP12		DP13		DP14			DP15		DP16			*DP17*		DP17-1	DP17-2	DP17-2		
	(4' bgs)	(5' bgs)	(9' bgs)	(0-2' bgs)	(8-10' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	*(4-6' bgs)*	*(10-12' bgs)*	(15' bgs)	(2.5' bgs)	(6' bgs)	(10.5' bgs)	(12' bgs)
Polychlorinated Biphenyls (mg/kg)																						
Aroclor 1016	--	--	--	0.10 U	0.14 U	--	--	--	--	--	--	--	--	--	--	*0.47 U*	*0.35 U*	--	--	--	--	--
Aroclor 1221	--	--	--	0.10 U	0.14 U	--	--	--	--	--	--	--	--	--	--	*0.47 U*	*0.35 U*	--	--	--	--	--
Aroclor 1232	--	--	--	0.10 U	0.14 U	--	--	--	--	--	--	--	--	--	--	*0.47 U*	*0.35 U*	--	--	--	--	--
Aroclor 1242	--	--	--	0.10 U	0.14 U	--	--	--	--	--	--	--	--	--	--	*0.47 U*	*0.35 U*	--	--	--	--	--
Aroclor 1248	--	--	--	0.10 U	0.14 U	--	--	--	--	--	--	--	--	--	--	*0.47 U*	*0.35 U*	--	--	--	--	--
Aroclor 1254	--	--	--	0.10 U	0.14 U	--	--	--	--	--	--	--	--	--	--	*0.47 U*	*0.35 U*	--	--	--	--	--
Aroclor 1260	--	--	--	0.10 U	0.14 U	--	--	--	--	--	--	--	--	--	--	*0.47 UJ*	*0.35 UJ*	--	--	--	--	--
Metals (mg/kg)																						
Arsenic	5.8 J	6.8 J	9.3	4.1	4.1	--	--	--	--	--	--	--	--	--	--	*14 U*	*84*	7.1	5.1	4.2	2.2 U	4.6
Barium	--	--	--	70 J	33 J	--	--	--	--	--	--	--	--	--	--	*36*	*33*	--	--	--	--	--
Cadmium	--	--	--	0.26 U	0.34 U	--	--	--	--	--	--	--	--	--	--	*2.4 U*	*1.8 U*	--	--	--	--	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	--	--	--	24	36	--	--	--	--	--	--	--	--	--	--	*8.4*	*27*	--	--	--	--	--
Copper	38	38	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.0	37	37	7.4	24
Lead	9.6	51	123	17	17	--	--	--	--	--	--	--	--	--	--	*17*	*110*	2.3	8.7	9.3	6.4	9.7
Mercury	--	--	--	0.016	0.021 J	--	--	--	--	--	--	--	--	--	--	*0.099 U*	*0.071 U*	--	--	--	--	--
Nickel	46	6.0 J	28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16	47	43	2.2	25
Selenium	--	--	--	2.1 J	0.99 UJ	--	--	--	--	--	--	--	--	--	--	*24 U*	*18 U*	--	--	--	--	--
Silver	--	--	--	0.53 U	0.69 U	--	--	--	--	--	--	--	--	--	--	*4.8 U*	*3.6 U*	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																						
	DP17-3			DP17-4				DP17-5				DP18		DP18-1	DP18-2			DP18-3			DP18-4			DP18-5
	(2.5' bgs)	(11' bgs)	(13' bgs)	(2' bgs)	(3.5' bgs)	(11' bgs)	(12' bgs)	(2' bgs)	(7' bgs)	(11' bgs)	(12' bgs)	(2-4' bgs)	(10-12' bgs)	(15'bgs)	(2' bgs)	(10' bgs)	(13' bgs)	(2' bgs)	(10' bgs)	(13.5' bgs)	(2' bgs)	(10' bgs)	(13' bgs)	(2' bgs)
Total Petroleum Hydrocarbons (mg/kg)																								
TPH-D	--	--	--	--	--	--	--	--	--	--	--	*580*	*960*	24 U	23 U	109 U	33 U	22 U	135	37 U	24 U	137	102 U	21 U
TPH-G	--	--	--	--	--	--	--	--	--	--	--	*11*	*37 U*	6.9 U	6.3 U	66 U	13 U	36	45 U	17 U	6.9 U	61 U	59 U	4.3 U
TPH-HO	--	--	--	--	--	--	--	--	--	--	--	*730*	*4,600*	96 U	90 U	435 U	133 U	86 U	337 U	149 U	97 U	394 U	407 U	84 U
Volatile Organic Compounds (mg/kg)																								
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	*0.044 U*	*0.15 U*	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	*0.022 U*	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	*0.044 U*	*0.15 U*	--	--	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	*0.022 U*	--	--	--	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--	--	--	--	*0.022 U*	--	0.0034 U	0.0030 U	0.023 U	0.0051 U	0.0026 U	0.017 U	0.0063 U	0.0031 U	0.024 U	0.022 U	0.0031 U
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 UJ*	*0.37 UJ*	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	*0.11 UJ*	*0.37 UJ*	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	*1.9 U*	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	--	--	--	*0.15 UJ*	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 UJ*	*0.37 UJ*	--	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	*1.9 UJ*	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	0.0034 U	0.0030 U	0.023 U	0.0051 U	0.0026 U	0.017 U	0.0063 U	0.0031 U	0.024 U	0.022 U	0.0031 U
m&p-Xylene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	0.010 U	0.0090 U	0.070 U	0.015 U	0.0079 U	0.052 U	0.019 U	0.0092 U	0.071 U	0.066 U	0.0093 U
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.034 J*	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	*0.23 U*	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	0.0034 U	0.0030 U	0.023 U	0.0051 U	0.0026 U	0.017 U	0.0063 U	0.0031 U	0.024 U	0.022 U	0.0031 U
Total Xylenes	--	--	--	--	--	--	--	--	--	--	--	*0.22 U*	--	0.010 U	0.0090 U	0.070 U	0.015 U	0.0079 U	0.052 U	0.019 U	0.0092 U	0.071 U	0.066 U	0.0093 U
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	*0.15 U*	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	*0.044 U*	*0.15 U*	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																								
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 UJ*	*0.37 UJ*	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	--	--	*0.11 UJ*	*0.37 UJ*	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 UJ*	*0.37 UJ*	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	*0.044 U*	*0.15 U*	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	*0.042 U*	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																						
	DP17-3			DP17-4				DP17-5				DP18		DP18-1	DP18-2			DP18-3			DP18-4			DP18-5
	(2.5' bgs)	(11' bgs)	(13' bgs)	(2' bgs)	(3.5' bgs)	(11' bgs)	(12' bgs)	(2' bgs)	(7' bgs)	(11' bgs)	(12' bgs)	(2-4' bgs)	(10-12' bgs)	(15'bgs)	(2' bgs)	(10' bgs)	(13' bgs)	(2' bgs)	(10' bgs)	(13.5' bgs)	(2' bgs)	(10' bgs)	(13' bgs)	(2' bgs)
Semi-Volatile Organic Compounds (mg/kg)																								
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	*0.21 U*	*0.43 U*	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	*1.4 U*	*2.9 U*	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	*0.028 U*	*0.057 U*	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	--	--	*0.28 U*	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	--	--	*1.4 U*	*2.9 U*	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	*1.4 U*	*2.9 U*	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	--	--	--	--	*0.028 U*	*0.057 U*	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	*0.028 U*	*0.057 U*	--	--	--	--	--	--	--	--	--	--	--
Anthracene	--	--	--	--	--	--	--	--	--	--	--	*0.028 U*	*0.057 U*	--	--	--	--	--	--	--	--	--	--	--
Benz[a]anthracene	--	--	--	--	--	--	--	--	--	--	--	*0.035 U*	*0.091*	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	*0.035 U*	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	--	--	--	--	--	--	--	--	--	--	--	*0.042 U*	*0.13*	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	--	--	--	--	--	--	--	--	--	--	--	*0.028 U*	*0.057 U*	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	--	--	--	--	--	--	--	--	--	--	--	*0.035 U*	--	--	--	--	--	--	--	--	--	--	--	--
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	--	--	--	--	--	--	*3.5 U*	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	--	--	*0.028 U*	*0.057 U*	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	--	--	*0.21 U*	*0.43 U*	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	*2.1 U*	*4.3 U*	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	--	--	--	--	--	--	*0.21 U*	*0.43 U*	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	--	--	--	--	*0.035 U*	*0.080*	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	*0.11 UJ*	*0.37 UJ*	--	--	--	--	--	--	--	--	--	--	--
Cumene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	--	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	*0.28 U*	*0.57 U*	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	*0.28 U*	*0.57 U*	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																							
	DP17-3			DP17-4				DP17-5				DP18		DP18-1	DP18-2			DP18-3			DP18-4			DP18-5
	(2.5' bgs)	(11' bgs)	(13' bgs)	(2' bgs)	(3.5' bgs)	(11' bgs)	(12' bgs)	(2' bgs)	(7' bgs)	(11' bgs)	(12' bgs)	(2-4' bgs)	(10-12' bgs)	(15'bgs)	(2' bgs)	(10' bgs)	(13' bgs)	(2' bgs)	(10' bgs)	(13.5' bgs)	(2' bgs)	(10' bgs)	(13' bgs)	(2' bgs)
Semi-Volatile Organic Compounds (mg/kg)																								
Fluoranthene	--	--	--	--	--	--	--	--	--	--	--	*0.028 U*	*0.16*	--	--	--	--	--	--	--	--	--	--	--
Fluorene	--	--	--	--	--	--	--	--	--	--	--	*0.028 U*	*0.057 U*	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	--	--	--	--	--	--	--	--	--	--	--
Isophorone	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
o-Cresol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	*0.28 U*	*6.1*	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	*0.028 U*	*0.090*	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.29 U*	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	--	--	--	--	--	--	*0.043*	*0.16*	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	*0.11 UJ*	*0.37 UJ*	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	--	*0.11 U*	*0.37 U*	--	--	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Naphthalenes	--	--	--	--	--	--	--	--	--	--	--	*0.18 U*	*0.513 U*	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans (ng/kg)																								
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																						
	DP17-3			DP17-4				DP17-5				DP18		DP18-1	DP18-2			DP18-3			DP18-4			DP18-5
	(2.5' bgs)	(11' bgs)	(13' bgs)	(2' bgs)	(3.5' bgs)	(11' bgs)	(12' bgs)	(2' bgs)	(7' bgs)	(11' bgs)	(12' bgs)	(2-4' bgs)	(10-12' bgs)	(15'bgs)	(2' bgs)	(10' bgs)	(13' bgs)	(2' bgs)	(10' bgs)	(13.5' bgs)	(2' bgs)	(10' bgs)	(13' bgs)	(2' bgs)
Polychlorinated Biphenyls (mg/kg)																							
Aroclor 1016	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.30 U*	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.30 U*	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.30 U*	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.30 U*	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.30 U*	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	--	--	--	--	--	--	--	--	--	--	--	*0.14 U*	*0.30 U*	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	--	--	--	--	--	--	--	--	--	--	--	*0.14 UJ*	*0.30 UJ*	--	--	--	--	--	--	--	--	--	--	--
Metals (mg/kg)																								
Arsenic	1.6	5.7	4.4	4.6	3.2	3.0 U	3.2	15 Y	7.4	2.0	2.6	*4.3 U*	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	--	--	--	--	--	--	--	--	--	--	*54*	*14*	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--	--	--	--	--	--	*0.72 U*	*1.5 U*	--	--	--	--	--	--	--	--	--	--	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	--	--	--	--	--	--	--	--	--	--	--	*16*	*11*	--	--	--	--	--	--	--	--	--	--	--
Copper	9.9	24	29	18	16	18	38	50 Y	46	18	26	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	1.7	122	9.4	8.7	2.4	17	14	85 Y	7.3	9.8	11	*4.5*	*8.0*	2.8 Y	4.0	36	7.4	3.8	127	14	4.1	19	28	2.1
Mercury	--	--	--	--	--	--	--	--	--	--	--	*0.029 U*	*0.064*	--	--	--	--	--	--	--	--	--	--	--
Nickel	15	13	28	25	38	11	31	26	53	7.6	23	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	*15 U*	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--	--	--	--	--	*1.4 U*	*2.9 U*	--	--	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP18-5		DP19		DP20		DP21		DP21-1	DP21-2			DP21-3			DP21-4			DP21-5			DP21-6
	(10' bgs)	(13.5' bgs)	(6-8' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(6-8' bgs)	(10-12' bgs)	(10' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(1.5' bgs)	(5' bgs)	(7' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(10' bgs)
Total Petroleum Hydrocarbons (mg/kg)																						
TPH-D	103 U	35 U	370	67	29 U	600	*87*	*110*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH-G	61 U	15 U	73	17 U	8.5 U	23 U	*11 U*	*53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH-HO	410 U	141 U	59 U	89	59 U	97 U	*650*	*230*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (mg/kg)																						
1,1,1-Trichloroethane	--	--	0.032 U	0.067 U	0.034 U	0.092 U	*0.045 U*	*0.21 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.016 U	0.034 U	0.017 U	0.046 U	*0.022 U*	*0.11 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	0.032 U	0.067 U	0.034 U	0.092 U	*0.045 U*	*0.21 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	0.016 U	0.034 U	0.017 U	0.046 U	*0.022 U*	*0.11 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	0.022 U	0.0060 U	0.016 U	0.034 U	0.017 U	0.046 U	*0.022 U*	*0.11 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	0.079 UJ	0.17 UJ	0.085 UJ	0.23 UJ	*0.11 UJ*	*0.53 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	0.079 UJ	0.17 UJ	0.085 UJ	0.23 UJ	*0.11 UJ*	*0.53 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	0.39 U	0.84 U	0.43 U	1.2 U	*0.56 U*	*2.6 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	0.032 UJ	0.067 UJ	0.034 UJ	0.092 UJ	*0.045 UJ*	*0.21 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	0.079 UJ	0.17 UJ	0.085 UJ	0.23 UJ	*0.11 UJ*	*0.53 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	--	--	0.39 UJ	0.84 UJ	0.43 UJ	1.2 UJ	*0.56 UJ*	*2.6 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	0.022 U	0.0060 U	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m&p-Xylene	0.066 U	0.018 U	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	--	--	0.079 U	0.17 U	0.085 U	0.066 J	*0.010 J*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	0.049 U	0.11 U	0.053 U	0.14 U	*0.070 U*	*0.33 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	0.022 U	0.0060 U	0.079 U	0.038 J	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes	0.066 U	0.018 U	0.16 U	0.34 U	0.17 U	0.46 U	*0.22 U*	*1.1 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	0.032 U	0.067 U	0.034 U	0.092 U	*0.045 U*	*0.21 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	0.032 U	0.067 U	0.034 U	0.092 U	*0.045 U*	*0.21 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																						
1,1,1,2-Tetrachloroethane	--	--	0.079 UJ	0.17 UJ	0.085 UJ	0.23 UJ	*0.11 UJ*	*0.53 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	0.079 UJ	0.17 UJ	0.085 UJ	0.23 UJ	*0.11 UJ*	*0.53 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	0.079 UJ	0.17 UJ	0.085 UJ	0.23 UJ	*0.11 UJ*	*0.53 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	0.032 U	0.067 U	0.034 U	0.092 U	*0.045 U*	*0.21 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	--	--	0.034 U	0.045 U	0.035 U	0.059 U	*0.048 U*	*0.11 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP18-5		DP19		DP20		DP21		DP21-1	DP21-2			DP21-3			DP21-4			DP21-5			DP21-6
	(10' bgs)	(13.5' bgs)	(6-8' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(6-8' bgs)	(10-12' bgs)	(10' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(1.5' bgs)	(5' bgs)	(7' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(10' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
2,4,5-Trichlorophenol	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.17 U	0.23 U	0.18 U	0.29 U	*0.24 U*	*0.54 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	1.1 U	1.5 U	1.2 U	2.0 U	*1.6 U*	*3.6 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	0.023 U	0.030 U	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	0.23 U	0.30 U	0.23 U	0.39 U	*0.32 U*	*0.73 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	1.1 U	1.5 U	1.2 U	2.0 U	*1.6 U*	*3.6 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	1.1 U	1.5 U	1.2 U	2.0 U	*1.6 U*	*3.6 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	0.023 U	0.030 U	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	0.023 U	0.030 U	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	--	--	0.023 U	0.030 U	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benz[a]anthracene	--	--	0.028 U	0.038 U	0.029 U	0.049 U	*0.040 U*	*0.091 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	0.028 U	0.038 U	0.029 U	0.049 U	*0.061*	*0.091 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	--	--	0.034 U	0.045 U	0.035 U	0.059 U	*0.048 U*	*0.11 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	--	--	0.023 U	0.030 U	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	--	--	0.028 U	0.038 U	0.029 U	0.049 U	*0.040 U*	*0.091 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	2.8 U	3.8 U	2.9 U	4.9 U	*4.0 U*	*9.1 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	0.77	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	0.023 U	0.030 U	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	0.17 U	0.23 U	0.18 U	0.29 U	*0.24 U*	*0.54 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1.7 U	2.3 U	3.0	2.9 U	*2.4 U*	*5.4 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	0.17 U	0.23 U	0.18 U	0.29 U	*0.24 U*	*0.54 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	0.028 U	0.038 U	0.029 U	0.049 U	*0.040 U*	*0.091 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	0.079 UJ	0.17 UJ	0.085 UJ	0.23 UJ	*0.11 UJ*	*0.53 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cumene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	--	--	0.046 U	0.06 U	0.047 U	0.078 U	*0.064 U*	*0.15 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	0.23 U	0.30 U	0.23 U	0.39 U	*0.32 U*	*0.73 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	0.23 U	0.30 U	0.23 U	0.39 U	*0.32 U*	*0.73 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP18-5		DP19		DP20		DP21		DP21-1	DP21-2			DP21-3			DP21-4			DP21-5			DP21-6
	(10' bgs)	(13.5' bgs)	(6-8' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(6-8' bgs)	(10-12' bgs)	(10' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(1.5' bgs)	(5' bgs)	(7' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(10' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
Fluoranthene	--	--	0.023 U	0.032	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	--	--	0.023 U	0.030 U	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	0.057 U	0.075 U	0.058 U	0.098 U	*0.079 U*	*0.18 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	--	0.046 U	0.06 U	0.047 U	0.078 U	*0.064 U*	*0.15 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.011 J*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	0.057 U	0.075 U	0.058 U	0.098 U	*0.079 U*	*0.18 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Cresol	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	0.23 U	0.30 U	0.23 U	0.39 U	*0.32 U*	*0.73 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	0.023 U	0.030 U	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	0.11 U	0.15 U	0.12 U	0.20 U	*0.16 U*	*0.36 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	0.023 U	0.035	0.023 U	0.039 U	*0.032 U*	*0.073 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	0.079 UJ	0.17 UJ	0.085 UJ	0.23 UJ	*0.11 UJ*	*0.53 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	0.079 U	0.17 U	0.085 U	0.23 U	*0.11 U*	*0.53 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	--	--	0.051 U	0.068 U	0.053 U	0.089 U	*0.072 U*	*0.17 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Naphthalenes	--	--	0.14 U	0.25 U	0.14 U	0.328 U	*0.051 J*	*0.71 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans (ng/kg)																						
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP18-5		DP19		DP20		DP21		DP21-1	DP21-2			DP21-3			DP21-4			DP21-5			DP21-6
	(10' bgs)	(13.5' bgs)	(6-8' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(6-8' bgs)	(10-12' bgs)	(10' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(1.5' bgs)	(5' bgs)	(7' bgs)	(1.75' bgs)	(5' bgs)	(7' bgs)	(10' bgs)
Polychlorinated Biphenyls (mg/kg)																						
Aroclor 1016	--	--	0.12 U	0.15 U	0.11 U	0.19 U	*0.16 U*	*0.38 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	--	--	0.12 U	0.15 U	0.11 U	0.19 U	*0.16 U*	*0.38 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	--	--	0.12 U	0.15 U	0.11 U	0.19 U	*0.16 U*	*0.38 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	--	--	0.12 U	0.15 U	0.11 U	0.19 U	*0.16 U*	*0.38 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	--	--	0.12 U	0.15 U	0.11 U	0.19 U	*0.16 U*	*0.38 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	--	--	0.12 U	0.15 U	0.11 U	0.19 U	*0.16 U*	*0.38 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	--	--	0.12 UJ	0.15 U	0.11 UJ	0.19 UJ	*0.16 UJ*	*0.38 UJ*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals (mg/kg)																						
Arsenic	--	--	3.5 U	4.6 U	3.6 U	5.8 U	*72*	*11 U*	3.5	*84*	*4.7*	*2.7 U*	7.0	8.1	6.8	11	6.5	3.4	5.6	6.0	2.7 U	6.8
Barium	--	--	36	12	30	31	*66*	*23*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	0.58 U	0.94	0.60 U	0.96 U	*0.80 U*	*1.9 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	--	--	21	23	20	17	*26*	*6.3*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	--	--	--	--	--	--	--	19	*37*	*27*	*14*	30	39	48	44	41 Y	20	40	41	21	11
Lead	65	16	3.0	10.0	1.8 U	140	*30*	*5.7 U*	5.5	*8.8*	*4.3*	*4.6*	19	6.1	7.6	28	6.2	4.8	7.7	6.0	4.5	4.0
Mercury	--	--	0.031	0.065	0.025 U	0.038 U	*0.22*	*0.077 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--	--	7.8	*33*	*37*	*9.4*	35	50	47	40	59 Y	9.8	38	58	3.9	7.3
Selenium	--	--	5.8 U	7.6 U	6.0 U	9.6 U	*8.0 U*	*19 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	1.2 U	1.5 U	1.2 U	1.9 U	*1.6 U*	*3.8 U*	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP21-7			DP21-8	DP21-9		DP21-10			DP22		DP23	DP24		DP25	DP26			DP27			
	(1.75' bgs)	(5' bgs)	(9' bgs)	(9.5' bgs)	(1.75' bgs)	(5' bgs)	(2' bgs)	(5' bgs)	(9' bgs)	(4-6' bgs)	(10-12' bgs)	(12-14' bgs)	(8-10' bgs)	(10-12' bgs)	(10-12' bgs)	(1-2' bgs)	(3-4' bgs)	(7-8' bgs)	(0-1' bgs)	(3-4' bgs)	(4-5' bgs)	(6-7' bgs)
Total Petroleum Hydrocarbons (mg/kg)																						
TPH-D	--	--	--	--	--	--	--	--	--	31 U	33 U	29 J	81	--	27 U	--	--	--	--	--	--	--
TPH-G	--	--	--	--	--	--	--	--	--	8.4 U	10 U	--	150	4.4 J	--	--	--	--	--	5.0 U	--	--
TPH-HO	--	--	--	--	--	--	--	--	--	63 U	66 U	55 UJ	170	--	54 U	--	--	--	--	--	--	--
Volatile Organic Compounds (mg/kg)																						
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	0.034 U	0.041 U	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	0.017 U	0.020 U	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	--	--	--	--	--	--	0.034 U	0.041 U	--	--	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	0.017 U	0.020 U	--	--	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--	--	0.017 U	0.0085 J	--	--	--	--	--	--	--	--	0.0010 U	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	0.084 UJ	0.10 UJ	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	0.084 UJ	0.10 UJ	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	0.42 U	0.51 U	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	0.034 UJ	0.041 UJ	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--	0.084 U	0.020 J	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	0.084 UJ	0.10 UJ	--	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	--	--	--	--	--	--	--	--	--	0.42 UJ	0.51 UJ	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	0.0010 U	--	--
m&p-Xylene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	0.0020 U	--	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	0.0063 J	0.027 J	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	0.052 U	0.063 U	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	0.0010 U	--	--
Total Xylenes	--	--	--	--	--	--	--	--	--	0.17 U	0.20 U	--	--	--	--	--	--	--	--	0.0020 U	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	0.034 U	0.041 U	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	0.034 U	0.041 U	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																						
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	0.084 UJ	0.10 UJ	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	0.084 UJ	0.10 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	0.084 UJ	0.10 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	0.034 U	0.041 U	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	--	--	--	--	--	--	--	--	--	0.036 U	0.040 U	--	--	--	--	0.010	0.010	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP21-7			DP21-8	DP21-9		DP21-10			DP22		DP23	DP24		DP25	DP26			DP27			
	(1.75' bgs)	(5' bgs)	(9' bgs)	(9.5' bgs)	(1.75' bgs)	(5' bgs)	(2' bgs)	(5' bgs)	(9' bgs)	(4-6' bgs)	(10-12' bgs)	(12-14' bgs)	(8-10' bgs)	(10-12' bgs)	(10-12' bgs)	(1-2' bgs)	(3-4' bgs)	(7-8' bgs)	(0-1' bgs)	(3-4' bgs)	(4-5' bgs)	(6-7' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	0.18 U	0.20 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	1.2 U	1.3 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	--	--	--	--	0.010	0.010	--	0.013	0.0050 U	0.013	--
2-Nitroaniline	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	0.24 U	0.26 U	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	1.2 U	1.3 U	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	1.2 U	1.3 U	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	--	--	--	--	--	--	--	0.0064	0.0050 U	0.0050 U	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	--	--	--	--	--	--	--	0.024	0.0050 U	0.0060	--
Anthracene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	--	--	--	--	--	--	--	0.025	0.0050 U	0.0090	--
Benz[a]anthracene	--	--	--	--	--	--	--	--	--	0.030 U	0.033 U	0.030 U	0.034 U	--	0.027 U	0.070	0.020	--	0.099	0.0092	0.029	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	0.030 U	0.033 U	--	--	--	--	--	--	--	0.056	0.0069	0.024	--
Benzo[a]pyrene	--	--	--	--	--	--	--	--	--	0.036 U	0.040 U	0.036 U	0.041 U	--	0.032 U	0.14	0.11	--	0.12	0.0067	0.031	--
Benzo[b]fluoranthene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	0.024 U	0.027 U	--	0.022 U	0.010 U	0.010 U	--	0.088	0.0085	0.030	--
Benzo[k]fluoranthene	--	--	--	--	--	--	--	--	--	0.030 U	0.033 U	0.030 U	0.034 U	--	0.027 U	0.020	0.010 U	--	0.074	0.0055	0.016	--
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	--	--	--	--	3.0 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	0.18 U	0.20 U	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	18 U	2.0 U	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	--	--	--	--	0.18 U	0.20 U	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	--	--	0.030 U	0.033 U	0.030 U	0.034 U	--	0.027 U	0.040	0.010 U	--	0.10	0.014	0.023	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	0.084 UJ	0.10 UJ	--	--	--	--	--	--	--	--	--	--	--
Cumene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	--	--	--	--	--	--	--	--	--	0.048 U	0.053 U	0.048 U	0.054 U	--	0.043 U	0.10	0.010 U	--	0.029	0.0050 U	0.016	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	0.24 U	0.26 U	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	0.24 U	0.26 U	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																				
	DP21-7			DP21-8	DP21-9		DP21-10			DP22		DP23	DP24		DP25	DP26			DP27			
	(1.75' bgs)	(5' bgs)	(9' bgs)	(9.5' bgs)	(1.75' bgs)	(5' bgs)	(2' bgs)	(5' bgs)	(9' bgs)	(4-6' bgs)	(10-12' bgs)	(12-14' bgs)	(8-10' bgs)	(10-12' bgs)	(10-12' bgs)	(1-2' bgs)	(3-4' bgs)	(7-8' bgs)	(0-1' bgs)	(3-4' bgs)	(4-5' bgs)	(6-7' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
Fluoranthene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	--	--	--	--	--	--	--	0.19	0.029	0.036	--
Fluorene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	--	--	--	--	--	--	--	0.013	0.0050 U	0.0056	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	0.060 U	0.066 U	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	--	--	--	--	--	--	--	--	0.048 U	0.053 U	0.048 U	0.054 U	--	0.043 U	0.25	0.23	--	0.055	0.0050 U	0.022	--
Isophorone	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	0.010	0.010	--	0.031	0.0050 U	0.013	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	0.060 U	0.066 U	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
o-Cresol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	0.24 U	0.26 U	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	--	--	--	--	--	--	--	0.086	0.013	0.024	--
Phenol	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	--	--	--	--	0.024 U	0.026 U	--	--	--	--	--	--	--	0.22	0.025	0.044	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	0.084 UJ	0.10 UJ	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	0.084 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	--	--	--	--	--	--	--	--	--	0.054 U	0.060 U	0.054 U	0.062 U	--	0.048 U	0.18	0.14	--	0.16	0.0097	0.043	--
Total Naphthalenes	--	--	--	--	--	--	--	--	--	0.14 U	0.17 U	--	--	--	--	0.030	0.030	--	0.044	0.010 U	0.026	--
Total Dioxins/Furans (ng/kg)																						
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	880	29	120	98	0.21 U	16	0.75 BJ
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	230	9.5	16	20	0.16 EJ	5.7	0.39 BJ
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19	0.59 J	0.93 J	1.9 J	0.16 U	0.30 J	0.097 IJ
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11	1.7 J	0.16 U	0.96 J	0.12 U	0.36 J	0.053 U
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50 UE	0.15 UE	0.13 UE	1.6 J	0.096 IJ	0.33 J	0.12 J
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	38	3.3 J	4.2 J	3.1 J	0.19 U	0.36 IJ	0.16 J
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18	1.7 J	0.12 U	0.9 J	0.15 J	0.22 J	0.039 IJ
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	22	2.8 J	0.12 UI	1.9 J	0.18 BJ	0.60 BJ	0.041 IJ
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11	0.41 J	0.12 U	0.61 BJ	0.12 U	0.14 U	0.034 IJ
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.4	2.2 J	0.11 U	0.66 J	0.13 U	0.25 IJ	0.088 U
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.1	1.7 J	0.18 UE	0.22 U	0.13 U	0.20 U	0.054 IJ
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20	1.7 J	0.59 J	0.94 J	0.10 IJ	0.25 J	0.040 IJ
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	27	2.4 J	0.13 U	0.72 J	0.080 IJ	0.16 U	0.098 J
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	0.15 UI	0.17 U	0.14 U	0.078 U	0.26 U	0.052 U
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.7	2.4	0.15 UI	0.18 J	0.061 U	0.16 U	0.042 U
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9,000	170	500	1,200	1.2 BJ	240	6.8 BJ
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	620	29	74	81	0.32 IJ	13	0.10 IJ
Total Dioxins/Furans [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	45	5.0 J	2.2 J	3.6 JB	0.21 BJIE	0.93 BJI	0.16 IJB

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	DP21-7			DP21-8	DP21-9		DP21-10			DP22		DP23	DP24		DP25	DP26			DP27			
	(1.75' bgs)	(5' bgs)	(9' bgs)	(9.5' bgs)	(1.75' bgs)	(5' bgs)	(2' bgs)	(5' bgs)	(9' bgs)	(4-6' bgs)	(10-12' bgs)	(12-14' bgs)	(8-10' bgs)	(10-12' bgs)	(10-12' bgs)	(1-2' bgs)	(3-4' bgs)	(7-8' bgs)	(0-1' bgs)	(3-4' bgs)	(4-5' bgs)	(6-7' bgs)
Polychlorinated Biphenyls (mg/kg)																						
Aroclor 1016	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	--	--	--	--	--	--	--	--	--	0.12 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	--	--	--	--	--	--	--	--	--	0.12 UJ	0.13 UJ	--	--	--	--	--	--	--	--	--	--	--
Metals (mg/kg)																						
Arsenic	2.9	6.4	11	4.8	3.8	6.5	3.9	6.3	5.3	3.8 U	3.9 U	--	--	--	--	9.8	--	3.8	3.0	3.5	3.1	2.1
Barium	--	--	--	--	--	--	--	--	--	43	63	--	--	--	--	--	--	--	54	85	63	22
Cadmium	--	--	--	--	--	--	--	--	--	0.63 U	0.65 U	--	--	--	--	0.37	--	0.30	0.20 U	0.21	0.25	0.20 U
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	--
Chromium, Total	--	--	--	--	--	--	--	--	--	25	25	--	--	--	--	--	--	--	18	48	52	18
Copper	18	29	14	9.2	20	26	18	29	4.7	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	6.4	4.2	5.4	6.5	3.6	4.1	3.6	4.5	4.8	2.2	11	--	--	--	--	13	--	2.4	6.6	5.1	4.2	1.3
Mercury	--	--	--	--	--	--	--	--	--	0.024 U	0.042	--	--	--	--	--	--	--	0.020 U	0.028	0.020 U	0.020 U
Nickel	30	38	9.4	5.2	26	38	18	42	4.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	6.3 U	6.5 U	--	--	--	--	--	--	--	0.20 U	0.20 U	0.20 U	0.20 U
Silver	--	--	--	--	--	--	--	--	--	1.3 U	1.3 U	--	--	--	--	--	--	--	0.59	0.20 U	0.33	0.20 U

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP28		DP29				DP30			DP31	DP32			DP33				DP34			DP35
	(1-2' bgs)	(3.5-5' bgs)	(1-2' bgs)	(3-4' bgs)	(7-8' bgs)	(13-14' bgs)	(1-2' bgs)	(3-4' bgs)	(7-7.5' bgs)	(3-4' bgs)	(1-2' bgs)	(4-5' bgs)	(8-9' bgs)	(1-2' bgs)	(3-4' bgs)	(5-6' bgs)	(7-8' bgs)	(1-3' bgs)	(4-6' bgs)	(7.5-9.5' bgs)	(5-6' bgs)
Total Petroleum Hydrocarbons (mg/kg)																					
TPH-D	25 U	25 U	--	--	25 U	25 U	--	--	--	25 U	--	--	--	--	--	--	--	--	5.4	16	25 U
TPH-G	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0 U	5.0 U	--
TPH-HO	100 U	100 U	--	--	100 U	100 U	--	--	--	100 U	--	--	--	--	--	--	--	--	13	36	100 U
Volatile Organic Compounds (mg/kg)																					
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0010 U	0.0010 U	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	0.10 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0010 U	0.0010 U	--
m&p-Xylene	0.10 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0020 U	0.0020 U	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	0.10 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	0.10 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0010 U	0.0010 U	--
Total Xylenes	0.20 U	0.20 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0020 U	0.0020 U	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																					
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	0.010 U	0.010	0.010	--	0.050	0.010 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP28		DP29				DP30			DP31	DP32			DP33				DP34			DP35
	(1-2' bgs)	(3.5-5' bgs)	(1-2' bgs)	(3-4' bgs)	(7-8' bgs)	(13-14' bgs)	(1-2' bgs)	(3-4' bgs)	(7-7.5' bgs)	(3-4' bgs)	(1-2' bgs)	(4-5' bgs)	(8-9' bgs)	(1-2' bgs)	(3-4' bgs)	(5-6' bgs)	(7-8' bgs)	(1-3' bgs)	(4-6' bgs)	(7.5-9.5' bgs)	(5-6' bgs)
Semi-Volatile Organic Compounds (mg/kg)																					
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	0.010	0.020	0.023	--	0.14	0.010 U	--	0.0050 U	--	--	--	0.0050 U	--	0.0050 U	0.014	0.0050 U	0.092	--	0.041	0.016	--
2-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	0.0050 U	--	--	--	0.0050 U	--	0.0050 U	0.43	0.053	0.18	--	0.0050 U	0.012	--
Acenaphthylene	--	--	--	--	--	--	--	0.0050 U	--	--	--	0.0050 U	--	0.0050 U	0.089	0.0086	0.051	--	0.010	0.0060	--
Anthracene	--	--	--	--	--	--	--	0.0089	--	--	--	0.0050 U	--	0.0090	0.44	0.023	0.14	--	0.015	0.014	--
Benz[a]anthracene	0.030	0.060	0.23	--	0.050	0.040	--	0.021	--	--	--	0.0050 U	--	0.018	0.49	0.028	0.43	--	0.037	0.033	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	0.026	--	--	--	0.0050 U	--	0.023	0.062	0.011	0.080	--	0.030	0.033	--
Benzo[a]pyrene	0.010 U	0.010 U	0.30	--	0.19	0.18	--	0.018	--	--	--	0.0050 U	--	0.017	0.17	0.016	0.22	--	0.039	0.034	--
Benzo[b]fluoranthene	0.010 U	0.010 U	0.13	--	0.010 U	0.010 U	--	0.020	--	--	--	0.0050 U	--	0.019	0.14	0.017	0.31	--	0.031	0.031	--
Benzo[k]fluoranthene	0.010	0.020	0.080	--	0.020	0.010 U	--	0.016	--	--	--	0.0050 U	--	0.016	0.18	0.013	0.23	--	0.033	0.023	--
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	0.010 U	0.050	0.23	--	0.050	0.010 U	--	0.012	--	--	--	0.0050 U	--	0.011	0.51	0.029	0.48	--	0.034	0.020	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cumene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	0.10	0.10	0.12	--	0.010 U	0.16	--	0.020	--	--	--	0.0050 U	--	0.021	0.029	0.0074	0.077	--	0.017	0.018	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP28		DP29				DP30			DP31	DP32			DP33				DP34			DP35
	(1-2' bgs)	(3.5-5' bgs)	(1-2' bgs)	(3-4' bgs)	(7-8' bgs)	(13-14' bgs)	(1-2' bgs)	(3-4' bgs)	(7-7.5' bgs)	(3-4' bgs)	(1-2' bgs)	(4-5' bgs)	(8-9' bgs)	(1-2' bgs)	(3-4' bgs)	(5-6' bgs)	(7-8' bgs)	(1-3' bgs)	(4-6' bgs)	(7.5-9.5' bgs)	(5-6' bgs)
Semi-Volatile Organic Compounds (mg/kg)																					
Fluoranthene	--	--	--	--	--	--	--	0.013	--	--	--	0.0050 U	--	0.011	2.4	0.10	2.9	--	0.061	0.049	--
Fluorene	--	--	--	--	--	--	--	0.0079	--	--	--	0.0050 U	--	0.0073	0.35	0.031	0.091	--	0.011	0.017	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	0.26	0.27	0.31	--	0.010 U	0.010 U	--	0.023	--	--	--	0.0050 U	--	0.022	0.051	0.0088	0.080	--	0.025	0.034	--
Isophorone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	0.010	0.060	0.050	--	0.39	0.010 U	--	0.0050 U	--	--	--	0.0050 U	--	0.0050 U	0.0050 U	0.0050 U	0.23	--	0.033	0.065	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	0.013	--	--	--	0.0050 U	--	0.011	2.9	0.13	0.27	--	0.040	0.056	--
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	--	--	0.014	--	--	--	0.0050 U	--	0.012	2.3	0.10	1.9	--	0.069	0.048	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	0.046	0.051	0.39	--	0.20	0.20	--	0.028	--	--	--	0.0076 U	--	0.027	0.26	0.024	0.33	--	0.054	0.048	--
Total Naphthalenes	0.025	0.090	0.083	--	0.58	0.030 U	--	0.010 U	--	--	--	0.010 U	--	0.010 U	0.017	0.010 U	0.32	--	0.074	0.081	--
Total Dioxins/Furans (ng/kg)																					
1,2,3,4,6,7,8-HpCDD	--	--	52	--	--	--	3.2 J	0.11 IJ	180	0.91 BJ	1.4 J	2.9 J	3.2 J	17	150	25	84	75	9.5	28	--
1,2,3,4,6,7,8-HpCDF	--	--	6.4	--	--	--	0.66 BJ	0.22 BJ	200	0.93 J	0.26 BJ	0.056 EJ	1.2 BJ	0.051 EJ	25	0.057 EJ	21	26	3.7 J	0.18 EJ	--
1,2,3,4,7,8,9-HpCDF	--	--	0.87 U	--	--	--	0.22 U	0.078 U	8.5	0.094 U	0.15 BJ	0.051 IJ	0.13 IJ	0.35 BJ	4.7	0.47 BJ	1.6 U	1.7 J	0.34 U	0.69 J	--
1,2,3,4,7,8-HxCDD	--	--	2.8 J	--	--	--	0.32 J	0.047 U	14	0.089 U	0.043 IJ	0.074 IJ	0.076 IJ	0.5 J	0.11 IJ	0.29 J	1.7 J	2.4 J	0.44 J	0.92 J	--
1,2,3,4,7,8-HxCDF	--	--	0.65 U	--	--	--	0.14 IJ	0.068 J	12	0.10 UI	0.030 IJ	0.11 BJ	0.17 BJ	0.95 J	16	0.91 J	0.60 IJ	1.8 J	0.16 IJ	0.19 IJ	--
1,2,3,6,7,8-HxCDD	--	--	2.1 J	--	--	--	0.57 J	0.053 U	27	0.072 U	0.045 U	0.055 IJ	0.32 J	3.4 J	5.2	0.86 J	4.2 J	5.4	0.84 J	2.2 J	--
1,2,3,6,7,8-HxCDF	--	--	0.64 U	--	--	--	0.28 J	0.043 IJ	18	0.10 U	0.033 IJ	0.14 J	0.25 J	0.61 J	0.13 EJ	0.029 IJ	0.69 EJ	0.36 EJ	0.51 J	0.26 EJ	--
1,2,3,7,8,9-HxCDD	--	--	1.8 J	--	--	--	0.56 BJ	0.051 U	17	0.080 U	0.13 J	0.054 IJ	0.064 IJ	2.1 J	1.9 J	0.056 IJ	2.7 J	3.0 J	0.56 BJ	0.39 IJ	--
1,2,3,7,8,9-HxCDF	--	--	0.62 U	--	--	--	0.26 BJ	0.045 IJ	3.2	0.097 U	0.045 J	0.046 IJ	0.11 J	0.11 J	3.2 J	0.24 J	1.2 J	0.79 BJ	0.19 IJ	0.32 BJ	--
1,2,3,7,8-PeCDD	--	--	1.8 J	--	--	--	0.14 IJ	0.062 J	24	0.093 U	0.082 U	0.029 IJ	0.16 J	0.94 J	0.68 J	0.049 IJ	1.7 J	2.0 J	0.28 IJ	1.1 J	--
1,2,3,7,8-PeCDF	--	--	0.57 U	--	--	--	0.30 BJ	0.030 IJ	20	0.12 U	0.028 IJ	0.053 U	0.081 U	0.86 J	1.1 J	0.15 J	1.8 U	0.38 EJ	0.29 U	0.38 IJ	--
2,3,4,6,7,8-HxCDF	--	--	0.61 U	--	--	--	0.29 J	0.042 IJ	9.9	0.088 U	0.021 IJ	0.022 IJ	0.14 J	1.5 J	3.8 J	0.42 J	1.7 J	0.41 IJ	0.20 IJ	0.86 J	--
2,3,4,7,8-PeCDF	--	--	0.45 U	--	--	--	0.15 IJ	0.027 IJ	24	0.10 U	0.039 U	0.036 IJ	0.091 IJ	0.88 J	7.4	0.049 IJ	2.0 J	6.0	1.5 J	1.3 J	--
2,3,7,8-TCDD	--	--	0.48 U	--	--	--	0.22 J	0.072 U	10.0	0.11 U	0.077 U	0.053 U	0.060 U	0.43 J	0.075 U	0.040 U	0.35 U	0.23 U	0.20 U	0.17 IJ	--
2,3,7,8-TCDF	--	--	0.42 U	--	--	--	0.24 J	0.048 U	0.35 EJ	0.35 J	0.041 U	0.025 IJ	0.12 IJ	0.93	0.34 J	0.027 IJ	0.82 J	1.2	0.36 J	0.93 J	--
OCDD	--	--	210	--	--	--	33	3.4 BJ	840	7.7 BJ	9.6	23	24	63	1,000	160	1,200	550	61	280	--
OCDF	--	--	20	--	--	--	1.1 J	0.45 J	310	1.6 J	0.7 J	3.1 J	3.8 J	4.2 J	140	16	90	85	7.2 J	24	--
Total Dioxins/Furans [1]	--	--	3.6 J	--	--	--	0.73 JBI	0.14 BJI	56 EJ	0.21 BJ	0.14 JIB	0.16 IJEB	0.40 IJB	2.9 JBE	8.2 JIE	0.68 IJBE	5.3 JEI	6.7 JEIB	1.3 BJI	2.7 IJEB	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP28		DP29				DP30			DP31	DP32			DP33				DP34			DP35
	(1-2' bgs)	(3.5-5' bgs)	(1-2' bgs)	(3-4' bgs)	(7-8' bgs)	(13-14' bgs)	(1-2' bgs)	(3-4' bgs)	(7-7.5' bgs)	(3-4' bgs)	(1-2' bgs)	(4-5' bgs)	(8-9' bgs)	(1-2' bgs)	(3-4' bgs)	(5-6' bgs)	(7-8' bgs)	(1-3' bgs)	(4-6' bgs)	(7.5-9.5' bgs)	(5-6' bgs)
Polychlorinated Biphenyls (mg/kg)																					
Aroclor 1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025 U
Aroclor 1221	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025 U
Aroclor 1232	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025 U
Aroclor 1242	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025 U
Aroclor 1254	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025 U
Aroclor 1260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025 U
Metals (mg/kg)																					
Arsenic	6.1	3.8	--	5.9	3.6	--	3.4	5.1	9.9	7.3	--	2.3	--	1.9	2.1	3.0	2.8	--	3.9	15	--
Barium	--	--	--	--	--	--	27	55	63	--	--	41	--	36	50	53	45	--	71	37	--
Cadmium	2.6	0.47	--	0.69	0.32	--	0.20 U	0.20 U	0.69	0.39	--	0.20 U	--	0.20 U	0.20 U	0.20 U	0.22	--	0.20 U	0.20 U	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	--	--	--	--	--	--	19	31	46	--	--	15	--	21	19	34	18	--	25	21	--
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	131	7.6	--	8.7	32	--	6.3	2.9	56	3.1	--	2.5	--	2.2	2.2	2.6	7.7	--	4.7	56	--
Mercury	--	--	--	--	--	--	0.020 U	0.020 U	0.086	--	--	0.024	--	0.020	0.020 U	0.020 U	0.020 U	--	0.020 U	0.046	--
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	0.20 U	0.20 U	0.49	--	--	0.20 U	--	0.20 U	0.20 U	0.20 U	0.20 U	--	0.20 U	1.3	--
Silver	--	--	--	--	--	--	0.20 U	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	0.20 U	0.20 U	0.20 U	--	0.20 U	0.20 U	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP36			DP37		DP38			DP39	DP39	DP40			DP41		DP42			DP43		
	(1-2' bgs)	(5-6' bgs)	(8-9' bgs)	(2-3.5' bgs)	(6-7.5' bgs)	(1-2' bgs)	(5-6' bgs)	(6-7' bgs)	(0.5-2' bgs)	(3-5' bgs)	(1-2' bgs)	(3-4' bgs)	(5-6' bgs)	(1-2' bgs)	(3-4' bgs)	(1-2' bgs)	(5-6' bgs)	(7-8' bgs)	(2-3' bgs)	(6-7' bgs)	(9-10' bgs)
Total Petroleum Hydrocarbons (mg/kg)																					
TPH-D	--	16	--	25 U	25 U	--	8.2	56	25 U	25 U	22	5.0 U	19	--	--	--	--	--	--	--	--
TPH-G	--	5.0 U	--	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--	--	--	--	--
TPH-HO	--	163	--	100 U	100 U	--	14	470	100 U	440	113	39	295	--	--	--	--	--	--	--	--
Volatile Organic Compounds (mg/kg)																					
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	0.0010 U	--	0.050 U	0.050 U	--	0.0010 U	0.0010 U	0.050 U	0.050 U	0.0010 U	0.0010 U	0.0010 U	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	0.0010 U	--	0.10 U	0.10 U	--	0.0010 U	0.0010 U	0.10 U	0.10 U	0.0010 U	0.0010 U	0.0010 U	--	--	--	--	--	--	--	--
m&p-Xylene	--	0.0020 U	--	0.10 U	0.10 U	--	0.0020 U	0.0020 U	0.10 U	0.10 U	0.0020 U	0.0020 U	0.0020 U	--	--	--	--	--	--	--	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	0.10 U	0.10 U	--	--	--	0.10 U	0.10 U	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	0.0010 U	--	0.10 U	0.10 U	--	0.0010 U	0.0010 U	0.10 U	0.10 U	0.0010 U	0.0010 U	0.0010 U	--	--	--	--	--	--	--	--
Total Xylenes	--	0.0020 U	--	0.20 U	0.20 U	--	0.0020 U	0.0020 U	0.20 U	0.20 U	0.0020 U	0.0020 U	0.0020 U	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																					
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	--	--	--	0.010 U	--	--	--	--	0.010 U	0.050	--	--	--	--	--	--	--	--	0.25 U	0.25 U	0.60
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP36			DP37		DP38			DP39	DP39	DP40			DP41		DP42			DP43		
	(1-2' bgs)	(5-6' bgs)	(8-9' bgs)	(2-3.5' bgs)	(6-7.5' bgs)	(1-2' bgs)	(5-6' bgs)	(6-7' bgs)	(0.5-2' bgs)	(3-5' bgs)	(1-2' bgs)	(3-4' bgs)	(5-6' bgs)	(1-2' bgs)	(3-4' bgs)	(1-2' bgs)	(5-6' bgs)	(7-8' bgs)	(2-3' bgs)	(6-7' bgs)	(9-10' bgs)
Semi-Volatile Organic Compounds (mg/kg)																					
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	0.010 U	--	0.010	0.067	0.0097	0.010 U	0.050	0.0051	0.0069	0.0050 U	--	--	--	--	--	0.25 U	0.25 U	0.75
2-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	0.0073	0.047	0.0084	--	--	0.0050 U	0.0050 U	0.0050 U	--	--	--	--	--	0.25 U	0.25 U	0.25 U
Acenaphthylene	--	--	--	--	--	0.0050 U	0.031	0.010	--	--	0.0050 U	0.0050 U	0.0050 U	--	--	--	--	--	0.25 U	0.25 U	0.25 U
Anthracene	--	--	--	--	--	0.012	0.061	0.016	--	--	0.011	0.0050 U	0.0061	--	--	--	--	--	0.50 U	0.50 U	0.50 U
Benz[a]anthracene	--	--	--	0.020	--	0.028	0.072	0.077	0.040	0.89	0.017	0.011	0.024	--	--	--	--	--	0.050 U	0.050 U	0.060
Benzo(g,h,i)perylene	--	--	--	--	--	0.047	0.043	0.058	--	--	0.023	0.0050 U	0.028	--	--	--	--	--	0.50 U	0.50 U	0.50 U
Benzo[a]pyrene	--	--	--	0.12	--	0.036	0.071	0.057	0.14	0.81	0.021	0.0051	0.027	--	--	--	--	--	0.050 U	0.050 U	0.050 U
Benzo[b]fluoranthene	--	--	--	0.010 U	--	0.039	0.072	0.062	0.010	1.1	0.030	0.0051	0.034	--	--	--	--	--	0.50 U	0.50 U	0.50 U
Benzo[k]fluoranthene	--	--	--	0.010 U	--	0.051	0.056	0.042	0.020	0.39	0.014	0.0050 U	0.013	--	--	--	--	--	0.50 U	0.50 U	0.50 U
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	0.010 U	--	0.050	0.095	0.094	0.040	0.94	0.024	0.0050 U	0.069	--	--	--	--	--	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cumene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	--	--	--	0.010 U	--	0.020	0.025	0.035	0.10	0.19	0.015	0.0050 U	0.012	--	--	--	--	--	0.25 U	0.25 U	0.29
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP36			DP37		DP38			DP39	DP39	DP40			DP41		DP42			DP43		
	(1-2' bgs)	(5-6' bgs)	(8-9' bgs)	(2-3.5' bgs)	(6-7.5' bgs)	(1-2' bgs)	(5-6' bgs)	(6-7' bgs)	(0.5-2' bgs)	(3-5' bgs)	(1-2' bgs)	(3-4' bgs)	(5-6' bgs)	(1-2' bgs)	(3-4' bgs)	(1-2' bgs)	(5-6' bgs)	(7-8' bgs)	(2-3' bgs)	(6-7' bgs)	(9-10' bgs)
Semi-Volatile Organic Compounds (mg/kg)																					
Fluoranthene	--	--	--	--	--	0.031	0.22	0.064	--	--	0.018	0.011	0.13	--	--	--	--	--	1.5 U	1.5 U	1.5 U
Fluorene	--	--	--	--	--	0.0094	0.069	0.022	--	--	0.0050 U	0.0050 U	0.0050	--	--	--	--	--	1.0 U	1.0 U	1.0 U
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	--	--	0.010 U	--	0.026	0.040	0.047	0.23	0.54	0.017	0.0050 U	0.013	--	--	--	--	--	0.10 U	0.10 U	0.10 U
Isophorone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	0.050	--	0.013	0.23	0.023	0.010	0.080	0.011	0.020	0.0050 U	--	--	--	--	--	0.25 U	0.25 U	0.25
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	0.024	0.30	0.045	--	--	0.016	0.016	0.018	--	--	--	--	--	0.050 U	0.050 U	0.31
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	0.030	0.20	0.093	--	--	0.047	0.012	0.026	--	--	--	--	--	0.050 U	0.050 U	0.32
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	--	--	--	0.12	--	0.052	0.098	0.084	0.18	1.1	0.031	0.0075	0.037	--	--	--	--	--	0.20 U	0.20 U	0.12
Total Naphthalenes	--	--	--	0.060	--	0.023	0.29	0.033	0.020	0.18	0.016	0.027	0.010 U	--	--	--	--	--	0.75 U	0.75 U	1.6
Total Dioxins/Furans (ng/kg)																					
1,2,3,4,6,7,8-HpCDD	1.2 BJ	5.7	2.5 J	--	--	--	93	11 J	86	220	250	22	13	77	0.17 UI	470	70	2,500	2.8	1.7	41
1,2,3,4,6,7,8-HpCDF	0.41 BJ	2.4 J	0.19 EJ	--	--	--	56	2.3 IJ	19	60	0.14 EJ	6.3	0.83 BJ	21	0.31 J	99	8.2 UI	1,200	0.36	0.18 U	11
1,2,3,4,7,8,9-HpCDF	0.15 J	1.5 U	0.15 IJ	--	--	--	2.7 J	2.6 U	0.54 UI	5.3 U	0.84 BJ	0.68 BJ	0.36 U	1.9 J	0.089 U	3.0 UI	9.9 U	88	0.25 U	0.23 U	0.82
1,2,3,4,7,8-HxCDD	0.068 IJ	0.88 U	0.12 J	--	--	--	1.1 U	2.8 U	1.1 J	1.4 UI	1.1 J	0.10 IJ	0.22 IJ	0.91 J	0.13 U	6.9	3.4 U	42	0.21 U	0.21 U	0.54
1,2,3,4,7,8-HxCDF	0.053 IJ	0.59 EJ	0.11 IJ	--	--	--	0.71 U	2.0 U	0.26 UE	1.1 UE	0.53 BJ	1.3 J	0.12 U	0.26 UE	0.10 U	34	3.4 U	53	0.14 U	0.16 U	0.80
1,2,3,6,7,8-HxCDD	0.16 J	0.74 U	0.17 IJ	--	--	--	4.6 J	2.1 U	4.4 J	15	4.0 J	1.4 J	0.26 IJ	3.1 J	0.12 U	18	4.0 J	140	0.26	0.24 U	1.7
1,2,3,6,7,8-HxCDF	0.059 IJ	0.47 U	0.12 EJ	--	--	--	0.71 EJ	2.0 U	1.4 J	4.1 J	0.38 J	0.43 J	0.13 U	1.2 J	0.095 U	0.65 UE	3.5 UE	0.69 UE	0.12 U	0.17 U	0.58
1,2,3,7,8,9-HxCDD	0.090 IJ	0.90 U	0.18 U	--	--	--	1.3 J	2.6 U	2.5 J	1.2 UI	2.4 J	0.58 J	0.55 J	1.7 J	0.13 U	1.1 UI	2.7 U	80	0.23	0.21 U	0.74
1,2,3,7,8,9-HxCDF	0.093 BJ	0.76 U	0.14 U	--	--	--	0.65 IJ	2.3 U	0.38 U	3.1 U	0.052 IJ	0.37 J	0.11 U	0.23 UI	0.08 U	8.4	3.2 U	16	0.13 U	0.18 U	0.17 U
1,2,3,7,8-PeCDD	0.075 U	0.78 U	0.099 U	--	--	--	0.83 J	3.9 U	1.3 J	8.3	0.12 IJ	0.13 IJ	0.29 J	0.64 J	0.10 U	7.5	1.8 UI	39	0.22	0.22 U	0.46
1,2,3,7,8-PeCDF	0.069 IJ	0.78 U	0.10 U	--	--	--	0.45 IJ	2.7 U	0.84 J	10.0	0.34 J	0.090 IJ	0.13 U	0.72 J	0.11 U	7.2	1.7 U	42	0.11 U	0.18 U	1.4
2,3,4,6,7,8-HxCDF	0.056 IJ	0.64 U	0.093 IJ	--	--	--	0.66 U	3.3 U	1.5 J	8.6	0.47 J	0.49 J	0.10 U	1.2 J	0.079 U	14	3.2 U	83	0.12 U	0.13 U	0.54
2,3,4,7,8-PeCDF	0.055 IJ	0.66 U	0.13 U	--	--	--	0.79 J	1.8 U	1.4 J	6.9	0.49 BJ	0.15 IJ	0.13 U	1.1 J	0.096 U	19	1.7 U	51	0.21 U	0.20 U	1.1
2,3,7,8-TCDD	0.075 U	0.52 U	0.096 U	--	--	--	0.43 U	3.8 U	0.18 U	0.56 U	0.20 J	0.074 U	0.12 U	0.25 U	0.11 U	1.4	2.2 U	12	0.20 U	0.23 U	0.35 U
2,3,7,8-TCDF	0.061 U	0.27 U	0.042 U	--	--	--	0.68 J	1.9 IJ	0.91 J	0.40 U	0.37 J	0.29 U	0.050 IJ	0.59 J	0.21 J	7.8	2.5 U	32	0.41	0.21 U	0.26 U
OCDD	9.1	47	20	--	--	--	900	97	680	1,800	2,600	180	140	590	9.5 J	5,600	530	16,000	31	24	400
OCDF	0.91 J	3.1 IJ	0.35 IJ	--	--	--	320	18 J	48	84	84	22	5.4 J	110	1.1 J	300	120	5,800	0.95	0.31 U	34
Total Dioxins/Furans [1]	0.18 IJB	1.2 IJE	0.23 JIE	--	--	--	4.1 JIE	5.4 JI	4.3 J	17 J	4.7 JIBE	1.0 JIB	0.69 JIB	3.2 J	0.19 J	31	4.8 J	157	0.52	0.36	2.2

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP36			DP37		DP38			DP39	DP39	DP40			DP41		DP42			DP43		
	(1-2' bgs)	(5-6' bgs)	(8-9' bgs)	(2-3.5' bgs)	(6-7.5' bgs)	(1-2' bgs)	(5-6' bgs)	(6-7' bgs)	(0.5-2' bgs)	(3-5' bgs)	(1-2' bgs)	(3-4' bgs)	(5-6' bgs)	(1-2' bgs)	(3-4' bgs)	(1-2' bgs)	(5-6' bgs)	(7-8' bgs)	(2-3' bgs)	(6-7' bgs)	(9-10' bgs)
Polychlorinated Biphenyls (mg/kg)																					
Aroclor 1016	--	--	--	0.025 U	0.025 U	--	--	--	--	--	--	--	--	--	--	--	--	--	0.050 U	0.050 U	0.050 U
Aroclor 1221	--	--	--	0.025 U	0.025 U	--	--	--	--	--	--	--	--	--	--	--	--	--	0.050 U	0.050 U	0.050 U
Aroclor 1232	--	--	--	0.025 U	0.025 U	--	--	--	--	--	--	--	--	--	--	--	--	--	0.050 U	0.050 U	0.050 U
Aroclor 1242	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.050 U	0.050 U	0.050 U
Aroclor 1248	--	--	--	0.025 U	0.025 U	--	--	--	--	--	--	--	--	--	--	--	--	--	0.050 U	0.050 U	0.050 U
Aroclor 1254	--	--	--	0.025 U	0.025 U	--	--	--	--	--	--	--	--	--	--	--	--	--	0.050 U	0.050 U	0.050 U
Aroclor 1260	--	--	--	0.025 U	0.025 U	--	--	--	--	--	--	--	--	--	--	--	--	--	0.050 U	0.050 U	0.050 U
Metals (mg/kg)																					
Arsenic	--	2.6	--	3.9	6.7	2.9	6.8	7.5	4.9	3.3	2.7	2.8	2.4	--	3.1	3.0	4.2	3.7	--	--	--
Barium	--	62	--	--	--	66	43	17	--	--	59	53	51	--	--	--	--	--	--	--	--
Cadmium	--	0.20 U	--	0.46	1.2	0.20 U	0.68	0.47	0.47	0.52	0.20 U	0.20 U	0.20 U	--	0.35	0.40	0.56	0.57	--	--	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	5.0 U	--	--	--	--	--	--	--	--
Chromium, Total	--	30	--	--	--	18	31	7.7	--	--	19	21	84	--	--	--	--	--	--	--	--
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	2.9	--	11	8.2	12	32	95	15	18	3.8	3.4	2.6	--	3.4	12	14	2.5	--	--	--
Mercury	--	0.020 U	--	--	--	0.020 U	0.060	0.030	--	--	0.020 U	0.020 U	0.020 U	--	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	0.20 U	--	--	--	0.20 U	0.29	0.41	--	--	0.20 U	0.20 U	0.20 U	--	--	--	--	--	--	--	--
Silver	--	0.74	--	--	--	0.20 U	0.20 U	0.20 U	--	--	0.20 U	0.20 U	0.41	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP44			DP45			DP46			DP47			DP48			DP49			DP52	
	(2-3' bgs)	(6-7' bgs)	(9-10' bgs)	(1-2' bgs)	(6-7' bgs)	(9-10' bgs)	(1-2' bgs)	(2-3' bgs)	(9-11' bgs)	(1-2' bgs)	(13-14' bgs)	(6-8' bgs)	(3-3.5' bgs)	(5-7' bgs)	(11-12' bgs)	(4.5-6' bgs)	(10.5-12' bgs)	(14-15' bgs)	(1-3.5' bgs)	(7-10' bgs)
Total Petroleum Hydrocarbons (mg/kg)																				
TPH-D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH-G	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH-HO	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (mg/kg)																				
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m&p-Xylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																				
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP44			DP45			DP46			DP47			DP48			DP49			DP52	
	(2-3' bgs)	(6-7' bgs)	(9-10' bgs)	(1-2' bgs)	(6-7' bgs)	(9-10' bgs)	(1-2' bgs)	(2-3' bgs)	(9-11' bgs)	(1-2' bgs)	(13-14' bgs)	(6-8' bgs)	(3-3.5' bgs)	(5-7' bgs)	(11-12' bgs)	(4.5-6' bgs)	(10.5-12' bgs)	(14-15' bgs)	(1-3.5' bgs)	(7-10' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benz[a]anthracene	0.050 U	0.050 U	0.13	0.050 U	0.050 U	0.050 U	0.010 U	0.010 U	0.010 U	0.29	0.39	0.010 U	0.086	0.010 U	0.030	0.023	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(g,h,i)perylene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	0.050 U	0.050 U	0.11	0.050 U	0.050 U	0.050 U	0.010 U	0.010 U	0.010 U	0.27	0.33	0.010 U	0.060	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo[b]fluoranthene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.010 U	0.010 U	0.010 U	0.31	0.47	0.010 U	0.13	0.010 U	0.010 U	0.010	0.010 U	0.010 U	0.010 U	0.010 U
Benzo[k]fluoranthene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.010 U	0.010 U	0.010 U	0.088	0.085	0.010 U	0.020	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.010 U	0.010 U	0.010 U	0.25	0.27	0.010 U	0.085	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cumene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.010 U	0.010 U	0.010 U	0.032	0.051	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP44			DP45			DP46			DP47			DP48			DP49			DP52	
	(2-3' bgs)	(6-7' bgs)	(9-10' bgs)	(1-2' bgs)	(6-7' bgs)	(9-10' bgs)	(1-2' bgs)	(2-3' bgs)	(9-11' bgs)	(1-2' bgs)	(13-14' bgs)	(6-8' bgs)	(3-3.5' bgs)	(5-7' bgs)	(11-12' bgs)	(4.5-6' bgs)	(10.5-12' bgs)	(14-15' bgs)	(1-3.5' bgs)	(7-10' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
Fluoranthene	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U	0.12	0.17	0.010 U	0.034	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Isophorone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	0.050 U	0.050 U	0.27	0.050 U	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	0.20 U	0.20 U	0.19	0.20 U	0.20 U	0.20 U	0.015 U	0.015 U	0.015 U	0.36	0.45	0.015 U	0.088	0.015 U	0.010	0.0099	0.015 U	0.015 U	0.015 U	0.015 U
Total Naphthalenes	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans (ng/kg)																				
1,2,3,4,6,7,8-HpCDD	7.6	2.3	0.63	75	31	170	--	--	--	--	--	--	15	0.21 J	0.93 J	--	--	--	4.3	6.2
1,2,3,4,6,7,8-HpCDF	1.1	0.40	0.61	17	1.5	26	--	--	--	--	--	--	2.0 J	0.058 J	0.12 J	--	--	--	1.3 J	1.9 J
1,2,3,4,7,8,9-HpCDF	0.14 U	0.078 U	0.15 U	1.7	0.13 U	1.8	--	--	--	--	--	--	0.15 I	0.067 U	0.067 U	--	--	--	0.12 U	0.11 J
1,2,3,4,7,8-HxCDD	0.41	0.086 U	0.19 U	1.8	0.20 U	0.58	--	--	--	--	--	--	0.23 J	0.08 U	0.14 U	--	--	--	0.11 U	0.17 J
1,2,3,4,7,8-HxCDF	0.24	0.065 U	0.21	0.12 U	0.075 U	0.35 U	--	--	--	--	--	--	0.38 J	0.050 U	0.062 U	--	--	--	0.12 J	0.26 J
1,2,3,6,7,8-HxCDD	0.70	0.077 U	0.20 U	4.9	0.52	4.1	--	--	--	--	--	--	0.62 BJ	0.11 U	0.13 U	--	--	--	0.22 I	0.32 BJ
1,2,3,6,7,8-HxCDF	0.29	0.062 U	0.11	1.6	0.090 U	0.75	--	--	--	--	--	--	0.27 I	0.044 U	0.060 U	--	--	--	0.085 I	0.15 I
1,2,3,7,8,9-HxCDD	0.69	0.08 U	0.18 U	3.2	0.18	1.3	--	--	--	--	--	--	0.37 BJ	0.092 U	0.085 U	--	--	--	0.20 I	0.22 I
1,2,3,7,8,9-HxCDF	0.078	0.058 U	0.058 U	0.65	0.091 U	0.38	--	--	--	--	--	--	0.11 U	0.056 U	0.072 U	--	--	--	0.076 U	0.13 U
1,2,3,7,8-PeCDD	0.54	0.14 U	0.13 U	2.1	0.13 U	0.39	--	--	--	--	--	--	0.26 J	0.074 U	0.093 U	--	--	--	0.096 U	0.13 U
1,2,3,7,8-PeCDF	0.079 U	0.085 U	0.16	1.5	0.093 U	0.45	--	--	--	--	--	--	0.55 P	0.073 U	0.098 U	--	--	--	0.095 U	0.11 U
2,3,4,6,7,8-HxCDF	0.30	0.064 U	0.087 U	1.3	0.13 U	1.0	--	--	--	--	--	--	0.47 BJ	0.042 U	0.041 U	--	--	--	0.10 I	0.16 BJ
2,3,4,7,8-PeCDF	0.34	0.090 U	0.18	2.3	0.14 U	0.85	--	--	--	--	--	--	0.98 J	0.050 U	0.084 U	--	--	--	0.087 U	0.21 BJ
2,3,7,8-TCDD	0.22	0.19 U	0.061 U	0.52	0.14 U	0.13 U	--	--	--	--	--	--	0.17 J	0.14 U	0.16 U	--	--	--	0.15 U	0.12 U
2,3,7,8-TCDF	0.47	0.18	0.49	1.9	0.26	0.38	--	--	--	--	--	--	0.83	0.14 I	0.35 J	--	--	--	0.13 I	0.27 J
OCDD	80	29	4.1	750	350	1,600	--	--	--	--	--	--	200	1.6 J	27	--	--	--	45	85
OCDF	2.8	0.92	1.0	61	9.6	140	--	--	--	--	--	--	10.0	0.19 BJ	0.21 I	--	--	--	3.4 J	7.1
Total Dioxins/Furans [1]	1.3	0.26	0.29	6.1	0.72	4.1	--	--	--	--	--	--	1.3 JBIP	0.16 JBI	0.22 JI	--	--	--	0.30 IJ	0.46 IJB

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP44			DP45			DP46			DP47			DP48			DP49			DP52	
	(2-3' bgs)	(6-7' bgs)	(9-10' bgs)	(1-2' bgs)	(6-7' bgs)	(9-10' bgs)	(1-2' bgs)	(2-3' bgs)	(9-11' bgs)	(1-2' bgs)	(13-14' bgs)	(6-8' bgs)	(3-3.5' bgs)	(5-7' bgs)	(11-12' bgs)	(4.5-6' bgs)	(10.5-12' bgs)	(14-15' bgs)	(1-3.5' bgs)	(7-10' bgs)
Polychlorinated Biphenyls (mg/kg)																				
Aroclor 1016	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals (mg/kg)																				
Arsenic	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP52	DP53		DP54		DP55	DP55	DP56			DP57		DP58	BC_DP-07	BC_DP-08	BC_DP-09	MW01		MW02	
	(12-13.5' bgs)	(7-7.5' bgs)	(8-9' bgs)	(7-7.5' bgs)	(8-9' bgs)	(7-7.5' bgs)	(8-9' bgs)	(1-3' bgs)	(7-8' bgs)	(13-14' bgs)	(3-5' bgs)	(12-14' bgs)	(6-8' bgs)	(4-8' bgs)	(4-8' bgs)	(4-8' bgs)	(4-6' bgs)	(10-12' bgs)	(2-4' bgs)	(8-10' bgs)
Total Petroleum Hydrocarbons (mg/kg)																				
TPH-D	--	--	--	--	--	--	--	--	--	--	83	50 U	50 U	23	91	45	25 U	27 U	11 UJ	10 UJ
TPH-G	--	--	--	--	--	--	--	--	--	--	25 U	25 U	25 U	--	--	--	5.4 U	5.6 U	2.5 UJ	9.8 J
TPH-HO	--	--	--	--	--	--	--	--	--	--	2,820	100 U	519	82	606	286	7.1 J	54 U	68	28 J
Volatile Organic Compounds (mg/kg)																				
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022 U	0.022 U	0.050 U	0.035 U
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.011 U	0.011 U	0.025 U	0.017 U
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,1-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022 U	0.022 U	0.050 U	0.035 U
1,2-cis-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.011 U	0.011 U	0.025 U	0.017 U
1,2-trans-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0051 U	0.0056 U	0.0055 U	0.0054 U
Benzene	--	--	--	--	--	--	--	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.011 U	0.011 U	0.025 U	0.017 U
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.27 U	0.28 U	0.62 U	0.43 U
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022 U	0.022 U	0.050 U	0.035 U
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Ethyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.27 U	0.28 U	0.62 U	0.43 U
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
m&p-Xylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
o-Xylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.029 J	0.12 U	0.087 U
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.034 U	0.035 U	0.078 U	0.054 U
Toluene	--	--	--	--	--	--	--	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Total Xylenes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.11 U	0.11 U	0.24 U	0.17 U
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022 U	0.022 U	0.050 U	0.035 U
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022 U	0.022 U	0.050 U	0.035 U
Semi-Volatile Organic Compounds (mg/kg)																				
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0051 U	0.0056 U	0.0055 U	0.0054 U
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0051 U	0.0056 U	0.0055 U	0.0054 U
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0051 U	0.0056 U	0.0055 U	0.0054 U
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022 U	0.022 U	0.050 U	0.035 U
1-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0031 U	0.0033 U	0.0033 U	0.0033 U
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																		
	DP52	DP53		DP54		DP55	DP55	DP56			DP57		DP58	BC_DP-07	BC_DP-08	BC_DP-09	MW01		MW02	
	(12-13.5' bgs)	(7-7.5' bgs)	(8-9' bgs)	(7-7.5' bgs)	(8-9' bgs)	(7-7.5' bgs)	(8-9' bgs)	(1-3' bgs)	(7-8' bgs)	(13-14' bgs)	(3-5' bgs)	(12-14' bgs)	(6-8' bgs)	(4-8' bgs)	(4-8' bgs)	(4-8' bgs)	(4-6' bgs)	(10-12' bgs)	(2-4' bgs)	(8-10' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.015 U	0.017 U	0.016 U	0.016 U
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.11 U
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
2-Chlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	2.5	0.010 U	0.049	--	--	--	0.0020 U	0.0022 U	0.0022 U	0.0022 U
2-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.020 U	0.022 U	0.022 U	0.022 U
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.020 U	0.022 U	0.022 U	0.022 U
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.11 U
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.11 U
Acenaphthene	--	--	--	--	--	--	--	--	--	--	1.5	0.010 U	0.14	--	--	--	0.0020 U	0.0022 U	0.0022	0.0022 U
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.025 U	--	--	--	0.0020 U	0.0022 U	0.0029	0.0022 U
Anthracene	--	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.025 U	--	--	--	0.0020 U	0.0022 U	0.0067	0.0022 U
Benz[a]anthracene	0.066	--	--	--	--	--	--	--	--	--	2.0	0.010 U	0.025 U	--	--	--	0.0039	0.0039	0.021	0.0029
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.077	--	--	--	0.0044	0.0028 U	0.020	0.0062
Benzo[a]pyrene	0.025	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.11	--	--	--	0.0031 U	0.0061	0.025	0.0063
Benzo[b]fluoranthene	0.043	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.17	--	--	--	0.0085	0.0053	0.036	0.0087
Benzo[k]fluoranthene	0.018	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.045	--	--	--	0.0060	0.0028 U	0.012	0.0027 U
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0083	0.0067	0.047	0.011
Benzoic Acid	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.26 U	0.28 U	0.27 U	0.27 U
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0020 U	0.0022 U	0.0022 U	0.0022 U
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.015 U	0.017 U	0.016 U	0.016 U
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.15 U	0.17 U	0.16 U	0.16 U
Bromobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.023	0.011 U
Carbazole	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.015 U	0.017 U	0.016 U	0.016 U
Chrysene	0.025	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.14	--	--	--	0.0049	0.0045	0.029	0.0052
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Cumene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Dibenz[a,h]anthracene	0.010 U	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.025 U	--	--	--	0.0041 U	0.0045 U	0.0044 U	0.0043 U
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
Dibromomethane (Methylene Bromide)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.020 U	0.022 U	0.022 U	0.022 U
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.020 U	0.022 U	0.022 U	0.022 U

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	DP52	DP53		DP54		DP55	DP55	DP56			DP57		DP58	BC_DP-07	BC_DP-08	BC_DP-09	MW01		MW02	
	(12-13.5' bgs)	(7-7.5' bgs)	(8-9' bgs)	(7-7.5' bgs)	(8-9' bgs)	(7-7.5' bgs)	(8-9' bgs)	(1-3' bgs)	(7-8' bgs)	(13-14' bgs)	(3-5' bgs)	(12-14' bgs)	(6-8' bgs)	(4-8' bgs)	(4-8' bgs)	(4-8' bgs)	(4-6' bgs)	(10-12' bgs)	(2-4' bgs)	(8-10' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
Fluoranthene	--	--	--	--	--	--	--	--	--	--	2.5	0.010 U	0.20	--	--	--	0.0076	0.0079	0.037	0.0050
Fluorene	--	--	--	--	--	--	--	--	--	--	1.2	0.010 U	0.11	--	--	--	0.0020 U	0.0022 U	0.0022 U	0.0022 U
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0051 U	0.0056 U	0.0055 U	0.0054 U
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0051 U	0.0056 U	0.0055 U	0.0054 U
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
Hexachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
Indeno[1,2,3-cd]pyrene	0.016	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.049	--	--	--	0.0048	0.0045 U	0.021	0.0073
Isophorone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
Naphthalene	--	--	--	--	--	--	--	--	--	--	0.20 U	0.010 U	0.16	--	--	--	0.0020 U	0.0022 U	0.061 J	0.0022 U
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0051 U	0.0056 U	0.0055 U	0.0054 U
o-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
o-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
p-Chloroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
p-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.013	0.011 U
Phenanthrene	--	--	--	--	--	--	--	--	--	--	2.2	0.010 U	0.24	--	--	--	0.0046	0.0048	0.021	0.0025
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.010 U	0.011 U	0.011 U	0.011 U
Propyl benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Pyrene	--	--	--	--	--	--	--	--	--	--	4.5	0.010 U	0.20	--	--	--	0.0095	0.0093	0.041	0.0061
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054 U	0.056 U	0.12 U	0.087 U
Total cPAHs [1]	0.040	--	--	--	--	--	--	--	--	--	0.34	0.015 U	0.14	--	--	--	0.0041	0.0077	0.035	0.0086
Total Naphthalenes	--	--	--	--	--	--	--	--	--	--	2.6	0.020 U	0.20	--	--	--	0.0071 U	0.0077 U	0.064 J	0.0077 U
Total Dioxins/Furans (ng/kg)																				
1,2,3,4,6,7,8-HpCDD	7,600 D	0.54 J	2.1 J	8.3	1.8 J	3.5 J	0.46 I	100	6.8	9.0	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	2,900 D	0.43 J	0.55 J	34	0.35 J	5.4	0.25 J	27	2.0 J	21	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	200 D	0.067 U	0.12 U	0.43 J	0.087 U	0.30 U	0.089 U	2.1 J	0.20 J	0.35 J	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	55 D	0.069 I	0.078 I	0.27 I	0.078 U	0.11 U	0.072 U	2.5 J	0.14 I	0.45 J	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	280 D	0.092 U	0.10 J	0.70 J	0.072 U	0.27 J	0.046 U	4.1	0.13 I	0.87 J	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	290 D	0.088 BJ	0.070 I	0.88 J	0.10 BJ	0.12 I	0.091 U	5.4	0.34 I	1.2 J	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	130 D	0.14 J	0.059 U	0.81 J	0.058 U	0.26 J	0.042 U	3.0 J	0.15 J	0.88 J	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	160 D	0.13 BJ	0.068 U	0.59 BJ	0.16 BJ	0.17 BJ	0.093 U	3.7	0.26 BJ	0.76 I	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	74 D	0.13 I	0.077 U	0.18 U	0.079 U	0.083 J	0.064 U	0.94 J	0.11 U	0.23 J	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	57 D	0.092 U	0.08 U	0.74 J	0.067 U	0.15 U	0.068 U	4.2	0.13 U	0.54 I	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	66 P	0.16 U	0.084 U	0.54 P	0.088 U	0.11 U	0.062 U	1.4 J	0.15 BJ	0.42 P	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	130 D	0.20 I	0.055 U	1.2 J	0.050 U	0.54 BJ	0.041 U	3.6 J	0.19 BJ	1.2 J	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	80 D	0.37 I	0.082 U	1.9 J	0.071 U	0.85 J	0.058 U	4.5	0.20 I	1.9 J	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	9.0 D	0.10 U	0.090 U	0.34 J	0.10 U	0.20 U	0.11 U	0.81	0.14 U	0.30 J	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	10 D	0.20 J	0.19 J	1.0	0.10 U	0.37 J	0.19 J	3.3	0.19 I	1.1	--	--	--	--	--	--	--	--	--	--
OCDD	67,000 ED	3.9 J	25	77	20	32	5.7 J	1,100	46	74	--	--	--	--	--	--	--	--	--	--
OCDF	10,000 D	1.3 BJ	2.3 J	28	0.67 BJ	21	0.72 BJ	100	6.7 J	19	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans [1]	335 DEP	0.32 BJI	0.19 JI	2.7 JBIP	0.17 BJ	0.72 BJI	0.15 JIB	11 J	0.45 BJI	2.4 JIP	--	--	--	--	--	--	--	--	--	--

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Constituent	Site ID (Depth)																		
	DP52	DP53		DP54		DP55	DP55	DP56			DP57		DP58	BC_DP-07	BC_DP-08	BC_DP-09	MW01		MW02	
	(12-13.5' bgs)	(7-7.5' bgs)	(8-9' bgs)	(7-7.5' bgs)	(8-9' bgs)	(7-7.5' bgs)	(8-9' bgs)	(1-3' bgs)	(7-8' bgs)	(13-14' bgs)	(3-5' bgs)	(12-14' bgs)	(6-8' bgs)	(4-8' bgs)	(4-8' bgs)	(4-8' bgs)	(4-6' bgs)	(10-12' bgs)	(2-4' bgs)	(8-10' bgs)
Polychlorinated Biphenyls (mg/kg)																				
Aroclor 1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.10 U
Aroclor 1221	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.10 U
Aroclor 1232	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.10 U
Aroclor 1242	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.10 U
Aroclor 1248	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.10 U
Aroclor 1254	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.10 U
Aroclor 1260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.11 U	0.11 U	0.10 U
Metals (mg/kg)																				
Arsenic	--	--	--	--	--	--	--	--	--	--	--	--	--	7.1	3.9	3.8	1.9	2.0	3.1	3.6
Barium	--	--	--	--	--	--	--	--	--	--	--	--	--	66	62	68	59 J	39 J	42 J	97 J
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	--	0.62 U	0.51 U	0.70 U	0.24 U	0.22 U	0.27 U	0.25 U
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	--	--	--	--	--	--	--	--	--	--	--	--	--	35	28	34	18	18	16	16
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2	4.9	12	2.7	4.2	8.8	7.0
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	--	0.11 U	0.13 U	0.14 U	0.016	0.016 U	0.028	0.021 U
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--	0.62 U	0.51 U	0.70 U	1.8 J	1.5 J	0.68 UJ	2.1 J
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--	0.62 U	0.51 U	0.70 U	0.48 U	0.44 U	0.55 U	0.51 U

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	MW03		MW04		MW05	MW06		MW08			MW09		MW10		MW11		MW12		MW13	
	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(14-16' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(4-6' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(4-6' bgs)	(10-12' bgs)	(6-8' bgs)	(10-12' bgs)
Total Petroleum Hydrocarbons (mg/kg)																				
TPH-D	27 U	27 U	110 J	29 U	38	28 U	1,400	32	48	58 U	27 U	27 U	52	77	30 J	33 UJ	24 UJ	27 UJ	170 J	95 J
TPH-G	4.6 U	1.3 UJ	3.0 UJ	0.73 UJ	31	7.2 U	34	--	--	--	6.5 U	7.2 U	11 U	15 U	10 U	9.6 U	9.0 U	8.7 U	14	24
TPH-HO	22 J	55 U	730	15 J	170	55 U	2,200	71	57 U	120 U	54 U	53 U	550	740	53 UJ	67 UJ	48 UJ	54 UJ	580 J	180 J
Volatile Organic Compounds (mg/kg)																				
1,1,1-Trichloroethane	0.019 U	0.026 U	0.024 U	0.022 U	0.034 U	0.029 U	0.061 U	--	--	--	0.026 U	0.029 U	0.046 U	0.061 U	0.041 U	0.038 U	0.036 U	0.035 U	0.036 U	0.038 U
1,1,2,2-Tetrachloroethane	0.0093 U	0.013 U	0.012 U	0.011 U	0.017 U	0.014 U	0.03 U	--	--	--	0.013 U	0.014 U	0.023 U	0.031 U	0.020 U	0.019 U	0.018 U	0.017 U	0.018 U	0.019 U
1,1,2-Trichloroethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,1-Dichloroethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,1-Dichloroethylene	0.019 U	0.026 U	0.024 U	0.022 U	0.034 U	0.029 U	0.061 U	--	--	--	0.026 U	0.029 U	0.046 U	0.061 U	0.041 U	0.038 U	0.036 U	0.035 U	0.036 U	0.038 U
1,2-cis-Dichloroethylene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,2-Dichloroethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,2-Dichloropropane	0.0093 U	0.013 U	0.012 U	0.011 U	0.017 U	0.014 U	0.03 U	--	--	--	0.013 U	0.014 U	0.023 U	0.031 U	0.020 U	0.019 U	0.018 U	0.017 U	0.018 U	0.019 U
1,2-trans-Dichloroethylene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,4-Dichlorobenzene	0.0052 U	0.0058 U	0.0060 U	0.0062 U	0.0070 U	0.0056 U	0.0082 U	--	--	--	0.052 U	0.055 U	0.079 U	0.093 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Benzene	0.0093 U	0.013 U	0.012 U	0.011 U	0.017 U	0.014 U	0.011 J	--	--	--	0.013 U	0.014 U	0.023 U	0.031 U	0.020 U	0.019 U	0.018 U	0.017 U	0.018 U	0.019 U
Bromodichloromethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 UJ	0.096 UJ	0.090 UJ	0.087 UJ	0.09 UJ	0.096 UJ
Bromoform	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 UJ	0.096 UJ	0.090 UJ	0.087 UJ	0.09 UJ	0.096 UJ
Bromomethane	0.23 U	0.32 U	0.30 U	0.28 U	0.43 U	0.055 UJ	0.11 UJ	--	--	--	0.33 U	0.36 U	0.085 UJ	0.76 U	0.51 U	0.48 U	0.45 U	0.43 U	0.45 U	0.48 U
Carbon Tetrachloride	0.019 U	0.026 U	0.024 U	0.022 U	0.034 U	0.029 U	0.061 U	--	--	--	0.026 U	0.029 U	0.046 U	0.061 U	0.041 UJ	0.038 UJ	0.036 UJ	0.035 UJ	0.036 UJ	0.038 UJ
Chlorobenzene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Chloroform	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Chloromethane	0.046 U	0.065 U	0.061 U	0.056 U	0.021 J	0.017 J	0.033 J	--	--	--	0.015 UJ	0.020 UJ	0.023 J	0.030 J	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Dibromochloromethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 UJ	0.096 UJ	0.090 UJ	0.087 UJ	0.09 UJ	0.096 UJ
Ethyl Chloride	0.23 U	0.32 U	0.30 U	0.28 U	0.43 U	0.36 U	0.76 U	--	--	--	0.33 U	0.36 U	0.57 U	0.76 U	0.51 UJ	0.48 UJ	0.45 UJ	0.43 UJ	0.45 UJ	0.48 UJ
Ethylbenzene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
m&p-Xylene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Methylene Chloride	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.030 UJ	0.02 UJ	0.039 UJ	0.016 UJ	0.09 U	0.018 UJ
o-Xylene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
p-Isopropyltoluene	0.046 U	0.065 U	0.031 J	0.037 J	0.022 J	0.072 U	0.037 J	--	--	--	0.065 U	0.072 U	0.11 U	0.047 J	0.10 U	0.096 U	0.090 U	0.087 U	0.094	0.024 J
Styrene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Tetrachloroethylene	0.029 U	0.041 U	0.038 U	0.035 U	0.053 U	0.045 U	0.095 U	--	--	--	0.041 U	0.045 U	0.071 U	0.095 U	0.063 UJ	0.060 UJ	0.056 UJ	0.054 UJ	0.056 UJ	0.06 UJ
Toluene	0.046 U	0.065 U	0.043 J	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Total Xylenes	0.092 U	0.13 U	0.122 U	0.11 U	0.17 U	0.14 U	0.30 U	--	--	--	0.13 U	0.14 U	0.22 U	0.30 U	0.20 U	0.19 U	0.18 U	0.17 U	0.18 U	0.19 U
Trichloroethylene	0.019 U	0.026 U	0.024 U	0.022 U	0.034 U	0.029 U	0.061 U	--	--	--	0.026 U	0.029 U	0.046 U	0.061 U	0.041 U	0.038 U	0.036 U	0.035 U	0.036 U	0.038 U
Vinyl Chloride	0.019 U	0.026 U	0.024 U	0.022 U	0.034 U	0.029 U	0.061 U	--	--	--	0.026 U	0.029 U	0.046 U	0.061 U	0.041 U	0.038 U	0.036 U	0.035 U	0.036 U	0.038 U
Semi-Volatile Organic Compounds (mg/kg)																				
1,1,1,2-Tetrachloroethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 UJ	0.096 UJ	0.090 UJ	0.087 UJ	0.09 UJ	0.096 UJ
1,1-Dichloropropene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,2,3-Trichlorobenzene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,2,3-Trichloropropane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,2,4-Trichlorobenzene	0.0052 U	0.0058 U	0.0060 U	0.0062 U	0.0070 U	0.0056 U	0.0082 U	--	--	--	0.052 U	0.055 U	0.079 U	0.093 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,2,4-Trimethylbenzene	0.046 U	0.065 U	0.028 J	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.029 J	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,2-Dibromo-3-chloropropane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 UJ	0.096 UJ	0.090 UJ	0.087 UJ	0.09 UJ	0.096 UJ
1,2-Dibromoethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 UJ	0.096 UJ	0.090 UJ	0.087 UJ	0.09 UJ	0.096 UJ
1,2-Dichlorobenzene	0.0052 U	0.0058 U	0.0060 U	0.0062 U	0.0070 U	0.0056 U	0.0082 U	--	--	--	0.052 U	0.055 U	0.079 U	0.093 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,3,5-Trimethylbenzene	0.046 U	0.065 U	0.027 J	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,3-Dichlorobenzene	0.0052 U	0.0058 U	0.0060 U	0.0062 U	0.0070 U	0.0056 U	0.0082 U	--	--	--	0.052 U	0.055 U	0.079 U	0.093 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
1,3-Dichloropropane	0.019 U	0.026 U	0.024 U	0.022 U	0.034 U	0.029 U	0.061 U	--	--	--	0.026 U	0.029 U	0.046 U	0.061 U	0.041 U	0.038 U	0.036 U	0.035 U	0.036 U	0.038 U
1-Methylnaphthalene	0.0031 U	0.0035 U	0.0047	0.0037 U	0.0042 U	0.0034 U	0.0049 U	--	--	--	0.031 U	0.033 U	0.047 U	0.056 U	0.035 U	0.041 U	0.030 U	0.034 U	0.035 U	0.040 U
2,2-Dichloropropane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	MW03		MW04		MW05	MW06		MW08			MW09		MW10		MW11		MW12		MW13	
	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(14-16' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(4-6' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(4-6' bgs)	(10-12' bgs)	(6-8' bgs)	(10-12' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
2,4,5-Trichlorophenol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
2,4,6-Trichlorophenol	0.015 U	0.017 U	0.018 U	0.019 U	0.021 U	0.017 U	0.024 U	--	--	--	0.16 U	0.17 U	0.24 U	0.28 U	0.17 U	0.20 U	0.15 U	0.17 U	0.17 U	0.20 U
2,4-Dichlorophenol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
2,4-Dimethylphenol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
2,4-Dinitrophenol	0.10 U	0.12 U	0.12 U	0.12 U	0.14 U	0.11 U	0.16 U	--	--	--	1.0 U	1.1 U	1.6 U	1.9 U	1.2 U	1.4 U	1.0 U	1.1 U	1.2 U	1.3 U
2,4-Dinitrotoluene	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
2,6-Dinitrotoluene	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
2-Chlorophenol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
2-Methylnaphthalene	0.0021 U	0.0023 U	0.0080	0.0025 U	0.0028 U	0.0022 U	0.0043	--	--	--	0.021 U	0.022 U	0.032 U	0.037 U	0.023 U	0.027 U	0.020 U	0.023 U	0.029	0.029
2-Nitroaniline	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
2-Nitrophenol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
3- & 4-Methylphenol Coelution	0.021 U	0.023 U	0.024 U	0.046	0.028 U	0.022 U	0.041	--	--	--	0.21 U	0.22 U	0.32 U	0.37 U	--	--	--	--	--	--
3,3'-Dichlorobenzidine	0.021 U	0.023 U	0.024 U	0.025 U	0.028 U	0.022 U	0.033 U	--	--	--	0.21 U	0.22 U	0.32 U	0.37 U	0.23 U	0.27 U	0.20 U	0.23 U	0.23 U	0.27 U
3-Nitroaniline	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
4,6-Dinitro-o-cresol	0.10 U	0.12 U	0.12 U	0.12 U	0.14 U	0.11 U	0.16 U	--	--	--	1.0 U	1.1 U	1.6 U	1.9 U	1.2 U	1.4 U	1.0 U	1.1 U	1.2 U	1.3 U
4-Bromophenylphenylether	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
4-Chlorophenylphenylether	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
4-Nitroaniline	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
4-Nitrophenol	0.10 U	0.12 U	0.12 U	0.12 U	0.14 U	0.11 U	0.16 U	--	--	--	1.0 U	1.1 U	1.6 U	1.9 U	1.2 U	1.4 U	1.0 U	1.1 U	1.2 U	1.3 U
Acenaphthene	0.0021 U	0.0023 U	0.0050	0.0025 U	0.0028 U	0.0022 U	0.0033 U	--	--	--	0.021 U	0.022 U	0.032 U	0.037 U	0.023 U	0.027 U	0.020 U	0.023 U	0.10	0.047
Acenaphthylene	0.0035	0.0023 U	0.018	0.0025 U	0.0028	0.0022 U	0.0033 U	--	--	--	0.021 U	0.022 U	0.032 U	0.037 U	0.023 U	0.027 U	0.020 U	0.023 U	0.023 U	0.027 U
Anthracene	0.0040	0.0023 U	0.016	0.0025 U	0.0056	0.0022 U	0.0033 U	--	--	--	0.021 U	0.022 U	0.032 U	0.037 U	0.023 U	0.027 U	0.020 U	0.023 U	0.040	0.034
Benz[a]anthracene	0.012	0.0029 U	0.053	0.0031 U	0.10	0.0028 U	0.0041 U	0.048	0.030	0.060 U	0.026 U	0.028 U	0.039 U	0.065	0.029 U	0.034 U	0.025 U	0.028 U	0.029 U	0.088
Benzo(g,h,i)perylene	0.0062	0.0029 U	0.056	0.0031 U	0.082	0.0028 U	0.0041 U	--	--	--	0.026 U	0.028 U	0.090	0.067	0.029 U	0.034 U	0.025 U	0.028 U	0.029 U	0.033 U
Benzo[a]pyrene	0.014	0.0035 U	0.082	0.0037 U	0.097	0.0034 U	0.0049 U	0.036 U	0.034 U	0.072 U	0.031 U	0.033 U	0.087	0.077	0.035 U	0.041 U	0.030 U	0.034 U	0.035 U	0.060
Benzo[b]fluoranthene	0.014	0.0023 U	0.098	0.0025 U	0.11	0.0022 U	0.0033 U	0.024 U	0.035	0.048 U	0.021 U	0.022 U	0.054	0.047	0.023 U	0.027 U	0.020 U	0.023 U	0.023 U	0.082
Benzo[k]fluoranthene	0.0045	0.0029 U	0.037	0.0031 U	0.091	0.0028 U	0.0041 U	0.03 U	0.028 U	0.060 U	0.026 U	0.028 U	0.055	0.047 U	0.029 U	0.034 U	0.025 U	0.028 U	0.029 U	0.033 U
Benzofluoranthene	0.018	0.0046 U	0.17	0.0049 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	0.26 U	0.29 U	0.30 U	0.31 U	0.35 U	0.28 U	0.41 U	--	--	--	2.6 U	2.8 U	3.9 U	4.7 U	2.9 U	3.4 U	2.5 U	2.8 U	2.9 U	3.3 U
Benzyl Alcohol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
beta-Chloronaphthalene	0.0021 U	0.0023 U	0.0024 U	0.0025 U	0.0028 U	0.0022 U	0.0033 U	--	--	--	0.021 U	0.022 U	0.032 U	0.037 U	0.023 U	0.027 U	0.020 U	0.023 U	0.023 U	0.027 U
Bis(2-chloroethoxy)methane	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Bis(2-chloroethyl)ether	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Bis(2-chloroisopropyl)ether	0.015 U	0.017 U	0.018 U	0.019 U	0.021 U	0.017 U	0.024 U	--	--	--	0.16 U	0.17 U	0.24 U	0.28 U	0.17 U	0.20 U	0.15 U	0.17 U	0.17 U	0.2 U
Bis(2-ethylhexyl)phthalate	0.15 U	0.17 U	530	0.19 U	0.21 U	0.17 U	0.24 U	--	--	--	1.6 U	1.7 U	2.4 U	2.8 U	1.7 U	2.0 U	1.5 U	1.7 U	1.7 U	2 U
Bromobenzene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Bromochloromethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Butyl Benzyl Phthlate	0.010 U	0.012 U	0.065	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Carbazole	0.015 U	0.017 U	0.018 U	0.019 U	0.021 U	0.017 U	0.024 U	--	--	--	0.16 U	0.17 U	0.24 U	0.28 U	0.17 U	0.20 U	0.15 U	0.17 U	0.17 U	0.20 U
Chrysene	0.011	0.0029 U	0.057	0.0031 U	0.098	0.0028 U	0.0041 U	0.099	0.032	0.060 U	0.026 U	0.028 U	0.045	0.079	0.029 U	0.034 U	0.025 U	0.028 U	0.029 U	0.10
cis-1,3-Dichloropropene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 UJ	0.096 UJ	0.090 UJ	0.087 UJ	0.09 UJ	0.096 UJ
Cumene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Dibenz[a,h]anthracene	0.0041 U	0.0046 U	0.0048 U	0.0049 U	0.031	0.0045 U	0.0065 U	0.048 U	0.045 U	0.096 U	0.041 U	0.044 U	0.063 U	0.075 U	0.047 U	0.054 U	0.041 U	0.045 U	0.047 U	0.053 U
Dibenzofuran	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Dibromomethane (Methylene Bromide)	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Dibutyl-n-butyl Phthalate	0.021 U	0.023 U	0.34	0.025 U	0.028 U	0.022 U	0.033 U	--	--	--	0.21 U	0.22 U	0.32 U	0.37 U	0.23 U	0.27 U	0.20 U	0.23 U	0.23 U	0.27 U
Dichlorodifluoromethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Diethyl Phthalate	0.010 U	0.012 U	0.016	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Dimethyl Phthalate	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Di-n-octyl Phthalate	0.021 U	0.023 U	0.024 U	0.025 U	0.028 U	0.022 U	0.033 U	--	--	--	0.21 U	0.22 U	0.32 U	0.37 U	0.23 U	0.27 U	0.20 U	0.23 U	0.23 U	0.27 U

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	MW03		MW04		MW05	MW06		MW08			MW09		MW10		MW11		MW12		MW13	
	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(14-16' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(4-6' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(4-6' bgs)	(10-12' bgs)	(6-8' bgs)	(10-12' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
Fluoranthene	0.024	0.0023 U	0.13	0.0025 U	0.12	0.0022 U	0.0033 U	--	--	--	0.021 U	0.022 U	0.051	0.099	0.023 U	0.027 U	0.020 U	0.023 U	0.11	0.16
Fluorene	0.0021 U	0.0023 U	0.010	0.0025 U	0.0028 U	0.0022 U	0.018	--	--	--	0.021 U	0.022 U	0.032 U	0.037 U	0.023 U	0.027 U	0.020 U	0.023 U	0.061	0.027 U
Hexachlorobenzene	0.0052 U	0.0058 U	0.0060 U	0.0062 U	0.0070 U	0.0056 U	0.0082 U	--	--	--	0.052 U	0.055 U	0.079 U	0.093 U	0.058 U	0.068 U	0.051 U	0.056 U	0.058 U	0.066 U
Hexachlorobutadiene	0.0052 U	0.0058 U	0.0060 U	0.0062 U	0.0070 U	0.0056 U	0.0082 U	--	--	--	0.052 U	0.055 U	0.079 U	0.093 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Hexachlorocyclopentadiene	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Hexachloroethane	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Indeno[1,2,3-cd]pyrene	0.0081	0.0046 U	0.066	0.0049 U	0.11	0.0045 U	0.0065 U	0.048 U	0.045 U	0.096 U	0.041 U	0.044 U	0.080	0.081	0.047 U	0.054 U	0.041 U	0.045 U	0.047 U	0.053 U
Isophorone	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Naphthalene	0.0021 U	0.0023 U	0.039	0.0025 U	0.0028 U	0.0022 U	0.011	--	--	--	0.021 U	0.022 U	0.032 U	0.037 U	0.10 U	0.096 U	0.0069 J	0.087 U	0.085 J	0.36
n-Butylbenzene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Nitrobenzene	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
N-Nitroso-di-N-propylamine	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
N-Nitrosodiphenylamine	0.0052 U	0.0058 U	0.0060 U	0.0062 U	0.0070 U	0.0056 U	0.0082 U	--	--	--	0.052 U	0.055 U	0.079 U	0.093 U	0.058 U	0.068 U	0.051 U	0.056 U	0.058 U	0.066 U
o-Chlorotoluene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
o-Cresol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
p-Chloroaniline	0.010 U	0.012 U	0.018	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
p-chloro-m-Cresol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
p-Chlorotoluene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23 U	0.27 U	0.20 U	0.23 U	0.23 U	0.27 U
Pentachlorophenol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.17	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Phenanthrene	0.017	0.0023 U	0.098	0.0025 U	0.038	0.0022 U	0.0033 U	--	--	--	0.021 U	0.022 U	0.032 U	0.094	0.023 U	0.027 U	0.020 U	0.023 U	0.28	0.066
Phenol	0.010 U	0.012 U	0.012 U	0.012 U	0.014 U	0.011 U	0.016 U	--	--	--	0.10 U	0.11 U	0.16 U	0.19 U	0.12 U	0.14 U	0.10 U	0.11 U	0.12 U	0.13 U
Propyl benzene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Pyrene	0.028	0.0023 U	0.14	0.0025 U	0.11	0.0022 U	0.0033 U	--	--	--	0.021 U	0.022 U	0.049	0.13	0.023 U	0.027 U	0.020 U	0.023 U	0.095	0.16
sec-Butylbenzene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
tert-Butylbenzene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
trans-1,3-Dichloropropene	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 UJ	0.096 UJ	0.090 UJ	0.087 UJ	0.09 UJ	0.096 UJ
Trichlorofluoromethane	0.046 U	0.065 U	0.061 U	0.056 U	0.085 U	0.072 U	0.15 U	--	--	--	0.065 U	0.072 U	0.11 U	0.15 U	0.10 U	0.096 U	0.090 U	0.087 U	0.09 U	0.096 U
Total cPAHs [1]	0.018	0.0053 U	0.11	0.0056 U	0.14	0.0051 U	0.0074 U	0.031	0.030	0.11 U	0.047 U	0.050 U	0.11	0.10	0.053 U	0.062 U	0.045 U	0.051 U	0.053 U	0.085
Total Naphthalenes	0.0073 U	0.0081 U	0.052	0.00879 U	0.0098 U	0.0078 U	0.018	--	--	--	0.073 U	0.077 U	0.11 U	0.13 U	0.16 U	0.16 U	0.032 J	0.14 U	0.13 J	0.41
Total Dioxins/Furans (ng/kg)																				
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	MW03		MW04		MW05	MW06		MW08			MW09		MW10		MW11		MW12		MW13	
	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(14-16' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(4-6' bgs)	(2-4' bgs)	(10-12' bgs)	(2-4' bgs)	(10-12' bgs)	(4-6' bgs)	(10-12' bgs)	(6-8' bgs)	(10-12' bgs)
Polychlorinated Biphenyls (mg/kg)																				
Aroclor 1016	0.098 U	0.11 U	0.12 U	0.12 U	0.13 U	0.11 U	0.16 U	0.12 U	0.12 U	0.23 U	0.11 U	0.11 U	0.15 U	0.19 U	0.12 U	0.14 U	0.099 U	0.11 U	0.11 U	0.14 U
Aroclor 1221	0.098 U	0.11 U	0.12 U	0.12 U	0.13 U	0.11 U	0.16 U	0.12 U	0.12 U	0.23 U	0.11 U	0.11 U	0.15 U	0.19 U	0.12 U	0.14 U	0.099 U	0.11 U	0.11 U	0.14 U
Aroclor 1232	0.098 U	0.11 U	0.12 U	0.12 U	0.13 U	0.11 U	0.16 U	0.12 U	0.12 U	0.23 U	0.11 U	0.11 U	0.15 U	0.19 U	0.12 U	0.14 U	0.099 U	0.11 U	0.11 U	0.14 U
Aroclor 1242	0.098 U	0.11 U	0.12 U	0.12 U	0.13 U	0.11 U	0.16 U	0.12 U	0.12 U	0.23 U	0.11 U	0.11 U	0.15 U	0.19 U	0.12 U	0.14 U	0.099 U	0.11 U	0.11 U	0.14 U
Aroclor 1248	0.098 U	0.11 U	0.12 U	0.12 U	0.13 U	0.11 U	0.16 U	0.12 U	0.12 U	0.23 U	0.11 U	0.11 U	0.15 U	0.19 U	0.12 U	0.14 U	0.099 U	0.11 U	0.11 U	0.14 U
Aroclor 1254	0.098 U	0.11 U	0.12 U	0.12 U	0.13 U	0.11 U	0.16 U	0.12 U	0.12 U	0.23 U	0.11 U	0.11 U	0.15 U	0.19 U	0.12 U	0.14 U	0.099 U	0.11 U	0.11 U	0.14 U
Aroclor 1260	0.098 U	0.11 U	0.058 J	0.12 U	0.13 U	0.11 U	0.16 U	0.12 U	0.12 U	0.23 U	0.11 U	0.11 U	0.15 U	0.19 U	0.12 UJ	0.14 UJ	0.099 UJ	0.11 UJ	0.11 UJ	0.14 UJ
Metals (mg/kg)																				
Arsenic	1.8	1.8	3.4	2.4	9.9	3.7	2.5	5.4	5.3	9.5	3.2	2.0	--	--	3.5 U	3.9 U	3.0 U	3.3 U	3.3 U	4.4
Barium	58 J	49 J	57 J	9.6 J	320	47	9.4	25	30	15	69	44	--	--	22	81	39	28	33	42
Cadmium	0.25 U	0.27 U	0.12 J	0.28 U	3.7	0.26 U	0.37 U	0.24 U	0.25 U	0.58 U	0.27 U	0.24 U	--	--	0.59 U	0.65 U	0.51 U	0.55 U	0.55 U	0.67
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	17	19	18	15	22	19	7.3	26	23	27	20	19	--	--	6.5	35	12	11	15	28
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	1.8	1.4	85	1.8	170	2.2	11	14	11	25	2.6	1.8	--	--	1.8 U	2.0	1.5 U	1.7 U	21	52
Mercury	0.013 U	0.018	0.032	0.018 U	0.025 U	0.023	0.043	--	--	--	--	--	--	--	0.024 U	0.028 U	0.021 U	0.023 U	0.033	0.18
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	1.4 UJ	1.7 J	1.7 J	1.6 J	3.9	2.6 U	3.7 U	2.4 U	2.5 U	5.8 U	2.7 U	2.4 U	--	--	5.9 U	6.5 U	5.1 U	5.5 U	5.5 U	7.3
Silver	0.50 U	0.55 U	0.60 U	0.56 U	0.62	0.53 U	0.74 U	0.49 U	0.5 U	1.2 U	0.54 U	0.48 U	--	--	1.2 U	1.3 U	1.0 U	1.1 U	1.1 U	1.3 U

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	MW14		MW15		MW16			MW18		MW19		MW20			MW21S		MW22S		MW23S	
	(7-9' bgs)	(8-10' bgs)	(4-6' bgs)	(10-12' bgs)	(4-6' bgs)	(14-16' bgs)	(16-18' bgs)	(8-10' bgs)	(10-12' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(6-8' bgs)	(8-10' bgs)	(0.5-1.5' bgs)	(2.5-4' bgs)	(0.5-2' bgs)	(2-4' bgs)	(5-6' bgs)	(9-10.5' bgs)
Total Petroleum Hydrocarbons (mg/kg)																				
TPH-D	290	27 U	29 U	300	28 J	--	48 J	30 UJ	30 UJ	37 UJ	78 J	30 UJ	83 UJ	--	--	--	--	--	1,160	25 U
TPH-G	--	--	8.5 U	37 U	7.8 U	--	10 U	10 U	7.5 U	220	21 U	11 U	30 U	--	--	5.0 U	--	--	5.0 U	5.0 U
TPH-HO	1,100	54 U	59 U	450	53 UJ	--	91 J	59 UJ	60 UJ	74 UJ	80 J	59 UJ	170 UJ	--	--	--	--	--	25 U	25 U
Volatile Organic Compounds (mg/kg)																				
1,1,1-Trichloroethane	--	--	0.034 U	0.15 U	0.031 U	0.081 U	0.042 U	0.041 U	0.030 U	0.05 U	0.084 U	0.042 U	0.12 U	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.017 U	0.075 U	0.016 U	0.041 U	0.021 U	0.021 U	0.015 U	0.025 U	0.042 U	0.021 U	0.060 U	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	0.034 U	0.15 U	0.031 U	0.081 U	0.042 U	0.041 U	0.030 U	0.05 U	0.084 U	0.042 U	0.12 U	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	0.017 U	0.075 U	0.016 U	0.041 U	0.021 U	0.021 U	0.015 U	0.025 U	0.042 U	0.021 U	0.060 U	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Benzene	--	--	0.017 U	0.075 U	0.016 U	0.041 U	0.021 U	0.021 U	0.015 U	0.025 U	0.042 U	0.021 U	0.060 U	--	--	0.05 U	--	--	0.050 U	0.050 U
Bromodichloromethane	--	--	0.085 UJ	0.37 UJ	0.078 UJ	0.2 UJ	0.10 UJ	0.10 UJ	0.075 UJ	0.13 UJ	0.21 UJ	0.11 UJ	0.3 UJ	--	--	--	--	--	--	--
Bromoform	--	--	0.085 UJ	0.37 UJ	0.078 UJ	0.2 UJ	0.10 UJ	0.10 UJ	0.075 UJ	0.13 UJ	0.21 UJ	0.11 UJ	0.3 UJ	--	--	--	--	--	--	--
Bromomethane	--	--	0.42 U	1.9 U	0.39 U	1.0 U	0.52 U	0.52 U	0.38 U	0.63 U	1.0 U	0.53 U	1.5 U	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	0.034 UJ	0.15 UJ	0.031 UJ	0.081 UJ	0.042 UJ	0.041 UJ	0.03 UJ	0.05 UJ	0.084 UJ	0.042 UJ	0.12 UJ	--	--	--	--	--	--	--
Chlorobenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Chloroform	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Chloromethane	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Dibromochloromethane	--	--	0.085 UJ	0.37 UJ	0.078 UJ	0.2 UJ	0.10 UJ	0.10 UJ	0.075 UJ	0.13 UJ	0.21 UJ	0.11 UJ	0.3 UJ	--	--	--	--	--	--	--
Ethyl Chloride	--	--	0.42 UJ	1.9 UJ	0.39 UJ	1.0 UJ	0.52 UJ	0.52 UJ	0.38 UJ	0.63 UJ	1.0 UJ	0.53 UJ	1.5 UJ	--	--	--	--	--	--	--
Ethylbenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	0.10 U	--	--	0.10 U	0.10 U
m&p-Xylene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	0.10 U	--	--	0.10 U	0.10 U
Methylene Chloride	--	--	0.085 U	0.37 U	0.015 UJ	0.20 U	0.018 UJ	0.046 UJ	0.026 UJ	0.022 UJ	0.049 UJ	0.043 UJ	0.30 U	--	--	--	--	--	--	--
o-Xylene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	0.10 U	--	--	0.10 U	0.10 U
p-Isopropyltoluene	--	--	0.085 U	0.37 U	0.078 U	1.4	0.011 J	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.15 J	--	--	--	--	--	--	--
Styrene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	0.053 U	0.23 U	0.049 UJ	0.13 UJ	0.065 UJ	0.065 UJ	0.047 UJ	0.078 UJ	0.13 UJ	0.066 UJ	0.19 UJ	--	--	--	--	--	--	--
Toluene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	0.10 U	--	--	0.10 U	0.10 U
Total Xylenes	--	--	0.17 U	0.74 U	0.16 U	0.40 U	0.20 U	0.20 U	0.15 U	0.26 U	0.42 U	0.22 U	0.6 U	--	--	0.20 U	--	--	0.20 U	0.20 U
Trichloroethylene	--	--	0.034 U	0.15 U	0.031 U	0.081 U	0.042 U	0.041 U	0.030 U	0.05 U	0.084 U	0.042 U	0.12 U	--	--	--	--	--	--	--
Vinyl Chloride	--	--	0.034 U	0.15 U	0.031 U	0.081 U	0.042 U	0.041 U	0.030 U	0.05 U	0.084 U	0.042 U	0.12 U	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																				
1,1,1,2-Tetrachloroethane	--	--	0.085 UJ	0.37 UJ	0.078 UJ	0.2 UJ	0.10 UJ	0.10 UJ	0.075 UJ	0.13 UJ	0.21 UJ	0.11 UJ	0.3 UJ	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.087 J	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	0.085 UJ	0.37 UJ	0.078 UJ	0.2 UJ	0.10 UJ	0.10 UJ	0.075 UJ	0.13 UJ	0.21 UJ	0.11 UJ	0.3 UJ	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	0.085 UJ	0.37 UJ	0.078 UJ	0.2 UJ	0.10 UJ	0.10 UJ	0.075 UJ	0.13 UJ	0.21 UJ	0.11 UJ	0.3 UJ	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.027 J	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	0.034 U	0.15 U	0.031 U	0.081 U	0.042 U	0.041 U	0.030 U	0.05 U	0.084 U	0.042 U	0.12 U	--	--	--	--	--	--	--
1-Methylnaphthalene	--	--	0.034 U	0.099 U	0.0033 U	--	0.0048 U	0.036 U	0.034 U	0.045 U	0.048 U	0.035 U	0.098 U	--	0.030	--	--	--	0.010 U	0.14
2,2-Dichloropropane	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	MW14		MW15		MW16			MW18		MW19		MW20			MW21S		MW22S		MW23S	
	(7-9' bgs)	(8-10' bgs)	(4-6' bgs)	(10-12' bgs)	(4-6' bgs)	(14-16' bgs)	(16-18' bgs)	(8-10' bgs)	(10-12' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(6-8' bgs)	(8-10' bgs)	(0.5-1.5' bgs)	(2.5-4' bgs)	(0.5-2' bgs)	(2-4' bgs)	(5-6' bgs)	(9-10.5' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
2,4,5-Trichlorophenol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.17 U	0.5 U	0.017 U	--	0.024 U	0.18 U	0.17 U	0.22 U	0.24 U	0.17 U	0.49 U	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	1.1 U	3.3 U	0.11 UJ	--	0.16 UJ	1.2 U	1.1 U	1.5 U	1.6 U	1.2 U	3.3 U	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
2-Chlorophenol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	0.022 U	0.066 U	0.0022 U	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	0.066 U	--	0.060	--	--	--	0.010 U	0.14
2-Nitroaniline	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
2-Nitrophenol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	0.22 U	0.66 U	0.022 U	--	0.032 U	0.24 U	0.23 U	0.30 U	0.32 U	0.23 U	0.66 U	--	--	--	--	--	--	--
3-Nitroaniline	--	--	0.11 U	0.33 U	0.011 UJ	--	0.016 UJ	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	1.1 U	3.3 U	0.11 U	--	0.16 U	1.2 U	1.1 U	1.5 U	1.6 U	1.2 U	3.3 U	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
4-Nitroaniline	--	--	0.11 U	0.33 U	0.011 UJ	--	0.016 UJ	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
4-Nitrophenol	--	--	1.1 U	3.3 U	0.11 U	--	0.16 U	1.2 U	1.1 U	1.5 U	1.6 U	1.2 U	3.3 U	--	--	--	--	--	--	--
Acenaphthene	--	--	0.022 U	0.066 U	0.0022 U	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	0.068	--	--	--	--	--	--	--
Acenaphthylene	--	--	0.022 U	0.066 U	0.0022 U	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	0.13	--	--	--	--	--	--	--
Anthracene	--	--	0.022 U	0.066 U	0.0022 U	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	0.57	--	--	--	--	--	--	--
Benz[a]anthracene	0.0055 J	0.0056 U	0.028 U	0.083 U	0.0042	--	0.004 U	0.030 U	0.028 U	0.037 U	0.040 U	0.029 U	0.57	0.020 JH	0.030	--	--	--	0.030	0.33
Benzo(g,h,i)perylene	--	--	0.028 U	0.083 U	0.0029	--	0.004 U	0.030 U	0.028 U	0.037 U	0.040 U	0.029 U	0.32	--	--	--	--	--	--	--
Benzo[a]pyrene	0.0047 J	0.0056 U	0.034 U	0.099 U	0.0041	--	0.0048 U	0.036 U	0.034 U	0.045 U	0.048 U	0.035 U	0.59	0.012 JH	0.13	--	--	--	0.13	0.46
Benzo[b]fluoranthene	0.0059 J	0.0056 U	0.022 U	0.066 U	0.0046	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	0.54	0.013 JH	0.010 U	--	--	--	0.010 U	0.34
Benzo[k]fluoranthene	0.004 J	0.0056 U	0.028 U	0.083 U	0.0028 U	--	0.004 U	0.030 U	0.028 U	0.037 U	0.040 U	0.029 U	0.090	0.0088 JH	0.010 U	--	--	--	0.010 U	0.19
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	2.8 U	8.3 U	0.28 U	--	0.40 U	3.0 U	2.8 U	3.7 U	4.0 U	2.9 U	8.2 U	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	0.022 U	0.066 U	0.0022 U	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	0.066 U	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	0.17 U	0.50 U	0.017 U	--	0.024 U	0.18 U	0.17 U	0.22 U	0.24 U	0.17 U	0.49 U	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1.7 U	5.0 U	0.17 U	--	0.24 U	18 U	170 U	2.2 U	2.4 U	1.7 U	5.4	--	--	--	--	--	--	--
Bromobenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Bromochloromethane	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Carbazole	--	--	0.17 U	0.50 U	0.017 U	--	0.024 U	0.18 U	0.17 U	0.22 U	0.24 U	0.17 U	0.49 U	--	--	--	--	--	--	--
Chrysene	0.012	0.0056 U	0.028 U	0.083 U	0.0043	--	0.004 U	0.030 U	0.028 U	0.037 U	0.040 U	0.029 U	0.64	0.013 JH	0.010 U	--	--	--	0.010 U	0.43
cis-1,3-Dichloropropene	--	--	0.085 UJ	0.37 UJ	0.078 UJ	0.2 UJ	0.10 UJ	0.10 UJ	0.075 UJ	0.13 UJ	0.21 UJ	0.11 UJ	0.3 UJ	--	--	--	--	--	--	--
Cumene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	0.0018 J	0.0056 U	0.045 U	0.13 U	0.0044 U	--	0.0064 U	0.048 U	0.045 U	0.060 U	0.064 U	0.046 U	0.13 U	0.011 JH	0.010 U	--	--	--	0.12	0.19
Dibenzofuran	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	0.22 U	0.66 U	0.022 U	--	0.032 U	0.24 U	0.23 U	0.30 U	0.32 U	0.23 U	0.66 U	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	0.22 U	0.66 U	0.022 U	--	0.032 U	0.24 U	0.23 U	0.30 U	0.32 U	0.23 U	0.66 U	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	MW14		MW15		MW16			MW18		MW19		MW20			MW21S		MW22S		MW23S	
	(7-9' bgs)	(8-10' bgs)	(4-6' bgs)	(10-12' bgs)	(4-6' bgs)	(14-16' bgs)	(16-18' bgs)	(8-10' bgs)	(10-12' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(6-8' bgs)	(8-10' bgs)	(0.5-1.5' bgs)	(2.5-4' bgs)	(0.5-2' bgs)	(2-4' bgs)	(5-6' bgs)	(9-10.5' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
Fluoranthene	--	--	0.022 U	0.069	0.0098	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	1.8	--	--	--	--	--	--	--
Fluorene	--	--	0.022 U	0.066 U	0.0022 U	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	0.15	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	0.056 U	0.17 U	0.0055 U	--	0.0080 U	0.060 U	0.057 U	0.074 U	0.08 U	0.058 U	0.16 U	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Hexachloroethane	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	0.0063 J	0.0056 U	0.045 U	0.13 U	0.0044 U	--	0.0064 U	0.048 U	0.045 U	0.060 U	0.064 U	0.046 U	0.34	0.012 JH	0.26	--	--	--	0.28	0.55
Isophorone	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Naphthalene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.21	0.21 U	0.11 U	0.044 J	--	0.050	--	--	--	0.010 U	0.010 U
n-Butylbenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	0.056 U	0.17 U	0.0055 U	--	0.0080 U	0.060 U	0.057 U	0.074 U	0.08 U	0.058 U	0.16 U	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
o-Cresol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
p-Chloroaniline	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
p-Cresol	--	--	0.22 U	0.66 U	0.022 U	--	0.032 U	0.24 U	0.23 U	0.30 U	0.32 U	0.23 U	0.66 U	--	--	--	--	--	--	--
Pentachlorophenol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Phenanthrene	--	--	0.022 U	0.066 U	0.0082	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	2.1	--	--	--	--	--	--	--
Phenol	--	--	0.11 U	0.33 U	0.011 U	--	0.016 U	0.12 U	0.11 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Propyl benzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Pyrene	--	--	0.022 U	0.085	0.0099	--	0.0032 U	0.024 U	0.023 U	0.030 U	0.032 U	0.023 U	2.1	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.02 J	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	0.085 UJ	0.37 UJ	0.078 UJ	0.2 UJ	0.10 UJ	0.10 UJ	0.075 UJ	0.13 UJ	0.21 UJ	0.11 UJ	0.3 UJ	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	0.085 U	0.37 U	0.078 U	0.20 U	0.10 U	0.10 U	0.075 U	0.13 U	0.21 U	0.11 U	0.30 U	--	--	--	--	--	--	--
Total cPAHs [1]	0.0072 J	0.0085 U	0.051 U	0.15 U	0.0056	--	0.0072 U	0.054 U	0.051 U	0.068 U	0.072 U	0.053 U	0.76	0.019 JH	0.16	--	--	--	0.17	0.62
Total Naphthalenes	--	--	0.14 U	0.54 U	0.084 U	0.20 U	0.11 U	0.16 U	0.13 U	0.25	0.29 U	0.17 U	0.13 J	--	0.14	--	--	--	0.030 U	0.29
Total Dioxins/Furans (ng/kg)																				
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	64	1.4 J	13	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17	0.37 J	3.5 J	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.85 J	0.31 U	0.80 U	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.47 UI	0.19 U	0.64 U	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2 J	0.17 U	0.71 U	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.0 J	0.18 U	0.92 U	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.91 J	0.22 U	0.71 U	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8 J	0.25 U	0.61 U	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.44 U	0.19 U	0.72 U	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.55 J	0.16 U	0.42 U	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40 U	0.15 U	0.69 UE	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.96 J	0.15 U	0.62 U	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.38 UI	0.14 U	0.66 U	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23 U	0.15 U	0.64 U	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.31 UI	0.30 J	0.48 U	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	540	9.6	95	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55	1.1 J	10.0	--
Total Dioxins/Furans [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6 J	0.30 J	1.1 J	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																			
	MW14		MW15		MW16			MW18		MW19		MW20			MW21S		MW22S		MW23S	
	(7-9' bgs)	(8-10' bgs)	(4-6' bgs)	(10-12' bgs)	(4-6' bgs)	(14-16' bgs)	(16-18' bgs)	(8-10' bgs)	(10-12' bgs)	(4-6' bgs)	(8-10' bgs)	(2-4' bgs)	(6-8' bgs)	(8-10' bgs)	(0.5-1.5' bgs)	(2.5-4' bgs)	(0.5-2' bgs)	(2-4' bgs)	(5-6' bgs)	(9-10.5' bgs)
Polychlorinated Biphenyls (mg/kg)																				
Aroclor 1016	--	--	0.11 U	0.34 U	0.11 U	--	0.15 U	0.12 U	0.12 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Aroclor 1221	--	--	0.11 U	0.34 U	0.11 U	--	0.15 U	0.12 U	0.12 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Aroclor 1232	--	--	0.11 U	0.34 U	0.11 U	--	0.15 U	0.12 U	0.12 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Aroclor 1242	--	--	0.11 U	0.34 U	0.11 U	--	0.15 U	0.12 U	0.12 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Aroclor 1248	--	--	0.11 U	0.34 U	0.11 U	--	0.15 U	0.12 U	0.12 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Aroclor 1254	--	--	0.11 U	0.34 U	0.11 U	--	0.15 U	0.12 U	0.12 U	0.15 U	0.16 U	0.12 U	0.33 U	--	--	--	--	--	--	--
Aroclor 1260	--	--	0.11 UJ	0.34 UJ	0.11 UJ	--	0.15 UJ	0.12 UJ	0.12 UJ	0.15 UJ	0.16 UJ	0.12 UJ	0.33 UJ	--	--	--	--	--	--	--
Metals (mg/kg)																				
Arsenic	--	--	3.6	9.8 U	3.3 U	--	6.4	3.7 U	3.6 U	4.5 U	4.9 U	3.4 U	9.7 U	--	--	--	--	--	0.25 U	8.6
Barium	--	--	24	4.7	23	--	11	73	36	45	6.3	51	160	--	--	--	--	--	--	--
Cadmium	--	--	0.58 U	1.6 U	0.55 U	--	0.80 U	0.61 U	0.60 U	0.75 U	0.82 U	0.56 U	1.6 U	--	--	--	--	--	0.65	0.45
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	--	--	19	7.7	13	--	18	17	13	24	2.3	25	19	--	--	--	--	--	--	--
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	1.7 U	12	1.6 U	--	2.4 U	1.8 U	1.8 U	2.3	2.4 U	1.8	25	--	--	--	--	--	0.46	71
Mercury	--	--	0.023 U	0.11	0.022 U	--	0.032 U	0.022 U	0.019 U	0.032 U	0.034 U	0.021 U	0.053 U	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	5.8 U	16 U	5.5 U	--	8.0 U	6.1 U	6.0 U	7.5 U	8.2 U	5.6 U	16 U	--	--	--	--	--	--	--
Silver	--	--	1.2 U	3.3 U	1.1 U	--	1.6 U	1.2 U	1.2 U	1.5 U	1.6 U	1.1 U	3.2 U	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																		
	MW24S				MW25S				P-1-B	P-1-E	P-1-N	P-1-S	P-1-W	SVP-1SO	SVP-2SO	TP01	TP02	TP02-1	TP02-2	
	(1-2.5' bgs)	(3-4.5' bgs)	(6.5-8' bgs)	(9-10' bgs)	(6.5-7.5' bgs)	(10.5-12' bgs)	(12.4-14' bgs)	(12.5-14' bgs)	(7' bgs)	(2.5' bgs)	(3' bgs)	(3' bgs)	(2.5' bgs)	(3-5' bgs)	(4-6' bgs)	(2-2.5' bgs)	(2-2.5' bgs)	(10' bgs)	(1.5' bgs)	(2.5' bgs)
Total Petroleum Hydrocarbons (mg/kg)																				
TPH-D	--	--	25 U	25 U	25 U	25 U	--	25 U	131	45	419	25 U	370	--	--	--	--	--	--	--
TPH-G	--	--	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U	--	--	--	--	--	5.0 U	1,100	--	--	--	--	--
TPH-HO	--	--	494	418	2,020	1,070	--	25 U	172	92	1,710	100 U	965	--	--	--	--	--	--	--
Volatile Organic Compounds (mg/kg)																				
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0050 U	0.0050 U	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	0.050 U	0.050 U	0.05 UJ	0.050 U	--	0.050 U	--	--	--	--	--	0.0050 U	0.0050 U	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	0.10 U	0.10 U	0.10 UJ	0.10 U	--	0.10 U	--	--	--	--	--	0.0050 U	0.12	--	--	--	--	--
m&p-Xylene	--	--	0.10 U	0.10 U	0.10 UJ	0.10 U	--	0.10 U	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	0.10 U	0.10 U	0.10 UJ	0.10 U	--	0.10 U	--	--	--	--	--	0.0050 U	0.15	--	--	--	--	--
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	0.10 U	0.10 U	0.10 UJ	0.10 U	--	0.10 U	--	--	--	--	--	0.0050 U	0.0050 U	--	--	--	--	--
Total Xylenes	--	--	0.20 U	0.20 U	0.20 UJ	0.20 U	--	0.20 U	--	--	--	--	--	0.0050 U	0.15	--	--	--	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																				
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0095	0.94	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0010 U	0.0010 U	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0050 U	0.29	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	--	--	0.020	0.020	0.010	0.010 U	0.010 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																		
	MW24S				MW25S				P-1-B	P-1-E	P-1-N	P-1-S	P-1-W	SVP-1SO	SVP-2SO	TP01	TP02	TP02-1	TP02-2	
	(1-2.5' bgs)	(3-4.5' bgs)	(6.5-8' bgs)	(9-10' bgs)	(6.5-7.5' bgs)	(10.5-12' bgs)	(12.4-14' bgs)	(12.5-14' bgs)	(7' bgs)	(2.5' bgs)	(3' bgs)	(3' bgs)	(2.5' bgs)	(3-5' bgs)	(4-6' bgs)	(2-2.5' bgs)	(2-2.5' bgs)	(10' bgs)	(1.5' bgs)	(2.5' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	0.040	0.030	0.030	0.023	0.010 U	--	0.050 U	0.010 U	0.011	0.025	0.010 U	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	--	0.050 U	0.010 U	0.010 U	0.021	0.010 U	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	0.050 U	0.010 U	0.010 U	0.018	0.010 U	--	--	--	--	--	--	--
Anthracene	--	--	--	--	--	--	--	--	0.050 U	0.010 U	0.013	0.097	0.010 U	--	--	--	--	--	--	--
Benz[a]anthracene	--	--	0.50	0.080	0.33	0.070	0.020	--	0.050 U	0.010 U	0.031	0.11	0.018	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	0.050 U	0.010 U	0.064	0.054	0.010 U	--	--	--	--	--	--	--
Benzo[a]pyrene	--	--	0.70	0.20	0.42	0.010 U	0.12	--	0.050 U	0.010 U	0.010 U	0.093	0.010 U	--	--	--	--	--	--	--
Benzo[b]fluoranthene	--	--	0.42	0.020	0.35	0.010 U	0.010 U	--	0.050 U	0.010 U	0.093	0.13	0.010 U	--	--	--	--	--	--	--
Benzo[k]fluoranthene	--	--	0.21	0.030	0.11	0.020	0.010 U	--	0.050 U	0.010 U	0.010 U	0.052	0.010 U	--	--	--	--	--	--	--
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	0.58	0.060	0.48	0.10	0.010 U	--	0.050 U	0.010 U	0.069	0.12	0.054	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cumene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	--	--	0.21	0.14	0.15	0.010 U	0.10	--	0.050 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																		
	MW24S				MW25S				P-1-B	P-1-E	P-1-N	P-1-S	P-1-W	SVP-1SO	SVP-2SO	TP01	TP02	TP02-1	TP02-2	
	(1-2.5' bgs)	(3-4.5' bgs)	(6.5-8' bgs)	(9-10' bgs)	(6.5-7.5' bgs)	(10.5-12' bgs)	(12.4-14' bgs)	(12.5-14' bgs)	(7' bgs)	(2.5' bgs)	(3' bgs)	(3' bgs)	(2.5' bgs)	(3-5' bgs)	(4-6' bgs)	(2-2.5' bgs)	(2-2.5' bgs)	(10' bgs)	(1.5' bgs)	(2.5' bgs)
Semi-Volatile Organic Compounds (mg/kg)																				
Fluoranthene	--	--	--	--	--	--	--	--	0.050 U	0.010 U	0.053	0.21	0.038	--	--	--	--	--	--	--
Fluorene	--	--	--	--	--	--	--	--	0.050 U	0.010 U	0.010	0.024	0.010 U	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	--	0.60	0.36	0.45	0.34	0.010 U	--	0.050 U	0.010 U	0.038	0.047	0.010 U	--	--	--	--	--	--	--
Isophorone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	0.050	0.15	0.19	0.020	0.010 U	--	0.050 U	0.010 U	0.015	0.039	0.010 U	0.42	150	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	0.050 U	0.010 U	0.050	0.23	0.041	--	--	--	--	--	--	--
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	--	--	--	0.050 U	0.010 U	0.069	0.27	0.049	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	--	--	0.90	0.26	0.56	0.050	0.13	--	0.076 U	0.015 U	0.023	0.13	0.0093	--	--	--	--	--	--	--
Total Naphthalenes	--	--	0.11	0.20	0.23	0.048	0.030 U	--	0.10 U	0.020 U	0.026	0.064	0.020 U	0.42	150	--	--	--	--	--
Total Dioxins/Furans (ng/kg)																				
1,2,3,4,6,7,8-HpCDD	30	83	13,000	240	--	--	--	--	--	--	--	--	--	--	--	8,800 D	*6,700 D*	0.51	4,600	210
1,2,3,4,6,7,8-HpCDF	5.0 J	25	2,000	70	--	--	--	--	--	--	--	--	--	--	--	3,100 D	*2,600 D*	0.085 U	2,000	63
1,2,3,4,7,8,9-HpCDF	0.69 U	1.7 J	190	8.6 J	--	--	--	--	--	--	--	--	--	--	--	210 D	*270 D*	0.11 U	160	5.4
1,2,3,4,7,8-HxCDD	0.50 U	1.7 J	260	20	--	--	--	--	--	--	--	--	--	--	--	85	*59*	0.10 U	36	2.1
1,2,3,4,7,8-HxCDF	0.46 U	0.30 UI	430	17	--	--	--	--	--	--	--	--	--	--	--	460	*1,800*	0.099 U	320	21
1,2,3,6,7,8-HxCDD	1.1 J	4.8 J	550	31	--	--	--	--	--	--	--	--	--	--	--	380	*420*	0.086 U	170	6.8
1,2,3,6,7,8-HxCDF	0.47 U	2.0 J	3.4 UE	15	--	--	--	--	--	--	--	--	--	--	--	150	*330*	0.10 U	1.9 U	4.5
1,2,3,7,8,9-HxCDD	0.68 J	3.4 J	400	28	--	--	--	--	--	--	--	--	--	--	--	150	*110*	0.098 U	78	3.9
1,2,3,7,8,9-HxCDF	0.55 U	0.48 J	120	6.2 J	--	--	--	--	--	--	--	--	--	--	--	9.1	*19*	0.11 U	66	2.7
1,2,3,7,8-PeCDD	0.36 U	2.3 J	390	39	--	--	--	--	--	--	--	--	--	--	--	69	*53*	0.13 U	19	1.7
1,2,3,7,8-PeCDF	0.42 U	0.31 UI	120	25	--	--	--	--	--	--	--	--	--	--	--	54	*130*	0.16 U	19	1.5
2,3,4,6,7,8-HxCDF	0.43 U	2.1 J	250	16	--	--	--	--	--	--	--	--	--	--	--	90	*140*	0.081 U	59	3.7
2,3,4,7,8-PeCDF	0.36 U	2.5 J	360	31	--	--	--	--	--	--	--	--	--	--	--	130	*550*	0.094 U	110	6.2
2,3,7,8-TCDD	0.33 U	0.13 UI	76	10.0	--	--	--	--	--	--	--	--	--	--	--	24	*9.3*	0.17 U	3.3	0.22
2,3,7,8-TCDF	0.48 U	2.0	210	32	--	--	--	--	--	--	--	--	--	--	--	25 CON	*55 CON*	0.14 U	11	0.75
OCDD	280	610	85,000	780	--	--	--	--	--	--	--	--	--	--	--	66,000 D	*82,000 D*	3.6	50,000	1,900
OCDF	11	110	7,400	170	--	--	--	--	--	--	--	--	--	--	--	12,000 D	*2,900 D*	0.41	6,800	330
Total Dioxins/Furans [1]	1.2 J	6.1 J	979	79 J	--	--	--	--	--	--	--	--	--	--	--	430 DCON	*646 DCON*	0.21	215	12

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																		
	MW24S				MW25S				P-1-B	P-1-E	P-1-N	P-1-S	P-1-W	SVP-1SO	SVP-2SO	TP01	TP02	TP02-1	TP02-2	
	(1-2.5' bgs)	(3-4.5' bgs)	(6.5-8' bgs)	(9-10' bgs)	(6.5-7.5' bgs)	(10.5-12' bgs)	(12.4-14' bgs)	(12.5-14' bgs)	(7' bgs)	(2.5' bgs)	(3' bgs)	(3' bgs)	(2.5' bgs)	(3-5' bgs)	(4-6' bgs)	(2-2.5' bgs)	(2-2.5' bgs)	(10' bgs)	(1.5' bgs)	(2.5' bgs)
Polychlorinated Biphenyls (mg/kg)																				
Aroclor 1016	--	--	--	--	--	--	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--	--	--	--
Aroclor 1221	--	--	--	--	--	--	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--	--	--	--
Aroclor 1232	--	--	--	--	--	--	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--	--	--	--
Aroclor 1242	--	--	--	--	--	--	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--	--	--	--
Aroclor 1248	--	--	--	--	--	--	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--	--	--	--
Aroclor 1254	--	--	--	--	--	--	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--	--	--	--
Aroclor 1260	--	--	--	--	--	--	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--	--	--	--
Metals (mg/kg)																				
Arsenic	--	--	1.8	4.8	4.1	4.9	--	3.1	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	0.76	0.54	0.75	0.52	--	0.32	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	54	34	108	17	--	2.5	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	TP02-2		TP02-3					TP02-4				TP02-5				TP02-6				TP02-7		
	(3.5' bgs)	(7.5' bgs)	(1' bgs)	(2.5' bgs)	(3.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)
Total Petroleum Hydrocarbons (mg/kg)																						
TPH-D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH-G	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH-HO	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (mg/kg)																						
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m&p-Xylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)																						
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	TP02-2		TP02-3					TP02-4				TP02-5				TP02-6				TP02-7		
	(3.5' bgs)	(7.5' bgs)	(1' bgs)	(2.5' bgs)	(3.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benz[a]anthracene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cumene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	TP02-2		TP02-3					TP02-4				TP02-5				TP02-6				TP02-7		
	(3.5' bgs)	(7.5' bgs)	(1' bgs)	(2.5' bgs)	(3.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)
Semi-Volatile Organic Compounds (mg/kg)																						
Fluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Naphthalenes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans (ng/kg)																						
1,2,3,4,6,7,8-HpCDD	150	90	*2.4*	*4.4*	*30,000*	*7.0*	*260*	*2.5*	*43*	*95*	*4.7*	8.0	21	1.6	41	240	70	1.2	0.89	0.091 U	0.091 U	0.091 U
1,2,3,4,6,7,8-HpCDF	56	44	*0.67*	*1.4*	*11,000*	*2.4*	*130*	*0.72*	*17*	*31*	*1.3*	2.2	5.5	0.55	8.1	89	25	0.53	0.18	0.052 U	0.052 U	0.052 U
1,2,3,4,7,8,9-HpCDF	4.9	4.1	*0.16 U*	*0.12*	*1,000*	*0.29 U*	*10.0*	*0.14 U*	*1.4*	*0.61 U*	*0.21 U*	0.20	0.59	0.12 U	0.94	9.3	2.0	0.070 U	0.20 U	0.11 U	0.11 U	0.11 U
1,2,3,4,7,8-HxCDD	1.4	0.38 U	*0.093 U*	*0.070 U*	*300*	*0.12*	*0.26 U*	*0.080*	*0.53*	*2.4*	*0.22 U*	0.12	0.36	0.098 U	0.71	3.8	0.89	0.082 U	0.12 U	0.089 U	0.089 U	0.089 U
1,2,3,4,7,8-HxCDF	18	12	*0.29*	*0.24*	*4,600*	*0.36*	*44*	*0.055 U*	*2.7*	*7.4*	*0.18 U*	0.31	1.5	0.056 U	0.18 U	42	6.5	0.082 U	0.10 U	14	14	14
1,2,3,6,7,8-HxCDD	6.8	4.3	*0.10 U*	*0.24*	*1,400*	*0.30*	*12*	*0.12*	*1.7*	*6.4*	*0.28*	0.42	1.2	0.12	1.3	15	3.7	0.078 U	0.10 U	0.068 U	0.068 U	0.068 U
1,2,3,6,7,8-HxCDF	5.6	0.37 U	*0.087*	*0.066 U*	*1,400*	*0.14 U*	*7.5*	*0.10*	*0.11 U*	*3.9*	*0.14 U*	0.069 U	0.087 U	0.072 U	0.21 U	0.79 U	2.2	0.08 U	0.096 U	0.063 U	0.063 U	0.063 U
1,2,3,7,8,9-HxCDD	3.3	0.95	*0.12 U*	*0.071 U*	*660*	*0.27*	*1.5*	*0.086*	*0.77*	*3.6*	*0.18 U*	0.19	0.71	0.079 U	0.75	6.8	1.8	0.094 U	0.088 U	0.074 U	0.074 U	0.074 U
1,2,3,7,8,9-HxCDF	2.8	2.5	*0.10 U*	*0.097 U*	*880*	*0.18 U*	*9.0*	*0.069 U*	*0.64*	*1.7*	*0.23 U*	0.096	0.41	0.078 U	0.61	7.9	1.1	0.096 U	0.16 U	0.084 U	0.084 U	0.084 U
1,2,3,7,8-PeCDD	1.6	0.24 U	*0.075 U*	*0.11 U*	*230*	*0.18 U*	*0.35*	*0.091 U*	*0.27*	*2.2*	*0.22 U*	0.13 U	0.39	0.14 U	0.33	3.2	0.81	0.12 U	0.11 U	0.097 U	0.097 U	0.097 U
1,2,3,7,8-PeCDF	1.4	0.22 U	*0.16 U*	*0.10 U*	*5.6 U*	*0.24 U*	*0.16 U*	*0.13 U*	*0.30*	*1.7*	*0.35 U*	0.18 U	0.33	0.12 U	0.64	5.8	0.67	0.17 U	0.19 U	0.15 U	0.15 U	0.15 U
2,3,4,6,7,8-HxCDF	3.1	0.35 U	*0.083*	*0.10*	*740*	*0.12 U*	*3.8*	*0.12*	*1.0*	*2.4*	*0.15 U*	0.18	0.41	0.062 U	1.1	10.0	1.2	0.074 U	0.097 U	0.047 U	0.047 U	0.047 U
2,3,4,7,8-PeCDF	6.7	3.8	*0.11*	*0.13*	*1,400*	*0.12 U*	*0.22 U*	*0.18*	*0.95*	*4.3*	*0.18 U*	0.18	0.78	0.098	1.8	15	2.3	0.14	0.11 U	0.081 U	0.081 U	0.081 U
2,3,7,8-TCDD	0.19 U	0.35 U	*0.14 U*	*0.12 U*	*21*	*0.11 U*	*0.25 U*	*0.14 U*	*0.16 U*	*0.45*	*0.28 U*	0.16 U	0.12 U	0.17 U	0.14 U	1.3 U	0.23 U	0.23 U	0.19 U	0.13 U	0.13 U	0.13 U
2,3,7,8-TCDF	0.71	0.41 U	*0.15 U*	*0.10 U*	*100*	*0.13 U*	*2.1*	*0.18*	*0.20*	*1.7*	*0.27 U*	0.12	0.23	0.14 U	0.20 U	4.4	0.51	0.20 U	0.21 U	0.14 U	0.14 U	0.14 U
OCDD	1,300	490	*21*	*50*	*250,000*	*71*	*2,300*	*28*	*400*	*800*	*87*	63	170	17	830	3,000	890	12	6.6	0.21 U	0.21 U	0.21 U
OCDF	210	140	*1.8*	*4.2*	*20,000*	*9.9*	*530*	*2.5*	*51*	*76*	*4.7*	5.8	16	1.2	28	150	75	1.1	0.61	19	19	19
Total Dioxins/Furans [1]	10	5.1	*0.26*	*0.31*	*2,180*	*0.42*	*13*	*0.29*	*2.2*	*8.5*	*0.47*	0.47	1.5	0.26	2.2	22	4.7	0.28	0.23	7.2	7.2	7.2

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)																					
	TP02-2		TP02-3					TP02-4				TP02-5				TP02-6				TP02-7		
	(3.5' bgs)	(7.5' bgs)	(1' bgs)	(2.5' bgs)	(3.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)	(7.5' bgs)	(1.5' bgs)	(2.5' bgs)	(3.5' bgs)
Polychlorinated Biphenyls (mg/kg)																						
Aroclor 1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals (mg/kg)																						
Arsenic	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)														
	TP02-7	TP02-8	TP02-9		TP02-10			TP02-11				BC_TP02		TP03	TP04
	(7.5' bgs)	(6' bgs)	(2' bgs)	(5.5' bgs)	(2.25' bgs)	(3.25' bgs)	(5.5' bgs)	(1.75' bgs)	(3' bgs)	(3.25' bgs)	(5.5' bgs)	(2' bgs)	(4' bgs)	(3.5-4' bgs)	(1.5-2' bgs)
Total Petroleum Hydrocarbons (mg/kg)															
TPH-D	--	--	--	--	--	--	--	--	--	--	--	30 U	25 U	--	--
TPH-G	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH-HO	--	--	--	--	--	--	--	--	--	--	--	60 U	50 U	--	--
Volatile Organic Compounds (mg/kg)															
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--	--	--	--	0.011 U	0.0078 U	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	0.055 U	0.039 U	--	--
m&p-Xylene	--	--	--	--	--	--	--	--	--	--	--	0.055 U	0.039 U	--	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	--	--	--	0.055 U	0.039 U	--	--
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--	--	0.055 U	0.039 U	--	--
Total Xylenes	--	--	--	--	--	--	--	--	--	--	--	0.11 U	0.078 U	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (mg/kg)															
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	0.0059 U	0.0052 U	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)														
	TP02-7	TP02-8	TP02-9		TP02-10			TP02-11				BC_TP02		TP03	TP04
	(7.5' bgs)	(6' bgs)	(2' bgs)	(5.5' bgs)	(2.25' bgs)	(3.25' bgs)	(5.5' bgs)	(1.75' bgs)	(3' bgs)	(3.25' bgs)	(5.5' bgs)	(2' bgs)	(4' bgs)	(3.5-4' bgs)	(1.5-2' bgs)
Semi-Volatile Organic Compounds (mg/kg)															
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	0.0059 U	0.0052 U	--	--
2-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benz[a]anthracene	--	--	--	--	--	--	--	--	--	--	--	0.0076	0.0052 U	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	--	--	--	--	--	--	--	--	--	--	--	0.0068	0.0052 U	--	--
Benzo[b]fluoranthene	--	--	--	--	--	--	--	--	--	--	--	0.010	0.0052 U	--	--
Benzo[k]fluoranthene	--	--	--	--	--	--	--	--	--	--	--	0.0059 U	0.0052 U	--	--
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	--	--	--	--	0.0059 U	0.0052 U	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cumene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	--	--	--	--	--	--	--	--	--	--	--	0.0059 U	0.0052 U	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)														
	TP02-7	TP02-8	TP02-9		TP02-10			TP02-11				BC_TP02		TP03	TP04
	(7.5' bgs)	(6' bgs)	(2' bgs)	(5.5' bgs)	(2.25' bgs)	(3.25' bgs)	(5.5' bgs)	(1.75' bgs)	(3' bgs)	(3.25' bgs)	(5.5' bgs)	(2' bgs)	(4' bgs)	(3.5-4' bgs)	(1.5-2' bgs)
Semi-Volatile Organic Compounds (mg/kg)															
Fluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	--	--	--	--	--	--	--	--	--	--	0.0059 U	0.0052 U	--	--
Isophorone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	--	--	0.0059 U	0.0052 U	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total cPAHs [1]	--	--	--	--	--	--	--	--	--	--	--	0.0095	0.0079 U	--	--
Total Naphthalenes	--	--	--	--	--	--	--	--	--	--	--	0.018 U	0.016 U	--	--
Total Dioxins/Furans (ng/kg)															
1,2,3,4,6,7,8-HpCDD	0.091 U	4,100	1.8	7,400	1.1	7,900	800	*8.1*	*1,300*	*150*	*450*	9.4	0.30 U	1,400	4,200 UE
1,2,3,4,6,7,8-HpCDF	0.052 U	1,800	0.63	2,800	0.41	3,100	230	*2.0*	*300*	*46*	*120*	2.1 U	0.10 U	77	440
1,2,3,4,7,8,9-HpCDF	0.11 U	170	0.13 U	230	0.11 U	240	19	*0.14 U*	*26*	*4.1*	*14*	0.11 U	0.041 U	5.2 J	23
1,2,3,4,7,8-HxCDD	0.089 U	13	0.13 U	36	0.12 U	150	26	*0.095 U*	*24*	*3.6*	*4.5*	0.20 U	0.077 U	12	17
1,2,3,4,7,8-HxCDF	14	250	0.18	460	0.15 U	200	44	*0.31*	*34*	*15*	*0.43 U*	0.12 U	0.015 U	15	36
1,2,3,6,7,8-HxCDD	0.068 U	140	0.10 U	240	0.095 U	380	57	*0.25*	*59*	*8.9*	*21*	0.33 U	0.037 U	52	130
1,2,3,6,7,8-HxCDF	0.063 U	0.60 U	0.27	4.0 U	0.11 U	180	29	*0.11 U*	*0.33 U*	*0.27 U*	*18*	0.11 U	0.014 U	11	26
1,2,3,7,8,9-HxCDD	0.074 U	18	0.097 U	100	0.10 U	280	43	*0.11 U*	*44*	*7.9*	*9.9*	0.45 U	0.037 U	30	47
1,2,3,7,8,9-HxCDF	0.084 U	68	0.0985 U	100	0.088 U	0.83 U	11	*0.10 U*	*0.32 U*	*3.2*	*13*	0.050 U	0.018 U	1.1 U	1.8 U
1,2,3,7,8-PeCDD	0.097 U	2.4	0.155 U	26	0.15 U	150	31	*0.15 U*	*25*	*4.3*	*8.7*	0.21 U	0.051 U	16	15
1,2,3,7,8-PeCDF	0.15 U	28	0.15 U	46	0.25 U	91	19	*0.24 U*	*14*	*3.3*	*8.6*	0.057 U	0.035 U	11	15
2,3,4,6,7,8-HxCDF	0.047 U	94	0.086 U	58	0.088 U	130	23	*0.088 U*	*28*	*6.8*	*10.0*	0.12 U	0.015 U	8.4	21
2,3,4,7,8-PeCDF	0.081 U	130	0.10 U	180	0.16 U	1.3 U	36	*0.12 U*	*25*	*9.1*	*43*	0.096 U	0.036 U	13	24
2,3,7,8-TCDD	0.13 U	0.95	0.15 U	6.2	0.15 U	27	5.1	*0.19 U*	*4.7*	*0.12 U*	*2.2*	0.13 U	0.036 U	6.6	3.8
2,3,7,8-TCDF	0.14 U	12	0.10 U	27	0.17 U	0.28 U	0.42 U	*0.14 U*	*0.25 U*	*3.4*	*8.2*	0.37 U	0.024 U	9.6 CON	13 CON
OCDD	0.21 U	48,000	15	110,000	12	79,000	6,000	*54*	*12,000*	*1,000*	*7,900*	210	3.3 U	8,100 UE	20,000 UE
OCDF	19	9,200	2.0	14,000	1.3	0.64 U	0.43 U	*6.7*	*1,100*	*110*	*340*	4.0 U	0.093 U	320	1,200
Total Dioxins/Furans [1]	7.2	181	0.27	331	0.24	448	83	*0.40*	*77*	*14*	*41*	0.44	0.13 U	57 CONJ	85 CON

Table L-1: Results for Soil Samples

Constituent	Site ID (Depth)														
	TP02-7	TP02-8	TP02-9		TP02-10			TP02-11				BC_TP02		TP03	TP04
	(7.5' bgs)	(6' bgs)	(2' bgs)	(5.5' bgs)	(2.25' bgs)	(3.25' bgs)	(5.5' bgs)	(1.75' bgs)	(3' bgs)	(3.25' bgs)	(5.5' bgs)	(2' bgs)	(4' bgs)	(3.5-4' bgs)	(1.5-2' bgs)
Polychlorinated Biphenyls (mg/kg)															
Aroclor 1016	--	--	--	--	--	--	--	--	--	--	--	0.012 U	0.010 U	--	--
Aroclor 1221	--	--	--	--	--	--	--	--	--	--	--	0.012 U	0.010 U	--	--
Aroclor 1232	--	--	--	--	--	--	--	--	--	--	--	0.012 U	0.010 U	--	--
Aroclor 1242	--	--	--	--	--	--	--	--	--	--	--	0.012 U	0.010 U	--	--
Aroclor 1248	--	--	--	--	--	--	--	--	--	--	--	0.012 U	0.010 U	--	--
Aroclor 1254	--	--	--	--	--	--	--	--	--	--	--	0.012 U	0.010 U	--	--
Aroclor 1260	--	--	--	--	--	--	--	--	--	--	--	0.012 U	0.010 U	--	--
Metals (mg/kg)															
Arsenic	--	--	--	--	--	--	--	--	--	--	--	3.7 U	3.1 U	--	--
Barium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--	--	--	--	--	--	0.62 U	0.52 U	--	--
Chromium (VI)	--	--	--	--	--	--	--	--	--	--	--	0.31 U	0.26 U	--	--
Chromium, Total	--	--	--	--	--	--	--	--	--	--	--	38	19	--	--
Copper	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	--	--	--	--	--	--	--	--	--	3.3	1.6 U	--	--
Mercury	--	--	--	--	--	--	--	--	--	--	--	0.034	0.025	--	--
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Results that are italicized are no longer in place.

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

(1) Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in soil and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in soil. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	DP01	DP04	DP07	DP09	DP10	BC_DP07	BC_DP08	BC_DP09	MW01								MW02			MW02R		
	9/25/2006	9/25/2006	9/26/2006	9/25/2006	9/26/2006	2/14/2007	2/14/2007	2/14/2007	1/5/2007	6/28/2007	7/1/2009	9/22/2009	11/20/2009	12/15/2009	3/15/2010	8/16/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009
Total Petroleum Hydrocarbons (ug/L)																						
TPH-D	250 J	2,000	90 J	260 U	47 J	--	--	--	41 J	120 U	250 U	250 U	--	341	100 U	100 U	120 U	120 U	250 U	250 U	--	100 U
TPH-G	73	26 J	18 J	12 J	50 U	--	--	--	16 J	50 U	50 U	50 U	--	500 U	250 U	--	11 J	50 U	50 U	50 U	--	500 U
TPH-HO	360 J	3,800	230 J	520 U	140 J	--	--	--	250 U	240 U	500 U	500 U	--	500 U	500 U	500 U	250 U	240 U	500 U	--	--	624
Volatile Organic Compounds (ug/L)																						
1,1,1-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1-Dichloroethylene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-cis-Dichloroethylene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-trans-Dichloroethylene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,4-Dichlorobenzene	1.0 U	1.0 U	1.0 U	2.1 U	1.0 U	--	--	--	0.19 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.20 U	1.0 U	0.50 U	0.50 U	--	0.50 U
2-Chloroethyl vinyl ether	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	2.5 U
Acetone	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	2.5 U
Benzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Bromodichloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Bromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Bromomethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Carbon Disulfide	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	0.50 U	0.50 U	--	0.50 U
Carbon Tetrachloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Chlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Chloroform	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Chloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Dibromochloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Dichlorodifluoroethene	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	0.50 U	--	--
Ethyl Chloride	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	5.0 U	5.0 U	0.50 U	--	--	0.50 U	--	--	5.0 U	5.0 U	0.50 U	--	--	0.50 U
Ethyl Ether	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Ethylbenzene	0.40 J	0.36 J	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
m&p-Xylene	1.5 J	1.1 J	0.22 J	2.0 U	2.0 U	--	--	--	2.0 U	2.0 U	0.50 U	0.50 U	--	0.50 U	1.0 U	--	2.0 U	2.0 U	0.50 U	0.50 U	--	0.50 U
Methyl Ethyl Ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	2.5 U
Methyl Iodide	--	--	--	--	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	1.0 U	1.0 U	--	--
Methylene Chloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	--	--	--	2.5 U	--	--	1.0 U	1.0 U	--	--	--	2.5 U
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	0.50 U	0.50 U	--	0.50 U
o-Xylene	0.96 J	0.40 J	0.079 J	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
p-Isopropyltoluene	1.0 U	1.0 U	2.7	0.12 J	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.62	--	0.50 U
Styrene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Tetrachloroethylene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Tetrahydrofuran	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Toluene	0.86 J	0.37 J	0.077 J	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.075 J	1.0 U	0.50 U	0.50 U	--	0.50 U
Total Xylenes	2.5 J	1.5 J	0.30 J	3.0 U	3.0 U	--	--	--	3.0 U	3.0 U	1.0 U	1.0 U	--	1.0 U	1.5 U	--	3.0 U	3.0 U	1.0 U	1.0 U	--	1.0 U
Trichloroethylene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Vinyl Chloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Semi-Volatile Organic Compounds (ug/L)																						
1,1,1,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	DP01	DP04	DP07	DP09	DP10	BC_DP07	BC_DP08	BC_DP09	MW01								MW02			MW02R		
	9/25/2006	9/25/2006	9/26/2006	9/25/2006	9/26/2006	2/14/2007	2/14/2007	2/14/2007	1/5/2007	6/28/2007	7/1/2009	9/22/2009	11/20/2009	12/15/2009	3/15/2010	8/16/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009
Semi-Volatile Organic Compounds (ug/L)																						
1,2,3-Trichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2,3-Trichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2,4-Trichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.19 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.20 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2,4-Trimethylbenzene	2.7	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dibromo-3-chloropropane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	--	--	--	2.0 U	2.0 U	0.50 U	0.50 U	--	0.50 U	--	--	2.0 U	2.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dibromoethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.19 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.20 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,3,5-Trimethylbenzene	0.65 J	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,3-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.19 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.20 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1,3-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
1-Methylnaphthalene	0.70	0.30 U	0.31 U	0.31 U	0.30 U	--	--	--	0.0050 J	0.029 U	0.010 U	0.010 U	--	--	--	--	0.030 U	0.028 U	0.010 U	0.010 U	--	--
2,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	--	--	--	0.50 U	--	--	1.0 U	1.0 U	--	--	--	0.50 U
2,4,5-Trichlorophenol	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
2,4,6-Trichlorophenol	3.1 U	3.0 U	3.1 U	3.1 U	3.0 U	--	--	--	0.29 U	0.29 U	--	--	--	--	--	--	0.30 U	0.28 U	--	--	--	--
2,4-Dichlorophenol	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	--	--	--	0.95 U	0.95 U	--	--	--	--	--	--	0.99 U	0.94 U	--	--	--	--
2,4-Dinitrophenol	26 U	25 U	26 U	26 U	25 U	--	--	--	2.4 U	2.4 U	--	--	--	--	--	--	2.5 U	2.4 U	--	--	--	--
2-Chloro-1,3-butadiene	--	--	--	--	--	--	--	--	--	--	3.0 U	3.0 U	--	--	--	--	--	--	3.0 U	3.0 U	--	--
2-Chlorophenol	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
2-Methylnaphthalene	1.3	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.0095 J	0.095 U	0.010 U	0.010 U	0.010 U	0.010 U	0.015	--	0.099 U	0.094 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Nitroaniline	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
2-Nitrophenol	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
3- & 4-Methylphenol Coelution	9.6	4.0 U	0.41 J	4.1 U	4.0 U	--	--	--	0.38 U	--	--	--	--	--	--	--	0.057 J	--	--	--	--	--
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U	--	--	--	0.95 U	0.95 U	--	--	--	--	--	--	0.99 U	0.94 U	--	--	--	--
3-Nitroaniline	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
4,6-Dinitro-o-cresol	21 U	20 U	21 U	21 U	20 U	--	--	--	1.9 U	1.9 U	--	--	--	--	--	--	2.0 U	1.9 U	--	--	--	--
4-Bromophenylphenylether	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
4-Chlorophenylphenylether	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
4-Nitroaniline	3.1 U	3.0 U	3.1 U	3.1 U	3.0 U	--	--	--	0.29 U	0.29 U	--	--	--	--	--	--	0.30 U	0.28 U	--	--	--	--
4-Nitrophenol	10 U	10 U	10 U	10 U	10 U	--	--	--	0.95 U	0.95 U	--	--	--	--	--	--	0.99 U	0.94 U	--	--	--	--
Acenaphthene	0.52 U	0.081 J	0.52 U	0.52 U	0.061 J	--	--	--	0.048 U	0.048 U	--	--	0.010 U	0.010 U	0.010 U	--	0.067	0.066	--	--	0.010 U	0.011
Acenaphthylene	0.42 U	0.40 U	0.42 U	0.41 U	0.40 U	--	--	--	0.038 U	0.038 U	--	--	0.010 U	0.010 U	0.010 U	--	0.040 U	0.038 U	--	--	0.010 U	0.010 U
Acetonitrile	--	--	--	--	--	--	--	--	--	--	2.0 U	2.0 U	--	--	--	--	--	--	2.0 U	2.0 U	--	--
Acrolein	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	--	--	--	--	--	--	--	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	--	2.0 U	2.0 U	--	0.50 U
Allyl Chloride	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Anthracene	0.068 J	0.028 J	0.21 U	0.21 U	0.20 U	--	--	--	0.019 U	0.019 U	--	--	0.010 U	0.010 U	0.010 U	--	0.0094 J	0.019 U	--	--	0.010 U	0.010 U
Benz[a]anthracene	0.029 UJ	0.054 UJ	0.10 U	0.10 U	0.10 U	--	--	--	0.029 U	0.029 U	0.20 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.014 J	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(g,h,i)perylene	0.079 UJ	0.051 UJ	0.10 U	0.10 U	0.10 U	--	--	--	0.029 U	0.029 U	--	--	0.010 U	0.010 U	0.010 U	--	0.021 J	0.028 U	--	--	0.010 U	0.010 U
Benzo[a]pyrene	0.21 U	0.073 J	0.21 U	0.21 U	0.20 U	--	--	--	0.019 U	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.025	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo[b]fluoranthene	0.074 UJ	0.056 UJ	0.10 U	0.10 U	0.10 U	--	--	--	0.038 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.02 J	--	0.010 U	0.010 U	0.010 U	0.010 U
Benzo[k]fluoranthene	0.022 UJ	0.043 UJ	0.10 U	0.10 U	0.10 U	--	--	--	0.029 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.0075 J	--	0.010 U	0.010 U	0.010 U	0.010 U
Benzofluoranthene	0.093 UJ	0.10 UJ	0.21 U	0.21 U	0.20 U	--	--	--	--	0.038 U	--	--	--	--	--	--	--	0.038 U	--	--	--	--
Benzoic Acid	11	5.4 J	5.5 J	5.3 J	10 U	--	--	--	0.95 U	0.95 UJ	--	--	--	--	--	--	0.99 U	0.94 UJ	--	--	--	--
Benzyl Alcohol	0.14 J	0.22 J	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
beta-Chloronaphthalene	0.31 U	0.30 U	0.31 U	0.31 U	0.30 U	--	--	--	0.029 U	0.029 UJ	--	--	--	--	--	--	0.030 U	0.028 UJ	--	--	--	--
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
Bis(2-chloroethyl)ether	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
Bis(2-chloroisopropyl)ether	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
Bis(2-ethylhexyl)phthalate	2.8 J	0.42 J	16 U	15 U	15 U	--	--	--	0.096 UJ	1.4 U	--	--	--	--	--	--	0.098 UJ	1.4 U	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	DP01	DP04	DP07	DP09	DP10	BC_DP07	BC_DP08	BC_DP09	MW01								MW02			MW02R		
	9/25/2006	9/25/2006	9/26/2006	9/25/2006	9/26/2006	2/14/2007	2/14/2007	2/14/2007	1/5/2007	6/28/2007	7/1/2009	9/22/2009	11/20/2009	12/15/2009	3/15/2010	8/16/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009
Semi-Volatile Organic Compounds (ug/L)																						
Bromobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	--	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	--	0.50 U
Bromochloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Butyl Benzyl Phthlate	2.7 J	3.0 U	0.59 J	0.36 J	0.44 J	--	--	--	0.058 UJ	0.29 U	--	--	--	--	--	--	0.078 UJ	0.28 U	--	--	--	--
Carbazole	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
Chrysene	0.056 J	0.028 J	0.10 U	0.10 U	0.10 U	--	--	--	0.019 U	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.016 J	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U
cis-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
cis-1,4-Dichloro-2-butene	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Cumene	0.095 J	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Dibenz[a,h]anthracene	0.038 UJ	0.056 UJ	0.10 U	0.017 UJ	0.10 U	--	--	--	0.029 U	0.029 U	1.8 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.012 J	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibromomethane (Methylene Bromide)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Dibutyl-n-butyl Phthalate	3.6 J	1.1 UJ	1.1 UJ	0.95 UJ	0.89 UJ	--	--	--	0.056 UJ	0.19 U	--	--	--	--	--	--	0.13 UJ	0.19 U	--	--	--	--
Dichlorodifluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	--	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	--	--	0.50 U
Diethyl Phthalate	0.39 J	1.0 J	0.21 J	0.14 J	0.13 J	--	--	--	0.029 UJ	0.19 U	--	--	--	--	--	--	0.030 UJ	0.19 U	--	--	--	--
Dimethyl Phthalate	2.1 U	0.14 J	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
Di-n-octyl Phthalate	2.1 U	2.0 U	1.4 J	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.091 J	0.19 U	--	--	--	--
Ethyl cyanide	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Fluoranthene	0.086 J	0.070 J	0.26 U	0.26 U	0.25 U	--	--	--	0.024 U	0.024 U	--	--	0.010 U	0.010 U	0.010 U	--	0.030	0.024 U	--	--	0.010 U	0.010 U
Fluorene	0.31 U	0.10 J	0.31 U	0.31 U	0.054 J	--	--	--	0.029 U	0.029 U	--	--	0.010 U	0.010 U	0.010 U	--	0.027 J	0.045	--	--	0.010 U	0.010 U
Hexachlorobenzene	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
Hexachlorobutadiene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.29 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.30 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	--	--	--	0.95 U	0.95 UJ	--	--	--	--	--	--	0.99 U	0.94 UJ	--	--	--	--
Hexachloroethane	3.1 U	3.0 U	3.1 U	3.1 U	3.0 U	--	--	--	0.29 U	0.29 UJ	--	--	--	--	--	--	0.30 U	0.28 UJ	--	--	--	--
Indeno[1,2,3-cd]pyrene	0.11 UJ	0.072 UJ	0.10 U	0.023 UJ	0.10 U	--	--	--	0.029 U	0.029 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.023 J	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U
Isophorone	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
Methacrylonitrile	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Methyl Acrylate	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Methyl Isobutyl Ketone	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	2.5 U
Methyl Methacrylate	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Methyl tert-Butyl Ether (MTBE)	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	0.50 U
Naphthalene	1.4	1.0 U	1.0 U	0.077 J	0.017 J	--	--	--	0.016 J	1.0 U	0.50 U	0.50 U	0.010 U	0.50 U	0.024	--	0.023 J	1.0 U	0.50 U	0.50 U	0.010 U	0.50 U
n-Butylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
N-Hexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	0.50 U	0.50 U	--	--	--	--	0.20 U	0.19 U	0.50 U	0.50 U	--	--
N-Nitroso-di-N-propylamine	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
N-Nitrosodiphenylamine	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
o-Chlorotoluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
o-Cresol	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
p-Chloroaniline	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
p-chloro-m-Cresol	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
p-Chlorotoluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
p-Cresol	--	--	--	--	--	--	--	--	--	0.38 U	--	--	--	--	--	--	--	0.38 U	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Pentachlorophenol	3.3 J	3.5 U	3.6 U	3.6 U	3.5 U	--	--	--	0.33 U	0.33 U	--	--	--	--	--	--	0.35 U	0.33 U	--	--	--	--
Phenanthrene	0.10 J	0.14 J	0.42 U	0.41 U	0.40 U	--	--	--	0.0069 J	0.038 U	--	--	0.010 U	0.010 U	0.010 U	--	0.024 J	0.038 U	--	--	0.010 U	0.010 U
Phenol	3.1 U	3.0 U	3.1 U	3.1 U	3.0 U	--	--	--	0.29 U	0.29 U	--	--	--	--	--	--	0.30 U	0.28 U	--	--	--	--
Propyl benzene	0.23 J	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--
Pyrene	0.13 J	0.10 J	0.31 U	0.31 U	0.022 J	--	--	--	0.0040 J	0.029 U	--	--	0.010 U	0.010 U	0.010 U	--	0.035	0.028 U	--	--	0.010 U	0.010 U
sec-Butylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
tert-Butylbenzene	0.39 J	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Total cPAHs [1]	0.12 J	0.087 J	0.26 U	0.25 UJ	0.25 U	--	--	--	0.035 U	0.028 U	0.21 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	0.033 J	0.028 U	0.015 U	0.015 U	0.015 U	0.015 U

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	DP01	DP04	DP07	DP09	DP10	BC_DP07	BC_DP08	BC_DP09	MW01								MW02			MW02R		
	9/25/2006	9/25/2006	9/26/2006	9/25/2006	9/26/2006	2/14/2007	2/14/2007	2/14/2007	1/5/2007	6/28/2007	7/1/2009	9/22/2009	11/20/2009	12/15/2009	3/15/2010	8/16/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009
Semi-Volatile Organic Compounds (ug/L)																						
Total Naphthalenes	3.4	2.3 U	2.3 U	0.73 J	0.672 J	--	--	--	0.030 J	1.1 U	0.52 U	0.52 U	0.020 U	0.51 U	0.039	--	0.088 J	1.1 U	0.52 U	0.52 U	0.020 U	0.51 U
trans-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
trans-1,4-Dichloro-2-butene	--	--	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	--
Trichlorofluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U
Vinyl Acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxins/Furans (ug/L)[1]																						
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (ug/L)																						
Aroclor 1016	--	--	--	--	--	--	--	--	0.52 U	0.47 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.50 U	--	0.010 U	--	0.20 U
Aroclor 1221	--	--	--	--	--	--	--	--	0.52 U	0.47 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.50 U	--	0.010 U	--	0.20 U
Aroclor 1232	--	--	--	--	--	--	--	--	0.52 U	0.47 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.50 U	--	0.010 U	--	0.20 U
Aroclor 1242	--	--	--	--	--	--	--	--	0.52 U	0.47 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.50 U	--	0.010 U	--	0.20 U
Aroclor 1248	--	--	--	--	--	--	--	--	0.52 U	0.47 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.50 U	--	0.010 U	--	0.20 U
Aroclor 1254	--	--	--	--	--	--	--	--	0.52 U	0.47 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.50 U	--	0.010 U	--	0.20 U
Aroclor 1260	--	--	--	--	--	--	--	--	0.52 U	0.47 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.50 U	--	0.010 U	--	0.20 U
Metals (ug/L)																						
Antimony (metallic)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, Inorganic (Total)	4.1	2.0 U	2.0 U	2.0 U	2.0 U	--	--	--	1.3 J	4.1	3.2	1.1	1.0 U	1.2	1.0 U	5.0	2.0 U	2.0 U	1.1	9.8	8.0	7.5
Arsenic, Inorganic (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	4.7 BJ	1.0 U	1.0 U	1.0 U	2.4	--	--	5.4 BJ	13 BJ	1.6	1.0 U
Barium (Total)	15 J	41 J	47 J	47 J	16 J	--	--	--	24	37	52	174	--	49	--	--	33	10 U	11	15	--	14
Barium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.8 BJ	--	--	--
Beryllium and compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (Total)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	--	--	--	2.0 U	2.0 U	0.50 U	0.50 U	--	1.0 U	--	--	2.0 U	2.0 U	0.50 U	0.50 U	--	1.0 U
Cadmium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--
Chromium (Total)	10 U	10 U	10 U	10 U	10 U	--	--	--	10 U	25 U	1.2	0.59	--	1.0 U	1.0 U	--	2.8 J	25 U	0.60	0.50	--	1.0 U
Chromium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--	--	0.50 U	--	--	--
Cobalt	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper (Total)	--	--	--	--	--	--	--	--	--	--	2.4 BJ	2.5 BJ	1.1	1.0	2.1	5.2	--	--	1.5 BJ	3.4 BJ	1.5	1.0 U
Copper (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	2.7 BJ	--	1.0 U	1.0 U
Lead and Compounds (Total)	0.23 UJ	0.080 UJ	2.0 U	2.0 U	2.0 U	--	--	--	0.025 J	2.0 U	1.1	2.7	1.0 U	1.0 U	1.0 U	1.5	5.1 J	2.0 U	1.0	45	9.3	7.0
Lead and Compounds (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	0.50 U	--	1.0 U	1.0 U
Mercury, elemental (Total)	0.29	0.14 J	0.11 J	0.20 U	0.11 J	--	--	--	0.20 U	0.20 U	0.50 U	0.50 U	--	0.10 U	--	--	0.20 U	0.20 U	0.50 U	0.50 U	--	0.10 U
Mercury, elemental (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	DP01	DP04	DP07	DP09	DP10	BC_DP07	BC_DP08	BC_DP09	MW01								MW02			MW02R		
	9/25/2006	9/25/2006	9/26/2006	9/25/2006	9/26/2006	2/14/2007	2/14/2007	2/14/2007	1/5/2007	6/28/2007	7/1/2009	9/22/2009	11/20/2009	12/15/2009	3/15/2010	8/16/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009
Metals (ug/L)																						
Nickel Soluble Salts (Total)	--	--	--	--	--	--	--	--	--	--	1.5	1.5 BJ	1.0 U	1.0 U	1.0 U	4.4	--	--	0.50 U	0.73 BJ	1.0 U	1.0 U
Nickel Soluble Salts (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	0.50 U	--	1.0 U	1.0 U
Selenium (Total)	50 U	50 U	50 U	50 U	50 U	--	--	--	50 U	100 U	0.50 U	0.50 U	--	1.0 U	--	--	50 U	100 U	0.50 U	0.50 U	--	1.0 U
Selenium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--
Silver (Total)	10 U	10 U	10 U	10 U	10 U	--	--	--	10 U	20 U	0.50 U	0.50 U	--	1.0 U	--	--	10 U	20 U	0.50 U	0.50 U	--	1.0 U
Silver (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--
Thallium (Soluble Salts)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc and Compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dinitrotoluenes (ug/L)																						
2,4-Dinitrotoluene	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--
2,6-Dinitrotoluene	2.1 U	2.0 U	2.1 U	2.1 U	2.0 U	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--

Notes:

--: Not analyzed

Qualifier

B: Less than 10x higher than the method blank level
CON: Confirmation analysis
D: Result obtained from analysis of diluted sample
E: Exceeds calibration range
I: Interference present
J: Estimated value
P: Polychlorinated diphenyl ether interference
U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

[1] Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in Groundwater and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in Groundwater. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

[2] MW12 was resampled in February 2015.

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW02R		MW03								MW04									MW05		
	3/17/2010	8/18/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/16/2010	8/16/2010	1/5/2007	6/29/2007	7/13/2007	7/1/2009	9/18/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	1/16/2007	6/29/2007	7/13/2007
Total Petroleum Hydrocarbons (ug/L)																						
TPH-D	104	100 U	130 U	120 U	250 U	250 U	--	100 U	100 U	100 U	77 J	--	120 UJ	250 U	250 U	--	144	100 U	100 U	120 U	--	81 UJ
TPH-G	250 U	--	21 J	50 U	50 U	50 U	--	500 U	250 U	--	44 J	79	--	50 U	50 U	--	500 U	250 U	--	50 U	50 U	--
TPH-HO	500 U	1,080	250 U	240 U	500 U	500 U	--	958	500 U	500 U	250 U	--	260 U	500 U	500 U	--	500 U	500 U	500 U	240 U	--	240 U
Volatile Organic Compounds (ug/L)																						
1,1,1-Trichloroethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,1,2,2-Tetrachloroethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,1,2-Trichloroethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,1-Dichloroethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.28 J	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,1-Dichloroethylene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,2-cis-Dichloroethylene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,2-Dichloroethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,2-Dichloropropane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,2-trans-Dichloroethylene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,4-Dichlorobenzene	--	--	0.20 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.20 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--
2-Chloroethyl vinyl ether	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Acetone	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Benzene	0.50 U	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--
Bromodichloromethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Bromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Bromomethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Carbon Disulfide	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Carbon Tetrachloride	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Chlorobenzene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Chloroform	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Chloromethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Dibromochloromethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Dichlorodifluoroethene	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--
Ethyl Chloride	--	--	5.0 U	5.0 U	0.50 U	--	--	0.50 U	--	--	5.0 U	5.0 U	--	0.50 U	--	--	0.50 U	--	--	5.0 U	5.0 U	--
Ethyl Ether	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Ethylbenzene	0.50 U	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--
m&p-Xylene	1.0 U	--	2.0 U	2.0 U	0.50 U	0.50 U	--	0.50 U	1.0 U	--	2.0 U	2.0 U	--	0.50 U	0.50 U	--	0.50 U	1.0 U	--	2.0 U	2.0 U	--
Methyl Ethyl Ketone (2-Butanone)	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Methyl Iodide	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	--
Methylene Chloride	--	--	1.0 U	1.0 U	--	--	--	2.5 U	--	--	1.0 U	1.0 U	--	--	--	--	2.5 U	--	--	1.0 U	1.0 U	--
n-Propylbenzene	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
o-Xylene	0.50 U	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--
p-Isopropyltoluene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	2.9	17	--	0.50 U	0.50 U	--	0.61	--	--	1.0 U	1.0 U	--
Styrene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Tetrachloroethylene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Tetrahydrofuran	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Toluene	0.50 U	--	0.076 J	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.26 J	0.12 J	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.069 J	1.0 U	--
Total Xylenes	1.5 U	--	3.0 U	3.0 U	1.0 U	1.0 U	--	1.0 U	1.5 U	--	3.0 U	3.0 U	--	1.0 U	1.0 U	--	1.0 U	1.5 U	--	3.0 U	3.0 U	--
Trichloroethylene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Vinyl Chloride	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Semi-Volatile Organic Compounds (ug/L)																						
1,1,1,2-Tetrachloroethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW02R		MW03								MW04									MW05		
	3/17/2010	8/18/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/16/2010	8/16/2010	1/5/2007	6/29/2007	7/13/2007	7/1/2009	9/18/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	1/16/2007	6/29/2007	7/13/2007
Semi-Volatile Organic Compounds (ug/L)																						
1,2,3-Trichlorobenzene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,2,3-Trichloropropane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,2,4-Trichlorobenzene	--	--	0.20 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.20 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--
1,2,4-Trimethylbenzene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,2-Dibromo-3-chloropropane	--	--	2.0 U	2.0 U	0.50 U	0.50 U	--	0.50 U	--	--	2.0 U	2.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	2.0 U	2.0 U	--
1,2-Dibromoethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,2-Dichlorobenzene	--	--	0.20 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.20 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--
1,3,5-Trimethylbenzene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1,3-Dichlorobenzene	--	--	0.20 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.20 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--
1,3-Dichloropropane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
1-Methylnaphthalene	--	--	0.14	0.11	0.010 U	0.010 U	--	--	--	--	0.012 J	0.029 U	--	0.010 U	0.010 U	--	--	--	--	0.029 U	0.029 U	--
2,2-Dichloropropane	--	--	1.0 U	1.0 U	--	--	--	0.50 U	--	--	1.0 U	1.0 U	--	--	--	--	0.50 U	--	--	1.0 U	1.0 U	--
2,4,5-Trichlorophenol	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
2,4,6-Trichlorophenol	--	--	0.29 U	0.29 U	--	--	--	--	--	--	0.30 U	0.29 U	--	--	--	--	--	--	--	0.29 U	0.29 U	--
2,4-Dichlorophenol	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
2,4-Dimethylphenol	--	--	0.98 U	0.95 U	--	--	--	--	--	--	1.0 U	0.95 U	--	--	--	--	--	--	--	0.97 U	0.95 U	--
2,4-Dinitrophenol	--	--	2.5 U	2.4 U	--	--	--	--	--	--	2.5 U	2.4 U	--	--	--	--	--	--	--	2.4 U	2.4 U	--
2-Chloro-1,3-butadiene	--	--	--	--	3.0 U	3.0 U	--	--	--	--	--	--	--	3.0 U	3.0 U	--	--	--	--	--	--	--
2-Chlorophenol	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
2-Methylnaphthalene	0.010 U	--	0.098 U	0.095 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.024 J	0.095 U	--	0.010 U	0.010 U	0.067	0.021	0.017	--	0.097 U	0.095 U	--
2-Nitroaniline	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
2-Nitrophenol	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
3- & 4-Methylphenol Coelution	--	--	0.39 U	--	--	--	--	--	--	--	3.3	--	--	--	--	--	--	--	--	0.39 U	--	--
3,3'-Dichlorobenzidine	--	--	0.98 U	0.95 U	--	--	--	--	--	--	1.0 U	0.95 U	--	--	--	--	--	--	--	0.97 U	0.95 U	--
3-Nitroaniline	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
4,6-Dinitro-o-cresol	--	--	2.0 U	1.9 U	--	--	--	--	--	--	2.0 U	1.9 U	--	--	--	--	--	--	--	1.9 U	1.9 U	--
4-Bromophenylphenylether	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
4-Chlorophenylphenylether	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
4-Nitroaniline	--	--	0.29 U	0.29 U	--	--	--	--	--	--	0.30 U	0.29 U	--	--	--	--	--	--	--	0.29 U	0.29 U	--
4-Nitrophenol	--	--	0.98 U	0.95 U	--	--	--	--	--	--	1.0 U	0.95 U	--	--	--	--	--	--	--	0.97 U	0.95 U	--
Acenaphthene	0.010 U	--	0.52	0.048 U	--	--	0.25	0.196	0.15	--	0.050 U	0.048 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.048 U	0.048 U	--
Acenaphthylene	0.010 U	--	0.012 J	0.038 U	--	--	0.010 U	0.010 U	0.010 U	--	0.032 J	0.038 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.039 U	0.038 U	--
Acetonitrile	--	--	--	--	2.0 U	2.0 U	--	--	--	--	--	--	--	2.0 U	2.0 U	--	--	--	--	--	--	--
Acrolein	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	--	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	--	--
Allyl Chloride	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Anthracene	0.010 U	--	0.013 J	0.019 U	--	--	0.010 U	0.021	0.010 U	--	0.020 U	0.019 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.019 U	0.019 U	--
Benz[a]anthracene	0.010 U	--	0.029 U	0.029 U	0.20 JN	0.010 U	0.010 U	0.027	0.010 U	--	0.0049 J	0.029 U	--	0.20 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--
Benzo(g,h,i)perylene	0.010 U	--	0.029 U	0.029 U	--	--	0.010 U	0.02	0.010 U	--	0.030 U	0.029 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--
Benzo[a]pyrene	0.010 U	--	0.020 U	0.019 U	0.010 U	0.010 U	0.010 U	0.021	0.010 U	--	0.020 U	0.019 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.019 U	--
Benzo[b]fluoranthene	0.010 U	--	0.039 U	--	0.010 U	0.010 U	0.010 U	0.024	0.010 U	--	0.040 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.039 U	--	--
Benzo[k]fluoranthene	0.010 U	--	0.029 U	--	0.010 U	0.010 U	0.010 U	0.011	0.010 U	--	0.030 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U	--	--
Benzofluoranthene	--	--	--	0.038 U	--	--	--	--	--	--	--	0.038 U	--	--	--	--	--	--	--	--	0.038 U	--
Benzoic Acid	--	--	0.98 U	0.95 UJ	--	--	--	--	--	--	7.0	0.95 UJ	--	--	--	--	--	--	--	1.1	0.95 UJ	--
Benzyl Alcohol	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
beta-Chloronaphthalene	--	--	0.029 U	0.029 UJ	--	--	--	--	--	--	0.030 U	0.029 UJ	--	--	--	--	--	--	--	0.029 U	0.029 UJ	--
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Bis(2-chloroethyl)ether	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Bis(2-chloroisopropyl)ether	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Bis(2-ethylhexyl)phthalate	--	--	0.098 UJ	1.4 U	--	--	--	--	--	--	0.21 UJ	1.4 U	--	--	--	--	--	--	--	1.4 U	1.4 U	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW02R		MW03								MW04									MW05		
	3/17/2010	8/18/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/16/2010	8/16/2010	1/5/2007	6/29/2007	7/13/2007	7/1/2009	9/18/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	1/16/2007	6/29/2007	7/13/2007
Semi-Volatile Organic Compounds (ug/L)																						
Bromobenzene	--	--	1.0 U	1.0 U	--	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	--	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Bromochloromethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Butyl Benzyl Phthlate	--	--	0.084 UJ	0.29 U	--	--	--	--	--	--	0.22 UJ	0.29 U	--	--	--	--	--	--	--	0.29 U	0.29 U	--
Carbazole	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Chrysene	0.010 U	--	0.020 U	0.019 U	0.010 U	0.010 U	0.010 U	0.021	0.010 U	--	0.0068 J	0.019 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.019 U	--
cis-1,3-Dichloropropene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
cis-1,4-Dichloro-2-butene	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Cumene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Dibenz[a,h]anthracene	0.010 U	--	0.029 U	0.029 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.030 U	0.029 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--
Dibromomethane (Methylene Bromide)	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Dibutyl-n-butyl Phthalate	--	--	0.12 UJ	0.19 U	--	--	--	--	--	--	0.22 UJ	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Dichlorodifluoromethane	--	--	1.0 U	1.0 U	0.50 U	--	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	--	--	0.50 U	--	--	1.0 U	1.0 U	--
Diethyl Phthalate	--	--	0.055 UJ	0.19 U	--	--	--	--	--	--	0.043 UJ	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Dimethyl Phthalate	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Di-n-octyl Phthalate	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Ethyl cyanide	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Fluoranthene	0.010 U	--	0.014 J	0.024 U	--	--	0.010 U	0.033	0.010 U	--	0.025 U	0.024 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.024 U	0.024 U	--
Fluorene	0.010 U	--	0.059	0.077	--	--	0.058	0.057	0.035	--	0.030 U	0.029 U	--	--	--	0.017	0.010 U	0.010 U	--	0.029 U	0.029 U	--
Hexachlorobenzene	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Hexachlorobutadiene	--	--	0.29 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.30 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.29 U	1.0 U	--
Hexachlorocyclopentadiene	--	--	0.98 U	0.95 UJ	--	--	--	--	--	--	1.0 U	0.95 UJ	--	--	--	--	--	--	--	0.97 U	0.95 UJ	--
Hexachloroethane	--	--	0.29 U	0.29 UJ	--	--	--	--	--	--	0.30 U	0.29 UJ	--	--	--	--	--	--	--	0.29 U	0.29 UJ	--
Indeno[1,2,3-cd]pyrene	0.010 U	--	0.029 U	0.029 U	0.010 U	0.010 U	0.010 U	0.019	0.010 U	--	0.030 U	0.029 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--
Isophorone	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
Methacrylonitrile	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Methyl Acrylate	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Methyl Isobutyl Ketone	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Methyl Methacrylate	--	--	--	--	0.50 U	0.55	--	--	--	--	--	--	--	0.50 U	0.64	--	--	--	--	--	--	--
Methyl tert-Butyl Ether (MTBE)	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--
Naphthalene	0.020	--	0.030 J	1.0 U	0.10	0.50 U	0.010 U	0.013	0.010 U	--	0.029 J	1.0 U	--	0.50 U	0.50 U	0.058	0.021	0.021	--	0.19 U	1.0 U	--
n-Butylbenzene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
N-Hexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.20 U	0.19 U	0.50 U	0.50 U	--	--	--	--	0.20 U	0.19 U	--	0.50 U	0.50 U	--	--	--	--	0.19 U	0.19 U	--
N-Nitroso-di-N-propylamine	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
N-Nitrosodiphenylamine	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
o-Chlorotoluene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
o-Cresol	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
p-Chloroaniline	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
p-chloro-m-Cresol	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
p-Chlorotoluene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
p-Cresol	--	--	--	0.38 U	--	--	--	--	--	--	--	110	--	--	--	--	--	--	--	--	0.38 U	--
Pentachlorobenzene	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Pentachlorophenol	--	--	0.14 J	0.33 U	--	--	--	--	--	--	0.35 U	0.33 U	--	--	--	--	--	--	--	0.34 U	0.33 U	--
Phenanthrene	0.010 U	--	0.017 J	0.038 U	--	--	0.010 U	0.027	0.010 U	--	0.040 U	0.038 U	--	--	--	0.012	0.010 U	0.010 U	--	0.039 U	0.038 U	--
Phenol	--	--	0.29 U	0.29 U	--	--	--	--	--	--	0.39	0.29 U	--	--	--	--	--	--	--	0.29 U	0.29 U	--
Propyl benzene	--	--	1.0 U	1.0 U	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	--	1.0 U	1.0 U	--
Pyrene	0.010 U	--	0.018 J	0.029 U	--	--	0.010 U	0.035	0.010 U	--	0.030 U	0.029 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--
sec-Butylbenzene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
tert-Butylbenzene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Total cPAHs [1]	0.015 U	--	0.036 U	0.028 U	0.027 JN	0.015 U	0.015 U	0.02981	0.015 U	--	0.017 J	0.028 U	--	0.027 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	0.035 U	0.028 U	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW02R		MW03								MW04									MW05		
	3/17/2010	8/18/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/16/2010	8/16/2010	1/5/2007	6/29/2007	7/13/2007	7/1/2009	9/18/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	1/16/2007	6/29/2007	7/13/2007
Semi-Volatile Organic Compounds (ug/L)																						
Total Naphthalenes	0.025	--	0.22 J	0.66	0.11	0.52 U	0.020 U	0.50 U	0.020 U	--	0.065 J	1.1 U	--	0.52 U	0.52 U	0.13	0.042	0.038	--	0.32 U	1.1 U	--
trans-1,3-Dichloropropene	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
trans-1,4-Dichloro-2-butene	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--
Vinyl Acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans (ug/L)[1]																						
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (ug/L)																						
Aroclor 1016	--	--	0.50 U	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.47 U	--	0.010 U	0.010 U	--	0.20 U	--	--	0.49 U	0.48 U	--
Aroclor 1221	--	--	0.50 U	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.47 U	--	0.010 U	0.010 U	--	0.20 U	--	--	0.49 U	0.48 U	--
Aroclor 1232	--	--	0.50 U	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.47 U	--	0.010 U	0.010 U	--	0.20 U	--	--	0.49 U	0.48 U	--
Aroclor 1242	--	--	0.50 U	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.47 U	--	--	0.010 U	--	0.20 U	--	--	0.49 U	0.48 U	--
Aroclor 1248	--	--	0.50 U	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.47 U	--	0.010 U	0.010 U	--	0.20 U	--	--	0.49 U	0.48 U	--
Aroclor 1254	--	--	0.50 U	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.47 U	--	0.010 U	0.010 U	--	0.20 U	--	--	0.49 U	0.48 U	--
Aroclor 1260	--	--	0.50 U	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.47 U	--	0.010 U	0.010 U	--	0.20 U	--	--	0.49 U	0.48 U	--
Metals (ug/L)																						
Antimony (metallic)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, Inorganic (Total)	10	24	2.0 U	2.0 U	7.3	2.7	2.7	4.6	2.2	7.2	16	13	--	9.5	8.0	7.3	5.3	5.2	1.1	2.0 U	2.0 U	--
Arsenic, Inorganic (Dissolved)	1.3	8.7	--	--	10 BJ	9.7 BJ	3.0	4.0	2.3	2.7	--	--	--	8.7 BJ	9.9 BJ	1.8	1.0 U	1.0 U	1.9	--	--	--
Barium (Total)	--	--	22	23	232	117	--	25	--	--	14	49	--	61	59	--	43	--	--	140	110	--
Barium (Dissolved)	--	--	--	--	191 BJ	--	--	--	--	--	--	--	--	18 BJ	--	--	--	--	--	--	--	--
Beryllium and compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (Total)	--	--	2.0 U	2.0 U	0.50 U	0.50 U	--	1.0 U	--	--	2.0 U	2.0 U	--	0.50 U	0.50 U	--	1.0 U	--	--	2.0 U	2.0 U	--
Cadmium (Dissolved)	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--
Chromium (Total)	1.0 U	--	10 U	25 U	3.8	0.69	--	1.9	1.0 U	--	10 U	25 U	--	4.3	2.4	--	1.9	1.8	--	10 U	25 U	--
Chromium (Dissolved)	1.0 U	--	--	--	0.80 J	--	--	--	1.0 U	--	--	--	--	0.60 J	--	--	--	1.0 U	--	--	--	--
Cobalt	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper (Total)	1.5	1.0 U	--	--	4.6 BJ	0.91 BJ	1.0 U	2.4	1.0 U	2.8	--	--	--	8.4 BJ	1.3 BJ	1.4	1.2	2.6	2.6	--	--	--
Copper (Dissolved)	1.0 U	1.5700000	--	--	2.3 BJ	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.70 BJ	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--
Lead and Compounds (Total)	7.5	6.8	0.24 UJ	2.0 U	1.9	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	0.040 J	2.0 U	--	1.9	0.61	1.0 U	1.0 U	1.0 U	1.8	2.0 U	2.0 U	--
Lead and Compounds (Dissolved)	1.0 U	1.0 U	--	--	0.50 U	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.70 BJ	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--
Mercury, elemental (Total)	--	--	0.087 J	0.20 U	0.50 U	0.50 U	--	0.10 U	--	--	0.20 U	0.20 U	--	0.50 U	0.50 U	--	0.10 U	--	--	0.20 U	0.20 U	--
Mercury, elemental (Dissolved)	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW02R		MW03								MW04									MW05		
	3/17/2010	8/18/2010	1/4/2007	6/28/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/16/2010	8/16/2010	1/5/2007	6/29/2007	7/13/2007	7/1/2009	9/18/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	1/16/2007	6/29/2007	7/13/2007
Metals (ug/L)																						
Nickel Soluble Salts (Total)	1.0 U	1.0 U	--	--	5.6	1.0 BJ	1.0 U	1.9	1.0 U	1.2	--	--	--	2.8	1.5 BJ	1.4	1.0 U	1.0 U	1.2	--	--	--
Nickel Soluble Salts (Dissolved)	1.0 U	1.0 U	--	--	1.7 BJ	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.1 BJ	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--
Selenium (Total)	--	--	50 U	100 U	1.2	0.50 U	--	1.0 U	--	--	50 U	100 U	--	0.50	0.50 U	--	1.0 U	--	--	50 U	100 U	--
Selenium (Dissolved)	--	--	--	--	1.1 J	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--
Silver (Total)	--	--	10 U	20 U	0.50 U	0.50 U	--	1.0 U	--	--	10 U	20 U	--	0.50 U	0.50 U	--	1.0 U	--	--	10 U	20 U	--
Silver (Dissolved)	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--
Thallium (Soluble Salts)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc and Compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dinitrotoluenes (ug/L)																						
2,4-Dinitrotoluene	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--
2,6-Dinitrotoluene	--	--	0.20 U	0.19 U	--	--	--	--	--	--	0.20 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--

Notes:

--: Not analyzed

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

[1] Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in Groundwater and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in Groundwater. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

[2] MW12 was resampled in February 2015.

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW06			MW07									MW08									MW09
	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/18/2009	3/16/2010	8/18/2010	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	1/18/2007
Total Petroleum Hydrocarbons (ug/L)																						
TPH-D	170	--	59 UJ	120 U	--	37 UJ	250 U	250 U	--	100 U	100 U	100 U	120 U	--	45 UJ	250 U	250 U	--	249	100 U	100 U	120 U
TPH-G	50 U	50 U	--	50 U	50 U	--	50 U	50 U	--	500 U	250 U	--	50 U	50 U	--	50 U	50 U	--	500 U	250 U	--	180
TPH-HO	240 U	--	240 U	240 U	--	240 U	500 U	500 U	--	500 U	500 U	500 U	240 U	--	240 U	500 U	500 U	--	500 U	500 U	500 U	240 U
Volatile Organic Compounds (ug/L)																						
1,1,1-Trichloroethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,1,2-Trichloroethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,1-Dichloroethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,1-Dichloroethylene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,2-cis-Dichloroethylene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,2-Dichloroethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,2-Dichloropropane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,2-trans-Dichloroethylene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,4-Dichlorobenzene	0.19 U	1.0 U	--	0.19 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U
2-Chloroethyl vinyl ether	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--
Acetone	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--
Benzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U
Bromodichloromethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Bromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Bromomethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Carbon Disulfide	--	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--
Carbon Tetrachloride	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Chlorobenzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Chloroform	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Chloromethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Dibromochloromethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Dichlorodifluoroethene	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--
Ethyl Chloride	5.0 U	5.0 U	--	5.0 U	5.0 U	--	0.50 U	--	--	0.50 U	--	--	5.0 U	5.0 U	--	0.50 U	--	--	0.50 U	--	--	5.0 U
Ethyl Ether	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
Ethylbenzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U
m&p-Xylene	2.0 U	2.0 U	--	2.0 U	2.0 U	--	0.50 U	0.50 U	--	0.50 U	1.0 U	--	2.0 U	2.0 U	--	0.50 U	0.50 U	--	0.50 U	1.0 U	--	2.0 U
Methyl Ethyl Ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--
Methyl Iodide	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--
Methylene Chloride	1.0 U	1.0 U	--	1.0 U	1.0 U	--	--	--	--	2.5 U	--	--	1.0 U	1.0 U	--	--	--	--	2.5 U	--	--	1.0 U
n-Propylbenzene	--	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--
o-Xylene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U
p-Isopropyltoluene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.10 J	--	0.50 U	0.50 U	--	0.50 U	--	--	58
Styrene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Tetrachloroethylene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Tetrahydrofuran	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--
Toluene	0.56 J	2.6	--	0.086 J	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.080 J	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.89 J
Total Xylenes	3.0 U	3.0 U	--	3.0 U	3.0 U	--	1.0 U	1.0 U	--	1.0 U	1.5 U	--	3.0 U	3.0 U	--	1.0 U	1.0 U	--	1.0 U	1.5 U	--	3.0 U
Trichloroethylene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Vinyl Chloride	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Semi-Volatile Organic Compounds (ug/L)																						
1,1,1,2-Tetrachloroethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW06			MW07									MW08									MW09
	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/18/2009	3/16/2010	8/18/2010	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	1/18/2007
Semi-Volatile Organic Compounds (ug/L)																						
1,2,3-Trichlorobenzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,2,3-Trichloropropane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,2,4-Trichlorobenzene	0.19 U	1.0 U	--	0.19 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U
1,2,4-Trimethylbenzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,2-Dibromo-3-chloropropane	2.0 U	2.0 U	--	2.0 U	2.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	2.0 U	2.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	2.0 U
1,2-Dibromoethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,2-Dichlorobenzene	0.19 U	1.0 U	--	0.19 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U
1,3,5-Trimethylbenzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1,3-Dichlorobenzene	0.19 U	1.0 U	--	0.19 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U
1,3-Dichloropropane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
1-Methylnaphthalene	0.035	0.029 U	--	0.028 U	0.029 U	--	0.010 U	0.010 U	--	--	--	--	0.028 U	0.028 U	--	0.010 U	0.50	--	--	--	--	0.029 U
2,2-Dichloropropane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	--	--	--	0.50 U	--	--	1.0 U	1.0 U	--	--	--	--	0.50 U	--	--	1.0 U
2,4,5-Trichlorophenol	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
2,4,6-Trichlorophenol	0.28 U	0.29 U	--	0.28 U	0.29 U	--	--	--	--	--	--	--	0.28 U	0.28 U	--	--	--	--	--	--	--	0.29 U
2,4-Dichlorophenol	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
2,4-Dimethylphenol	0.95 U	0.96 U	--	0.95 U	0.95 U	--	--	--	--	--	--	--	0.95 U	0.94 U	--	--	--	--	--	--	--	0.95 U
2,4-Dinitrophenol	2.4 U	2.4 U	--	2.4 U	2.4 U	--	--	--	--	--	--	--	2.4 U	2.4 U	--	--	--	--	--	--	--	2.4 U
2-Chloro-1,3-butadiene	--	--	--	--	--	--	3.0 U	3.0 U	--	--	--	--	--	--	--	3.0 U	3.0 U	--	--	--	--	--
2-Chlorophenol	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
2-Methylnaphthalene	0.095 U	0.096 U	--	0.095 U	0.095 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.095 U	0.094 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.034	--	0.095 U
2-Nitroaniline	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
2-Nitrophenol	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
3- & 4-Methylphenol Coelution	1.3	--	--	0.38 U	--	--	--	--	--	--	--	--	0.38 U	--	--	--	--	--	--	--	--	2.3
3,3'-Dichlorobenzidine	0.95 U	0.96 U	--	0.95 U	0.95 U	--	--	--	--	--	--	--	0.95 U	0.94 U	--	--	--	--	--	--	--	0.95 U
3-Nitroaniline	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
4,6-Dinitro-o-cresol	1.9 U	1.9 U	--	1.9 U	1.9 U	--	--	--	--	--	--	--	1.9 U	1.9 U	--	--	--	--	--	--	--	1.9 U
4-Bromophenylphenylether	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
4-Chlorophenylphenylether	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
4-Nitroaniline	0.28 U	0.29 U	--	0.28 U	0.29 U	--	--	--	--	--	--	--	0.28 U	0.28 U	--	--	--	--	--	--	--	0.29 U
4-Nitrophenol	0.95 U	0.96 U	--	0.95 U	0.95 U	--	--	--	--	--	--	--	0.95 U	0.94 U	--	--	--	--	--	--	--	0.95 U
Acenaphthene	0.047 U	0.048 U	--	0.047 U	0.048 U	--	--	--	0.010 U	0.010 U	0.012	--	0.047 U	0.15	--	--	--	0.29	0.26	0.28	--	0.048 U
Acenaphthylene	0.038 U	0.038 U	--	0.038 U	0.038 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.038 U	0.038 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.038 U
Acetonitrile	--	--	--	--	--	--	2.0 U	2.0 U	--	--	--	--	--	--	--	2.0 U	2.0 U	--	--	--	--	--
Acrolein	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	--	--	--	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--
Allyl Chloride	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
Anthracene	0.019 U	0.019 U	--	0.019 U	0.019 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.019 U	0.019 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.019 U
Benz[a]anthracene	0.028 U	0.029 U	--	0.028 U	0.029 U	--	0.20 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	0.028 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U
Benzo(g,h,i)perylene	0.028 U	0.029 U	--	0.028 U	0.029 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.028 U	0.028 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.029 U
Benzo[a]pyrene	0.019 U	0.019 U	--	0.019 U	0.019 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.019 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U
Benzo[b]fluoranthene	0.038 U	--	--	0.038 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.038 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.038 U
Benzo[k]fluoranthene	0.028 U	--	--	0.028 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U
Benzofluoranthene	--	0.038 U	--	--	0.038 U	--	--	--	--	--	--	--	--	0.038 U	--	--	--	--	--	--	--	--
Benzoic Acid	0.95 U	0.96 UJ	--	1.3	0.95 UJ	--	--	--	--	--	--	--	0.95 U	0.94 UJ	--	--	--	--	--	--	--	0.95 U
Benzyl Alcohol	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
beta-Chloronaphthalene	0.028 U	0.029 UJ	--	0.028 U	0.029 UJ	--	--	--	--	--	--	--	0.028 U	0.028 UJ	--	--	--	--	--	--	--	0.029 U
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
Bis(2-chloroethyl)ether	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
Bis(2-chloroisopropyl)ether	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
Bis(2-ethylhexyl)phthalate	76	1.4 U	--	1.4 U	1.4 U	--	--	--	--	--	--	--	8.1	1.4 U	--	--	--	--	--	--	--	1.4 U

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW06			MW07									MW08									MW09
	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/18/2009	3/16/2010	8/18/2010	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	1/18/2007
Semi-Volatile Organic Compounds (ug/L)																						
Bromobenzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	--	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	--	0.50 U	--	0.50 U	--	--	1.0 U
Bromochloromethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Butyl Benzyl Phthlate	0.28 U	0.29 U	--	0.28 U	0.29 U	--	--	--	--	--	--	--	0.28 U	0.28 U	--	--	--	--	--	--	--	0.29 U
Carbazole	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
Chrysene	0.019 U	0.019 U	--	0.019 U	0.019 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.019 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U
cis-1,3-Dichloropropene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
cis-1,4-Dichloro-2-butene	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
Cumene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Dibenz[a,h]anthracene	0.028 U	0.029 U	--	0.028 U	0.029 U	--	1.8 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	0.028 U	--	1.8 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U
Dibromomethane (Methylene Bromide)	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Dibutyl-n-butyl Phthalate	0.23	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.31	0.19 U	--	--	--	--	--	--	--	0.23
Dichlorodifluoromethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	--	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	--	--	0.50 U	--	--	1.0 U
Diethyl Phthalate	0.19 U	0.19 U	--	0.23	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
Dimethyl Phthalate	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
Di-n-octyl Phthalate	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
Ethyl cyanide	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
Fluoranthene	0.024 U	0.024 U	--	0.024 U	0.024 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.024 U	0.024 U	--	--	--	0.012	0.010 U	0.010 U	--	0.024 U
Fluorene	0.028 U	0.029 U	--	0.028 U	0.029 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.028 U	0.028 U	--	--	--	0.11	0.11	0.20	--	0.029 U
Hexachlorobenzene	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
Hexachlorobutadiene	0.28 U	1.0 U	--	0.28 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.28 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	0.29 U
Hexachlorocyclopentadiene	0.95 U	0.96 UJ	--	0.95 U	0.95 UJ	--	--	--	--	--	--	--	0.95 U	0.94 UJ	--	--	--	--	--	--	--	0.95 U
Hexachloroethane	0.28 U	0.29 UJ	--	0.28 U	0.29 UJ	--	--	--	--	--	--	--	0.28 U	0.28 UJ	--	--	--	--	--	--	--	0.29 U
Indeno[1,2,3-cd]pyrene	0.028 U	0.029 U	--	0.028 U	0.029 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	0.028 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U
Isophorone	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
Methacrylonitrile	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
Methyl Acrylate	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
Methyl Isobutyl Ketone	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--
Methyl Methacrylate	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
Methyl tert-Butyl Ether (MTBE)	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--
Naphthalene	0.19 U	1.0 U	--	0.19 U	1.0 U	--	0.50 U	0.50 U	0.010 U	0.019	0.010 U	--	0.19 U	1.0 U	--	0.50 U	0.50	0.010 U	0.50 U	0.027	--	0.19 U
n-Butylbenzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
N-Hexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.50 U	0.50 U	--	--	--	--	0.19 U	0.19 U	--	0.50 U	0.50 U	--	--	--	--	0.19 U
N-Nitroso-di-N-propylamine	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
N-Nitrosodiphenylamine	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
o-Chlorotoluene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
o-Cresol	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
p-Chloroaniline	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
p-chloro-m-Cresol	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
p-Chlorotoluene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
p-Cresol	--	0.38 U	--	--	0.38 U	--	--	--	--	--	--	--	--	0.38 U	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
Pentachlorophenol	0.33 U	0.34 U	--	0.33 U	0.33 U	--	--	--	--	--	--	--	0.33 U	0.33 U	--	--	--	--	--	--	--	0.33 U
Phenanthrene	0.039	0.038 U	--	0.038 U	0.038 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.038 U	0.038 U	--	--	--	0.024	0.014	0.087	--	0.038 U
Phenol	0.32	0.29 U	--	0.28 U	0.29 U	--	--	--	--	--	--	--	0.28 U	0.28 U	--	--	--	--	--	--	--	0.29 U
Propyl benzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	--	1.0 U
Pyrene	0.028 U	0.029 U	--	0.028 U	0.029 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.028 U	0.028 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.029 U
sec-Butylbenzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
tert-Butylbenzene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Total cPAHs [1]	0.034 U	0.028 U	--	0.034 U	0.028 U	--	0.21 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	0.034 U	0.028 U	--	0.19 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	0.035 U

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW06			MW07									MW08									MW09
	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/18/2009	3/16/2010	8/18/2010	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	1/18/2007
Semi-Volatile Organic Compounds (ug/L)																						
Total Naphthalenes	0.18	1.1 U	--	0.31 U	1.1 U	--	0.52 U	0.52 U	0.020 U	0.024	0.020 U	--	0.31 U	1.1 U	--	0.52 U	1.0	0.020 U	0.51 U	0.061	--	0.31 U
trans-1,3-Dichloropropene	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
trans-1,4-Dichloro-2-butene	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--
Trichlorofluoromethane	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U
Vinyl Acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans (ug/L)[1]																						
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (ug/L)																						
Aroclor 1016	0.47 U	0.48 U	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U
Aroclor 1221	0.47 U	0.48 U	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U
Aroclor 1232	0.47 U	0.48 U	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U
Aroclor 1242	0.47 U	0.48 U	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U
Aroclor 1248	0.47 U	0.48 U	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U
Aroclor 1254	0.47 U	0.48 U	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U
Aroclor 1260	0.47 U	0.48 U	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U	0.48 U	--	--	0.010 U	--	0.20 U	--	--	0.47 U
Metals (ug/L)																						
Antimony (metallic)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, Inorganic (Total)	2.0 U	2.0 U	--	2.0 U	2.5	--	2.7	6.2	4.4	3.0	2.5	4.2	2.3	2.0	--	1.4	1.3	2.1	1.4	3.0	2.0	2.0 U
Arsenic, Inorganic (Dissolved)	--	--	--	--	--	--	--	10 BJ	2.1	1.8	2.2	3.8	--	--	--	--	6.1 BJ	1.0 U	1.0 U	1.0 U	1.0	--
Barium (Total)	100	120	--	5.0 U	16	--	15	22	--	15	--	--	27	190	--	36	43	--	107	--	--	48
Barium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium and compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (Total)	2.0 U	2.0 U	--	2.0 U	2.0 U	--	0.50 U	0.50 U	--	1.0 U	--	--	2.0 U	2.0 U	--	0.50 U	0.50 U	--	1.0 U	--	--	2.0 U
Cadmium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	10 U	25 U	--	10 U	25 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--	10 U	25 U	--	1.0	1.3	--	1.3	1.0 U	--	10 U
Chromium (Dissolved)	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--	--	--	--	--	--	--	1.0 U	--	--
Cobalt	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper (Total)	--	--	--	--	--	--	0.50 U	0.75 BJ	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.60 BJ	0.70 BJ	1.0	1.0 U	1.5	1.6	--
Copper (Dissolved)	--	--	--	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.9	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--
Lead and Compounds (Total)	2.0 U	2.0 U	--	2.0 U	2.0 U	--	0.70	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	--	0.50 U	0.87	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Lead and Compounds (Dissolved)	--	--	--	--	--	--	--	--	1.0 U	1.4	1.0 U	1.0 U	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--
Mercury, elemental (Total)	0.20 U	0.20 U	--	0.20 U	0.20 U	--	0.50 U	0.50 U	--	0.10 U	--	--	0.20 U	0.20 U	--	0.50 U	0.50 U	--	0.10 U	--	--	0.20 U
Mercury, elemental (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW06			MW07									MW08									MW09
	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/18/2009	3/16/2010	8/18/2010	1/18/2007	6/29/2007	7/13/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	1/18/2007
Metals (ug/L)																						
Nickel Soluble Salts (Total)	--	--	--	--	--	--	0.50 U	0.50 BJ	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.50 U	0.67 BJ	1.0 U	1.0 U	1.0 U	1.0 U	--
Nickel Soluble Salts (Dissolved)	--	--	--	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--
Selenium (Total)	50 U	100 U	--	50 U	100 U	--	0.50 U	0.50 U	--	1.0 U	--	--	50 U	100 U	--	0.50 U	0.50 U	--	1.0 U	--	--	50 U
Selenium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver (Total)	10 U	20 U	--	10 U	20 U	--	0.50 U	0.50 U	--	1.0 U	--	--	10 U	20 U	--	0.50 U	0.50 U	--	1.0 U	--	--	10 U
Silver (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium (Soluble Salts)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc and Compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dinitrotoluenes (ug/L)																						
2,4-Dinitrotoluene	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U
2,6-Dinitrotoluene	0.19 U	0.19 U	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	0.19 U

Notes:

--: Not analyzed

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

[1] Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in Groundwater and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in Groundwater. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

[2] MW12 was resampled in February 2015.

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW09							MW10			MW11							MW12				
	6/28/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/15/2010	8/17/2010	1/16/2007	6/29/2007	7/13/2007	8/15/2007	7/1/2009	9/18/2009	11/20/2009	12/17/2009	3/15/2010	8/18/2010	8/15/2007	9/21/2009	11/19/2009	12/17/2009	3/16/2010
Total Petroleum Hydrocarbons (ug/L)																						
TPH-D	120 U	250 U	250 U	--	152	100 U	100 U	120 U	--	82 UJ	120 U	250 U	250 U	--	100 U	100 U	151	120 U	250 U	--	100 U	100 U
TPH-G	58	50 U	50 U	--	500 U	250 U	--	50 U	50 U	--	50 U	50 U	50 U	--	500 U	250 U	--	50 U	50 U	--	500 U	250 U
TPH-HO	240 U	500 U	500 U	--	500 U	500 U	500 U	250 U	--	240 U	240 U	500 U	500 U	--	500 U	500 U	500 U	240 U	500 U	--	500 U	500 U
Volatile Organic Compounds (ug/L)																						
1,1,1-Trichloroethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,1,2,2-Tetrachloroethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,1,2-Trichloroethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,1-Dichloroethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,1-Dichloroethylene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,2-cis-Dichloroethylene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,2-Dichloroethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,2-Dichloropropane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,2-trans-Dichloroethylene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,4-Dichlorobenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
2-Chloroethyl vinyl ether	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
2-Hexanone	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	2.5 U	--
Acetone	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	2.5 U	--
Benzene	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.11 J	0.12 J	--	1.0 U	4.2	1.1	--	1.0	0.50 U	--	1.0 U	0.50 U	--	0.50 U	0.50 U
Bromodichloromethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Bromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Bromomethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Carbon Disulfide	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	--	0.50 U	--
Carbon Tetrachloride	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Chlorobenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Chloroform	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Chloromethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	0.2 J	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Dibromochloromethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Dichlorodifluoroethene	--	--	0.50 U	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Ethyl Chloride	5.0 U	0.50 U	--	--	0.50 U	--	--	5.0 U	5.0 U	--	5.0 U	0.50 U	--	--	0.50 U	--	--	5.0 U	--	--	0.50 U	--
Ethyl Ether	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Ethylbenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--	1.0 U	0.70	0.50 U	--	0.50 U	0.50 U	--	1.0 U	0.50 U	--	0.50 U	0.50 U
m&p-Xylene	2.0 U	0.50 U	0.50 U	--	0.50 U	1.0 U	--	0.22 J	0.22 J	--	2.0 U	3.9	0.50 U	--	0.50 U	1.0 U	--	2.0 U	0.50 U	--	0.50 U	1.0 U
Methyl Ethyl Ketone (2-Butanone)	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	2.5 U	--
Methyl Iodide	--	1.0 U	1.0 U	--	--	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	1.0 U	--	--	--
Methylene Chloride	1.0 U	--	2.5 U	--	2.5 U	--	--	1.0 U	1.0 U	--	1.0 U	--	--	--	2.5 U	--	--	1.0 U	--	--	2.5 U	--
n-Propylbenzene	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	1.9	0.50 U	--	0.50 U	--	--	--	0.50 U	--	0.50 U	--
o-Xylene	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.11 J	1.0 U	--	1.0 U	1.3	0.50 U	--	0.50 U	0.50 U	--	1.0 U	0.50 U	--	0.50 U	0.50 U
p-Isopropyltoluene	19	0.50 U	0.50 U	--	0.50 U	--	--	0.21 J	0.42 J	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Styrene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Tetrachloroethylene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Tetrahydrofuran	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Toluene	7.4	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.27 J	0.35 J	--	1.0 U	1.7	0.50 U	--	0.50 U	0.50 U	--	1.0 U	0.50 U	--	0.50 U	0.50 U
Total Xylenes	3.0 U	1.0 U	1.0 U	--	1.0 U	1.5 U	--	0.33 J	0.72 J	--	3.0 U	5.2	1.0 U	--	1.0 U	1.5 U	--	3.0 U	1.0 U	--	1.0 U	1.5 U
Trichloroethylene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Vinyl Chloride	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Semi-Volatile Organic Compounds (ug/L)																						
1,1,1,2-Tetrachloroethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW09							MW10			MW11							MW12				
	6/28/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/15/2010	8/17/2010	1/16/2007	6/29/2007	7/13/2007	8/15/2007	7/1/2009	9/18/2009	11/20/2009	12/17/2009	3/15/2010	8/18/2010	8/15/2007	9/21/2009	11/19/2009	12/17/2009	3/16/2010
Semi-Volatile Organic Compounds (ug/L)																						
1,2,3-Trichlorobenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,2,3-Trichloropropane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,2,4-Trichlorobenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,2,4-Trimethylbenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.15 J	0.16 J	--	1.0 U	5.5	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,2-Dibromo-3-chloropropane	2.0 U	0.50 U	0.50 U	--	0.50 U	--	--	2.0 U	2.0 U	--	2.0 U	0.50 U	0.50 U	--	0.50 U	--	--	2.0 U	0.50 U	--	0.50 U	--
1,2-Dibromoethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,2-Dichlorobenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,3,5-Trimethylbenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	5.6	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,3-Dichlorobenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.19 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1,3-Dichloropropane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
1-Methylnaphthalene	0.028 U	0.010 U	0.010 U	--	--	--	--	0.029 U	0.029 U	--	0.029 U	0.40	0.010 U	--	--	--	--	0.028 U	0.010 U	--	--	--
2,2-Dichloropropane	1.0 U	--	--	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	--	--	--	0.50 U	--	--	1.0 U	--	--	0.50 U	--
2,4,5-Trichlorophenol	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
2,4,6-Trichlorophenol	0.28 U	--	--	--	--	--	--	0.29 U	0.29 U	--	0.29 U	--	--	--	--	--	--	0.28 U	--	--	--	--
2,4-Dichlorophenol	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
2,4-Dimethylphenol	0.94 U	--	--	--	--	--	--	0.97 U	0.95 U	--	0.95 U	--	--	--	--	--	--	0.94 U	--	--	--	--
2,4-Dinitrophenol	2.4 U	--	--	--	--	--	--	2.4 U	2.4 U	--	2.4 U	--	--	--	--	--	--	2.4 U	--	--	--	--
2-Chloro-1,3-butadiene	--	3.0 U	3.0 U	--	--	--	--	--	--	--	--	3.0 U	3.0 U	--	--	--	--	--	3.0 U	--	--	--
2-Chlorophenol	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
2-Methylnaphthalene	0.094 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.097 U	0.095 U	--	0.095 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.094 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Nitroaniline	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
2-Nitrophenol	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	6.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	0.94 U	--	--	--	--	--	--	0.97 U	0.95 U	--	0.95 U	--	--	--	--	--	--	0.94 U	--	--	--	--
3-Nitroaniline	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
4,6-Dinitro-o-cresol	1.9 U	--	--	--	--	--	--	1.9 U	1.9 U	--	1.9 U	--	--	--	--	--	--	1.9 U	--	--	--	--
4-Bromophenylphenylether	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
4-Chlorophenylphenylether	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
4-Nitroaniline	0.28 U	--	--	--	--	--	--	0.29 U	0.29 U	--	0.29 U	--	--	--	--	--	--	0.28 U	--	--	--	--
4-Nitrophenol	0.94 U	--	--	--	--	--	--	0.97 U	0.95 U	--	0.95 U	--	--	--	--	--	--	0.94 U	--	--	--	--
Acenaphthene	0.047 U	--	--	0.010 U	0.010 U	0.010 U	--	0.049 U	0.048 U	--	0.048 U	--	--	0.013	0.014	0.017	--	0.047 U	--	0.010 U	0.010 U	0.010 U
Acenaphthylene	0.038 U	--	--	0.010 U	0.010 U	0.010 U	--	0.039 U	0.038 U	--	0.038 U	--	--	0.010 U	0.010 U	0.010 U	--	0.038 U	--	0.010 U	0.010 U	0.010 U
Acetonitrile	--	2.0 U	2.0 U	--	--	--	--	--	--	--	--	2.0 U	2.0 U	--	--	--	--	--	2.0 U	--	--	--
Acrolein	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	--	2.0 U	2.0 U	--	0.50 U	--	--	--	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	2.0 U	--	0.50 U	--
Allyl Chloride	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Anthracene	0.019 U	--	--	0.010 U	0.010 U	0.010 U	--	0.019 U	0.019 U	--	0.019 U	--	--	0.010 U	0.010 U	0.010 U	--	0.019 U	--	0.010 U	0.010 U	0.010 U
Benz[a]anthracene	0.028 U	0.2 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--	0.029 U	0.2 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	1.0 JN	0.010 U	0.010 U	0.010 U
Benzo(g,h,i)perylene	0.028 U	--	--	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--	0.029 U	--	--	0.010 U	0.010 U	0.010 U	--	0.028 U	--	0.010 U	0.010 U	0.010 U
Benzo[a]pyrene	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.019 U	--	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo[b]fluoranthene	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.039 U	--	--	0.038 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.038 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo[k]fluoranthene	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U	--	--	0.029 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzofluoranthene	0.038 U	--	--	--	--	--	--	--	0.038 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	0.94 UJ	--	--	--	--	--	--	7.3	0.95 UJ	--	0.95 U	--	--	--	--	--	--	0.94 U	--	--	--	--
Benzyl Alcohol	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
beta-Chloronaphthalene	0.028 UJ	--	--	--	--	--	--	0.029 U	0.029 UJ	--	0.029 UJ	--	--	--	--	--	--	0.028 UJ	--	--	--	--
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Bis(2-chloroethyl)ether	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Bis(2-chloroisopropyl)ether	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.4 U	--	--	--	--	--	--	24	1.4 U	--	1.4 U	--	--	--	--	--	--	1.4 U	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW09							MW10			MW11							MW12				
	6/28/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/15/2010	8/17/2010	1/16/2007	6/29/2007	7/13/2007	8/15/2007	7/1/2009	9/18/2009	11/20/2009	12/17/2009	3/15/2010	8/18/2010	8/15/2007	9/21/2009	11/19/2009	12/17/2009	3/16/2010
Semi-Volatile Organic Compounds (ug/L)																						
Bromobenzene	1.0 U	--	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	--	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Bromochloromethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Butyl Benzyl Phthlate	0.28 U	--	--	--	--	--	--	0.29 U	0.29 U	--	0.29 U	--	--	--	--	--	--	0.28 U	--	--	--	--
Carbazole	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Chrysene	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.019 U	--	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U
cis-1,3-Dichloropropene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
cis-1,4-Dichloro-2-butene	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Cumene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Dibenz[a,h]anthracene	0.028 U	1.8 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--	0.029 U	1.8 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibromomethane (Methylene Bromide)	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Dibutyl-n-butyl Phthalate	0.19 U	--	--	--	--	--	--	4.0	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Dichlorodifluoromethane	1.0 U	0.50 U	--	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	--	--	0.50 U	--	--	1.0 U	--	--	0.50 U	--
Diethyl Phthalate	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Dimethyl Phthalate	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Di-n-octyl Phthalate	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Ethyl cyanide	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Fluoranthene	0.024 U	--	--	0.010 U	0.010 U	0.010 U	--	0.024 U	0.024 U	--	0.024 U	--	--	0.010 U	0.010 U	0.010 U	--	0.024 U	--	0.010 U	0.010 U	0.010 U
Fluorene	0.028 U	--	--	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029	--	0.029 U	--	--	0.010 U	0.010 U	0.012	--	0.028 U	--	0.010 U	0.010 U	0.010 U
Hexachlorobenzene	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Hexachlorobutadiene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.29 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Hexachlorocyclopentadiene	0.94 UJ	--	--	--	--	--	--	0.97 U	0.95 UJ	--	0.95 UJ	--	--	--	--	--	--	0.94 UJ	--	--	--	--
Hexachloroethane	0.28 UJ	--	--	--	--	--	--	0.29 U	0.29 UJ	--	0.29 UJ	--	--	--	--	--	--	0.28 UJ	--	--	--	--
Indeno[1,2,3-cd]pyrene	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--	0.029 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U
Isophorone	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
Methacrylonitrile	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Methyl Acrylate	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Methyl Isobutyl Ketone	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	2.5 U	--
Methyl Methacrylate	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.70	--	--	--
Methyl tert-Butyl Ether (MTBE)	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	0.50 U	--
Naphthalene	1.0 U	0.50 U	0.50 U	0.010 U	0.50 U	0.010 U	--	0.19 U	0.088 J	--	1.0 U	1.6	0.50 U	0.021	0.074	0.010 U	--	1.0 U	0.50 U	0.010 U	0.015	0.010 U
n-Butylbenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	1.1	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
N-Hexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	0.19 U	0.50 U	0.50 U	--	--	--	--	0.19 U	0.19 U	--	0.19 U	0.50 U	0.50 U	--	--	--	--	0.19 U	0.50 U	--	--	--
N-Nitroso-di-N-propylamine	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
N-Nitrosodiphenylamine	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
o-Chlorotoluene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
o-Cresol	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
p-Chloroaniline	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
p-chloro-m-Cresol	0.19 U	--	--	--	--	--	--	0.42	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
p-Chlorotoluene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
p-Cresol	0.38 U	--	--	--	--	--	--	--	510	--	0.38 U	--	--	--	--	--	--	0.38 U	--	--	--	--
Pentachlorobenzene	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Pentachlorophenol	0.33 U	--	--	--	--	--	--	0.34 U	0.33 U	--	0.33 U	--	--	--	--	--	--	0.33 U	--	--	--	--
Phenanthrene	0.038 U	--	--	0.010 U	0.010 U	0.010 U	--	0.039 U	0.038 U	--	0.038 U	--	--	0.010 U	0.010 U	0.010 U	--	0.038 U	--	0.010 U	0.010 U	0.010 U
Phenol	0.28 U	--	--	--	--	--	--	0.29 U	0.29 U	--	0.29 U	--	--	--	--	--	--	0.28 U	--	--	--	--
Propyl benzene	1.0 U	--	--	--	--	--	--	1.0 U	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--	--	--
Pyrene	0.028 U	--	--	0.010 U	0.010 U	0.010 U	--	0.029 U	0.029 U	--	0.029 U	--	--	0.010 U	0.010 U	0.010 U	--	0.028 U	--	0.010 U	0.010 U	0.010 U
sec-Butylbenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
tert-Butylbenzene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Total cPAHs [1]	0.028 U	0.21 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	0.035 U	0.028 U	--	0.035 U	0.21 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	0.034 U	0.11 JN	0.015 U	0.015 U	0.015 U

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW09							MW10			MW11							MW12				
	6/28/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/15/2010	8/17/2010	1/16/2007	6/29/2007	7/13/2007	8/15/2007	7/1/2009	9/18/2009	11/20/2009	12/17/2009	3/15/2010	8/18/2010	8/15/2007	9/21/2009	11/19/2009	12/17/2009	3/16/2010
Semi-Volatile Organic Compounds (ug/L)																						
Total Naphthalenes	1.1 U	0.52 U	0.52 U	0.020 U	0.51 U	0.020 U	--	0.32 U	0.15 J	--	1.1 U	2.0	0.52 U	0.026	0.079	0.020 U	--	1.1 U	0.52 U	0.020 U	0.020	0.020 U
trans-1,3-Dichloropropene	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
trans-1,4-Dichloro-2-butene	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	--	--	--
Trichlorofluoromethane	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	1.0 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	--	0.50 U	--
Vinyl Acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans (ug/L)[1]																						
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (ug/L)																						
Aroclor 1016	0.48 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.48 U	--	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.010 U	--	0.20 U	--
Aroclor 1221	0.48 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.48 U	--	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.010 U	--	0.20 U	--
Aroclor 1232	0.48 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.48 U	--	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.010 U	--	0.20 U	--
Aroclor 1242	0.48 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.48 U	--	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.010 U	--	0.20 U	--
Aroclor 1248	0.48 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.48 U	--	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.010 U	--	0.20 U	--
Aroclor 1254	0.48 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.48 U	--	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.010 U	--	0.20 U	--
Aroclor 1260	0.48 U	--	0.010 U	--	0.20 U	--	--	0.50 U	0.48 U	--	0.48 U	--	0.010 U	--	0.20 U	--	--	0.47 U	0.010 U	--	0.20 U	--
Metals (ug/L)																						
Antimony (metallic)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, Inorganic (Total)	2.0 U	0.90	0.89	2.9	1.5	1.0 U	1.0 U	--	2.0 U	--	2.0 U	1.2	1.1	1.0 U	1.0 U	1.0	1.5	2.0 U	1.5	1.0	1.0	1.1
Arsenic, Inorganic (Dissolved)	--	--	2.4 BJ	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	5.3 BJ	5.2 BJ	1.0 U	1.0 U	1.0 U	1.1	--	5.1 BJ	1.0 U	1.0 U	1.0 U
Barium (Total)	41	33	67	--	58	--	--	--	80	--	16	14	11	--	12	--	--	110	418	--	129	--
Barium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	10 BJ	--	--	--	--	--	--	--	--	--	--
Beryllium and compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (Total)	2.0 U	0.50 U	0.50 U	--	1.0 U	--	--	--	2.0 U	--	2.0 U	0.50 U	0.50 U	--	1.0 U	--	--	2.0 U	0.50 U	--	1.0 U	--
Cadmium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	25 U	1.4	1.7	--	1.0 U	1.0 U	--	--	25 U	--	25 U	0.50 U	0.50 U	--	1.0 U	1.0 U	--	25 U	23	--	7.1	1.6
Chromium (Dissolved)	--	--	--	--	--	1.0 U	--	--	--	--	--	0.50 U	--	--	--	1.0 U	--	--	--	--	--	1.0 U
Cobalt	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper (Total)	--	1.3 BJ	2.1 BJ	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	1.2 BJ	0.50 U	5.5	1.0 U	1.4	1.0 U	--	4.2 BJ	2.3	1.6	1.6
Copper (Dissolved)	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	0.50 BJ	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	1.5	1.2	1.1
Lead and Compounds (Total)	2.0 U	0.70	1.1	1.0 U	1.0 U	1.0 U	1.0 U	--	2.0 U	--	2.0 U	0.50 U	1.4	1.1	1.0 U	1.0 U	1.0 U	2.0 U	0.50 U	1.0 U	1.0 U	1.0 U
Lead and Compounds (Dissolved)	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	0.50 U	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U
Mercury, elemental (Total)	0.20 U	0.50 U	0.50 U	--	0.10 U	--	--	--	0.20 U	--	0.20 U	0.50 U	0.50 U	--	0.10 U	--	--	0.20 U	0.50 U	--	0.10 U	--
Mercury, elemental (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW09							MW10			MW11							MW12				
	6/28/2007	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/15/2010	8/17/2010	1/16/2007	6/29/2007	7/13/2007	8/15/2007	7/1/2009	9/18/2009	11/20/2009	12/17/2009	3/15/2010	8/18/2010	8/15/2007	9/21/2009	11/19/2009	12/17/2009	3/16/2010
Metals (ug/L)																						
Nickel Soluble Salts (Total)	--	1.0	1.4 BJ	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	--	38 BJ	18	10.0	3.4
Nickel Soluble Salts (Dissolved)	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	1.1 BJ	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	17	10	3.0
Selenium (Total)	100 U	0.50 U	0.50 U	--	1.0 U	--	--	--	100 U	--	100 U	0.50 U	0.50 U	--	1.0 U	--	--	100 U	0.50 U	--	1.0 U	--
Selenium (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--
Silver (Total)	20 U	0.50 U	0.50 U	--	1.0 U	--	--	--	20 U	--	20 U	0.50 U	0.50 U	--	1.0 U	--	--	20 U	0.50 U	--	1.0 U	--
Silver (Dissolved)	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--
Thallium (Soluble Salts)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc and Compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dinitrotoluenes (ug/L)																						
2,4-Dinitrotoluene	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--
2,6-Dinitrotoluene	0.19 U	--	--	--	--	--	--	0.19 U	0.19 U	--	0.19 U	--	--	--	--	--	--	0.19 U	--	--	--	--

Notes:

--: Not analyzed

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

[1] Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in Groundwater and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in Groundwater. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

[2] MW12 was resampled in February 2015.

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW12					MW13						MW14						MW15				
	8/18/2010	9/29/2014	12/22/2014	3/26/2015	6/9/2015	8/14/2007	6/30/2009	9/21/2009	11/20/2009	3/15/2010	8/17/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	8/15/2007	7/2/2009	9/18/2009	11/20/2009	12/18/2009
Total Petroleum Hydrocarbons (ug/L)																						
TPH-D	100 U	100 U	100 U	100 U	100 U	500	250 U	250 U	--	100 U	100 U	250 U	250 U	--	159	100 U	143	130 U	250 U	250 U	--	166
TPH-G	--	250 U	--	--	--	100	50 U	50 U	--	250 U	--	50 U	50 U	--	500 U	250 U	--	50 U	50 U	50 U	--	500 U
TPH-HO	500 U	500 U	572 / 500 U[2]	500 U	500 U	240 U	500 U	500 U	--	500 U	500 U	500 U	500 U	--	500 U	500 U	500 U	250 U	500 U	500 U	--	500 U
Volatile Organic Compounds (ug/L)																						
1,1,1-Trichloroethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1,2,2-Tetrachloroethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1,2-Trichloroethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1-Dichloroethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1-Dichloroethylene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-cis-Dichloroethylene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dichloroethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dichloropropane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-trans-Dichloroethylene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,4-Dichlorobenzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
2-Chloroethyl vinyl ether	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	2.5 U
Acetone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	2.5 U
Benzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Bromodichloromethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Bromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Bromomethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Carbon Disulfide	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U
Carbon Tetrachloride	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Chlorobenzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Chloroform	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Chloromethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Dibromochloromethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Dichlorodifluoroethene	--	--	--	--	--	--	--	0.50 U	--	--	--	--	0.50 U	--	--	--	--	--	--	0.50 U	--	--
Ethyl Chloride	--	--	--	--	--	5.0 U	0.50 U	--	--	--	--	0.50 U	--	--	0.50 U	--	--	5.0 U	0.50 U	--	--	0.50 U
Ethyl Ether	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
Ethylbenzene	--	--	--	--	--	0.13 J	0.50 U	0.50 U	--	0.50 U	--	0.59	0.50 U	--	0.50 U	0.50 U	--	0.15 J	0.50 U	0.50 U	--	0.50 U
m&p-Xylene	--	--	--	--	--	0.42 J	0.50 U	0.50 U	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	1.0 U	--	0.49 J	0.50 U	0.50 U	--	0.50 U
Methyl Ethyl Ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	2.5 U
Methyl Iodide	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	--	--	--	--	--	1.0 U	1.0 U	--	--
Methylene Chloride	--	--	--	--	--	1.0 U	--	2.5 U	--	--	--	--	--	--	2.5 U	--	--	1.0 U	--	2.5 U	--	2.5 U
n-Propylbenzene	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U
o-Xylene	--	--	--	--	--	0.42 J	0.50 U	0.50 U	--	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.34 J	0.50 U	0.50 U	--	0.50 U
p-Isopropyltoluene	--	--	--	--	--	0.091 J	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Styrene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Tetrachloroethylene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Tetrahydrofuran	--	--	--	--	--	--	--	0.50 U	--	--	--	--	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
Toluene	--	--	--	--	--	0.12 J	0.50 U	0.70	--	0.50 U	--	18	0.50 U	--	3.1	1.2	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Total Xylenes	--	--	--	--	--	0.84 J	1.0 U	1.0 U	--	1.5 U	--	1.0 U	1.0 U	--	1.0 U	1.5 U	--	0.83 J	1.0 U	1.0 U	--	1.0 U
Trichloroethylene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Vinyl Chloride	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Semi-Volatile Organic Compounds (ug/L)																						
1,1,1,2-Tetrachloroethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																				
	MW12					MW13						MW14						MW15			
	8/18/2010	9/29/2014	12/22/2014	3/26/2015	6/9/2015	8/14/2007	6/30/2009	9/21/2009	11/20/2009	3/15/2010	8/17/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	8/15/2007	7/2/2009	9/18/2009	11/20/2009	12/18/2009
Semi-Volatile Organic Compounds (ug/L)																					
1,2,3-Trichlorobenzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2,3-Trichloropropane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2,4-Trichlorobenzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2,4-Trimethylbenzene	--	--	--	--	--	0.93 J	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dibromo-3-chloropropane	--	--	--	--	--	2.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	2.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dibromoethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,2-Dichlorobenzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,3,5-Trimethylbenzene	--	--	--	--	--	0.13 J	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,3-Dichlorobenzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1,3-Dichloropropane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
1-Methylnaphthalene	--	--	--	--	--	20	2.5	0.010 U	--	--	--	0.010 U	0.010 U	--	--	--	--	0.028 U	0.010 U	0.010 U	--	--
2,2-Dichloropropane	--	--	--	--	--	1.0 U	--	--	--	--	--	--	--	--	0.50 U	--	--	1.0 U	--	--	--	0.50 U
2,4,5-Trichlorophenol	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	0.28 U	--	--	--	--	--	--	--	--	--	--	--	0.28 U	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	0.94 U	--	--	--	--	--	--	--	--	--	--	--	0.94 U	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	2.4 U	--	--	--	--	--	--	--	--	--	--	--	2.4 U	--	--	--	--
2-Chloro-1,3-butadiene	--	--	--	--	--	--	3.0 U	3.0 U	--	--	--	3.0 U	3.0 U	--	--	--	--	--	3.0 U	3.0 U	--	--
2-Chlorophenol	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	26	0.70	0.010 U	0.015	0.010 U	--	0.010 U	0.010 U	0.019	0.010 U	0.010 U	--	0.094 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Nitroaniline	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
2-Nitrophenol	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	0.94 U	--	--	--	--	--	--	--	--	--	--	--	0.94 U	--	--	--	--
3-Nitroaniline	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	1.9 U	--	--	--	--	--	--	--	--	--	--	--	1.9 U	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
4-Nitroaniline	--	--	--	--	--	0.28 U	--	--	--	--	--	--	--	--	--	--	--	0.28 U	--	--	--	--
4-Nitrophenol	--	--	--	--	--	0.94 U	--	--	--	--	--	--	--	--	--	--	--	0.94 U	--	--	--	--
Acenaphthene	--	--	--	--	--	38	--	--	2.0	0.93	--	--	--	0.010 U	0.010 U	0.010 U	--	0.047 U	--	--	0.010 U	0.010 U
Acenaphthylene	--	--	--	--	--	0.038 U	--	--	0.010 U	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.038 U	--	--	0.010 U	0.010 U
Acetonitrile	--	--	--	--	--	--	2.0 U	2.0 U	--	--	--	2.0 U	2.0 U	--	--	--	--	--	2.0 U	2.0 U	--	--
Acrolein	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	--	--	--	--	--	--	2.0 U	2.0 U	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	2.0 U	2.0 U	--	0.50 U
Allyl Chloride	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
Anthracene	--	--	--	--	--	1.4	--	--	0.042	0.017	--	--	--	0.010 U	0.010 U	0.010 U	--	0.019 U	--	--	0.010 U	0.010 U
Benz[a]anthracene	--	--	--	--	--	0.028 U	0.2 JN	1.0 JN	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	0.2 JN	0.010 U	0.010 U	0.010 U
Benzo(g,h,i)perylene	--	--	--	--	--	0.028 U	--	--	0.010 U	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	0.028 U	--	--	0.010 U	0.010 U
Benzo[a]pyrene	--	--	--	--	--	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo[b]fluoranthene	--	--	--	--	--	0.038 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.038 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo[k]fluoranthene	--	--	--	--	--	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	0.94 U	--	--	--	--	--	--	--	--	--	--	--	0.94 U	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	0.028 UJ	--	--	--	--	--	--	--	--	--	--	--	0.028 UJ	--	--	--	--
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--	--	--	--	1.4 U	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																				
	MW12					MW13						MW14						MW15				
	8/18/2010	9/29/2014	12/22/2014	3/26/2015	6/9/2015	8/14/2007	6/30/2009	9/21/2009	11/20/2009	3/15/2010	8/17/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	8/15/2007	7/2/2009	9/18/2009	11/20/2009	12/18/2009
Semi-Volatile Organic Compounds (ug/L)																					
Bromobenzene	--	--	--	--	--	1.0 U	--	0.50 U	--	--	--	--	0.50 U	--	0.50 U	--	--	1.0 U	--	0.50 U	--	0.50 U
Bromochloromethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Butyl Benzyl Phthlate	--	--	--	--	--	0.28 U	--	--	--	--	--	--	--	--	--	--	--	0.28 U	--	--	--	--
Carbazole	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Chrysene	--	--	--	--	--	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U
cis-1,3-Dichloropropene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
cis-1,4-Dichloro-2-butene	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
Cumene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Dibenz[a,h]anthracene	--	--	--	--	--	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	1.8 JN	0.010 U	0.010 U	0.010 U
Dibromomethane (Methylene Bromide)	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Dibutyl-n-butyl Phthalate	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	1.0 U	0.50 U	--	--	--	--	0.50 U	--	--	0.50 U	--	--	1.0 U	0.50 U	--	--	0.50 U
Diethyl Phthalate	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Ethyl cyanide	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
Fluoranthene	--	--	--	--	--	0.81	--	--	0.22	0.066	--	--	--	0.010 U	0.010 U	0.010 U	--	0.024 U	--	--	0.010 U	0.010 U
Fluorene	--	--	--	--	--	20	--	--	0.77	0.34	--	--	--	0.014	0.010 U	0.010 U	--	0.028 U	--	--	0.010 U	0.010 U
Hexachlorobenzene	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Hexachlorocyclopentadiene	--	--	--	--	--	0.94 UJ	--	--	--	--	--	--	--	--	--	--	--	0.94 UJ	--	--	--	--
Hexachloroethane	--	--	--	--	--	0.28 UJ	--	--	--	--	--	--	--	--	--	--	--	0.28 UJ	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	--	--	--	--	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U
Isophorone	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
Methacrylonitrile	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
Methyl Acrylate	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
Methyl Isobutyl Ketone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	2.5 U
Methyl Methacrylate	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.66	--	--	--	--	--	0.50 U	0.50 U	--	--
Methyl tert-Butyl Ether (MTBE)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	0.50 U
Naphthalene	--	--	--	--	--	0.36 J	0.50 U	0.50 U	0.024	0.040	--	0.50 U	0.50 U	0.023	0.016	0.016	--	1.0 U	0.50 U	0.86	0.010 U	0.50 U
n-Butylbenzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
N-Hexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	0.19 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	0.19 U	0.50 U	0.50 U	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
o-Chlorotoluene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
o-Cresol	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
p-Chloroaniline	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
p-Chlorotoluene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
p-Cresol	--	--	--	--	--	3.8 U	--	--	--	--	--	--	--	--	--	--	--	0.38 U	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
Pentachlorophenol	--	--	--	--	--	0.33 U	--	--	--	--	--	--	--	--	--	--	--	0.33 U	--	--	--	--
Phenanthrene	--	--	--	--	--	14	--	--	0.028	0.010 U	--	--	--	0.010 U	0.010	0.010 U	--	0.038 U	--	--	0.010 U	0.010 U
Phenol	--	--	--	--	--	0.28 U	--	--	--	--	--	--	--	--	--	--	--	0.28 U	--	--	--	--
Propyl benzene	--	--	--	--	--	1.0 U	--	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--	--	--
Pyrene	--	--	--	--	--	0.27	--	--	0.11	0.035	--	--	--	0.010 U	0.010 U	0.010 U	--	0.028 U	--	--	0.010 U	0.010 U
sec-Butylbenzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
tert-Butylbenzene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Total cPAHs [1]	--	--	--	--	--	0.034 U	0.027 JN	0.11 JN	0.015 U	0.015 U	--	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	--	0.034 U	0.21 JN	0.015 U	0.015 U	0.015 U

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																				
	MW12					MW13						MW14						MW15				
	8/18/2010	9/29/2014	12/22/2014	3/26/2015	6/9/2015	8/14/2007	6/30/2009	9/21/2009	11/20/2009	3/15/2010	8/17/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	8/15/2007	7/2/2009	9/18/2009	11/20/2009	12/18/2009
Semi-Volatile Organic Compounds (ug/L)																					
Total Naphthalenes	--	--	--	--	--	46 J	3.5	0.52 U	0.039	0.045	--	0.52 U	0.52 U	0.042	0.021	0.021	--	1.1 U	0.52 U	0.87	0.020 U	0.51 U
trans-1,3-Dichloropropene	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
trans-1,4-Dichloro-2-butene	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--
Trichlorofluoromethane	--	--	--	--	--	1.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	1.0 U	0.50 U	0.50 U	--	0.50 U
Vinyl Acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans (ug/L)[1]																					
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	13	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (ug/L)																					
Aroclor 1016	--	--	--	--	--	0.47 U	--	0.010 U	--	--	--	--	0.010 U	--	0.20 U	--	--	0.48 U	--	0.010 U	--	0.20 U
Aroclor 1221	--	--	--	--	--	0.47 U	--	0.010 U	--	--	--	--	0.010 U	--	0.20 U	--	--	0.48 U	--	0.010 U	--	0.20 U
Aroclor 1232	--	--	--	--	--	0.47 U	--	0.010 U	--	--	--	--	0.010 U	--	0.20 U	--	--	0.48 U	--	0.010 U	--	0.20 U
Aroclor 1242	--	--	--	--	--	0.47 U	--	0.010 U	--	--	--	--	0.010 U	--	0.20 U	--	--	0.48 U	--	0.010 U	--	0.20 U
Aroclor 1248	--	--	--	--	--	0.47 U	--	0.010 U	--	--	--	--	0.010 U	--	0.20 U	--	--	0.48 U	--	0.010 U	--	0.20 U
Aroclor 1254	--	--	--	--	--	0.47 U	--	0.010 U	--	--	--	--	0.010 U	--	0.20 U	--	--	0.48 U	--	0.010 U	--	0.20 U
Aroclor 1260	--	--	--	--	--	0.47 U	--	0.010 U	--	--	--	--	0.010 U	--	0.20 U	--	--	0.48 U	--	0.010 U	--	0.20 U
Metals (ug/L)																					
Antimony (metallic)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, Inorganic (Total)	1.0 U	1.1	4.0	1.1	1.1	6.1	7.9	7.5	4.9	4.8	6.6	2.8	2.4	2.8	1.4	1.8	3.5	2.0 U	0.80	0.52	1.0 U	1.0 U
Arsenic, Inorganic (Dissolved)	1.0 U	1.2	1.0 U	1.0 U	1.0 U	--	6.5 BJ	6.9 BJ	1.0 U	1.0 U	2.9	--	4.9 BJ	1.3	1.0 U	1.1	3.1	--	--	3.5 BJ	1.0 U	1.0 U
Barium (Total)	--	--	--	--	--	63	23	48	--	--	--	46	51	--	28	--	--	66	51	55	--	46
Barium (Dissolved)	--	--	--	--	--	--	19 BJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium and compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (Total)	--	--	--	--	--	2.0 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	1.0 U	--	--	2.0 U	0.50 U	0.50 U	--	1.0 U
Cadmium (Dissolved)	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	--	--	--	--	--	25 U	2.7	9.6	--	1.0 U	--	38	44	--	16	52	--	25 U	0.50 U	0.50 U	--	1.0 U
Chromium (Dissolved)	--	--	--	--	--	--	0.50 U	--	--	1.0 U	--	--	--	--	--	3.6	--	--	--	--	--	--
Cobalt	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper (Total)	3.0	--	--	--	--	--	4.3 BJ	24 BJ	13	1.0 U	1.1	12 BJ	21 BJ	29	3.9	16	7.8	--	0.50 U	1.5 BJ	1.0 U	1.0 U
Copper (Dissolved)	3.0	--	--	--	--	--	1.4 BJ	--	1.0 U	1.0 U	1.0 U	--	--	3.1	2.2	3.5	1.5	--	--	--	1.0 U	1.0 U
Lead and Compounds (Total)	1.0 U	--	--	--	--	2.0 U	1.1	7.7	2.4	1.0 U	1.0 U	4.2	6.5	8.1	1.4	4.1	2.6	2.0 U	0.50 U	0.50 U	1.0 U	1.0 U
Lead and Compounds (Dissolved)	1.0 U	--	--	--	--	--	0.50 U	--	1.0 U	1.0 U	1.0 U	--	--	1.3	1.0 U	1.0	1.0 U	--	--	--	1.0 U	1.0 U
Mercury, elemental (Total)	--	--	--	--	--	0.20 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	0.10 U	--	--	0.20 U	0.50 U	0.50 U	--	0.10 U
Mercury, elemental (Dissolved)	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																				
	MW12					MW13						MW14						MW15				
	8/18/2010	9/29/2014	12/22/2014	3/26/2015	6/9/2015	8/14/2007	6/30/2009	9/21/2009	11/20/2009	3/15/2010	8/17/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	8/15/2007	7/2/2009	9/18/2009	11/20/2009	12/18/2009
Metals (ug/L)																					
Nickel Soluble Salts (Total)	11	--	--	--	--	--	3.1	15 BJ	8.4	1.3	1.0 U	1.5	3.7 BJ	6.6	1.0 U	1.6	1.4	--	0.50 U	0.50 U	1.0 U	1.0 U
Nickel Soluble Salts (Dissolved)	10.0	--	--	--	--	--	0.80 BJ	--	8.6	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U
Selenium (Total)	--	--	--	--	--	100 U	0.50 U	0.50 U	--	--	--	0.50 U	0.50 U	--	1.0 U	--	--	100 U	0.50 U	0.50 U	--	1.0 U
Selenium (Dissolved)	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver (Total)	--	--	--	--	--	20 U	0.60	0.50 U	--	--	--	0.50 U	0.50 U	--	1.0 U	--	--	20 U	0.50 U	0.50 U	--	1.0 U
Silver (Dissolved)	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium (Soluble Salts)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc and Compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dinitrotoluenes (ug/L)																					
2,4-Dinitrotoluene	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	0.19 U	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--	--

Notes:

--: Not analyzed

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

[1] Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in Groundwater and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in Groundwater. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

[2] MW12 was resampled in February 2015.

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW15		MW16									MW17	MW18									
	3/16/2010	8/18/2010	8/15/2007	7/29/2008	7/1/2009	9/18/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	8/17/2010	8/14/2007	8/15/2007	7/1/2009	9/22/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	9/30/2014	12/22/2014	3/30/2015
Total Petroleum Hydrocarbons (ug/L)																						
TPH-D	100 U	100 U	120 U	--	250 U	250 U	--	156	100 U	100 U	--	120 U	120 U	250 U	250 U	--	1,060	100 U	100 U	100 U	100 U	100 U
TPH-G	250 U	--	50 U	--	50 U	50 U	--	500 U	250 U	--	--	50 U	50 U	50 U	50 U	--	500 U	250 U	--	250 U	--	--
TPH-HO	500 U	500 U	240 U	--	500 U	500 U	--	500 U	500 U	500 U	--	240 U	230 U	500 U	500 U	--	694	500 U	500 U	500 U	500 U	500 U
Volatile Organic Compounds (ug/L)																						
1,1,1-Trichloroethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,1,2-Trichloroethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,1-Dichloroethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,1-Dichloroethylene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,2-cis-Dichloroethylene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,2-Dichloroethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,2-Dichloropropane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,2-trans-Dichloroethylene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,4-Dichlorobenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
2-Chloroethyl vinyl ether	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Acetone	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Benzene	0.50 U	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	--	--
Bromodichloromethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	0.47 J	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Bromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Bromomethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Carbon Disulfide	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Carbon Tetrachloride	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Chlorobenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Chloroform	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	0.48 J	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Chloromethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Dibromochloromethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Dichlorodifluoroethene	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--
Ethyl Chloride	--	--	5.0 U	--	0.50 U	--	--	0.50 U	--	--	--	5.0 U	5.0 U	0.50 U	--	--	0.50 U	--	--	--	--	--
Ethyl Ether	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Ethylbenzene	0.50 U	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	--	--
m&p-Xylene	1.0 U	--	2.0 U	--	0.50 U	0.50 U	--	0.50 U	1.0 U	--	--	2.0 U	0.24 J	0.50 U	0.50 U	--	0.50 U	1.0 U	--	--	--	--
Methyl Ethyl Ketone (2-Butanone)	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Methyl Iodide	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	--
Methylene Chloride	--	--	1.0 U	--	--	--	--	2.5 U	--	--	--	1.0 U	1.0 U	--	--	--	2.5 U	--	--	--	--	--
n-Propylbenzene	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
o-Xylene	0.50 U	--	0.099 J	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	1.0 U	0.13 J	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	--	--
p-Isopropyltoluene	--	--	4.0	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Styrene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Tetrachloroethylene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Tetrahydrofuran	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Toluene	0.50 U	--	0.078 J	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	--	--
Total Xylenes	1.5 U	--	1.1 J	--	1.0 U	1.0 U	--	1.0 U	1.5 U	--	--	3.0 U	0.37 J	1.0 U	1.0 U	--	1.0 U	1.5 U	--	--	--	--
Trichloroethylene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Vinyl Chloride	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Semi-Volatile Organic Compounds (ug/L)																						
1,1,1,2-Tetrachloroethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW15		MW16									MW17	MW18									
	3/16/2010	8/18/2010	8/15/2007	7/29/2008	7/1/2009	9/18/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	8/17/2010	8/14/2007	8/15/2007	7/1/2009	9/22/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	9/30/2014	12/22/2014	3/30/2015
Semi-Volatile Organic Compounds (ug/L)																						
1,2,3-Trichlorobenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,2,3-Trichloropropane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	13	--	0.50 U	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	2.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	2.0 U	2.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,2-Dibromoethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,2-Dichlorobenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,3-Dichlorobenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1,3-Dichloropropane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
1-Methylnaphthalene	--	--	0.029 U	0.030 U	0.010 U	0.010 U	--	--	--	--	--	0.028 U	0.028 U	0.010 U	0.010 U	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	1.0 U	--	--	--	--	0.50 U	--	--	--	1.0 U	1.0 U	--	--	--	0.50 U	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.29 U	--	--	--	--	--	--	--	--	0.28 U	0.28 U	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	0.96 U	--	--	--	--	--	--	--	--	0.94 U	0.93 U	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	2.4 U	--	--	--	--	--	--	--	--	2.4 U	2.3 U	--	--	--	--	--	--	--	--	--
2-Chloro-1,3-butadiene	--	--	--	--	3.0 U	3.0 U	--	--	--	--	--	--	--	3.0 U	3.0 U	--	--	--	--	--	--	--
2-Chlorophenol	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	0.010 U	--	0.096 U	0.0074 J	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.094 U	0.093 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--
2-Nitroaniline	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	0.96 U	--	--	--	--	--	--	--	--	0.94 U	0.93 U	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	1.9 U	--	--	--	--	--	--	--	--	1.9 U	1.9 U	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	0.29 U	--	--	--	--	--	--	--	--	0.28 U	0.28 U	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	0.96 U	--	--	--	--	--	--	--	--	0.94 U	0.93 U	--	--	--	--	--	--	--	--	--
Acenaphthene	0.010 U	--	0.087	0.050 U	--	--	0.37	0.38	0.23	--	--	0.047 U	0.047 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--
Acenaphthylene	0.010 U	--	0.038 U	0.040 U	--	--	0.010 U	0.010 U	0.010 U	--	--	0.038 U	0.037 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--
Acetonitrile	--	--	--	--	2.0 U	2.0 U	--	--	--	--	--	--	--	2.0 U	2.0 U	--	--	--	--	--	--	--
Acrolein	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	--	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	--	--
Allyl Chloride	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Anthracene	0.010 U	--	0.019 U	0.020 U	--	--	0.010 U	0.010 U	0.010 U	--	--	0.019 U	0.019 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--
Benz[a]anthracene	0.010 U	--	0.029 U	0.030 U	0.2 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.028 U	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--
Benzo(g,h,i)perylene	0.010 U	--	0.029 U	0.030 U	--	--	0.010 U	0.010 U	0.010 U	--	--	0.028 U	0.028 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--
Benzo[a]pyrene	0.010 U	--	0.019 U	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.019 U	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--
Benzo[b]fluoranthene	0.010 U	--	0.038 U	0.040 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.038 U	0.037 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--
Benzo[k]fluoranthene	0.010 U	--	0.029 U	0.030 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.028 U	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	1.7	--	--	--	--	--	--	--	--	0.94 U	0.93 U	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	0.029 UJ	--	--	--	--	--	--	--	--	0.028 UJ	0.028 UJ	--	--	--	--	--	--	--	--	--
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1.4 U	--	--	--	--	--	--	--	--	1.4 U	1.4 U	--	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW15		MW16									MW17	MW18									
	3/16/2010	8/18/2010	8/15/2007	7/29/2008	7/1/2009	9/18/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	8/17/2010	8/14/2007	8/15/2007	7/1/2009	9/22/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	9/30/2014	12/22/2014	3/30/2015
Semi-Volatile Organic Compounds (ug/L)																						
Bromobenzene	--	--	1.0 U	--	--	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	--	0.50 U	--	0.50 U	--	--	--	--	--
Bromochloromethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	0.29 U	--	--	--	--	--	--	--	--	0.28 U	0.28 U	--	--	--	--	--	--	--	--	--
Carbazole	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Chrysene	0.010 U	--	0.019 U	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.019 U	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--
cis-1,3-Dichloropropene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
cis-1,4-Dichloro-2-butene	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Cumene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Dibenz[a,h]anthracene	0.010 U	--	0.029 U	0.030 U	1.8 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.028 U	0.028 U	1.8 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--
Dibromomethane (Methylene Bromide)	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	1.0 U	--	0.50 U	--	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	--	--	0.50 U	--	--	--	--	--
Diethyl Phthalate	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Ethyl cyanide	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Fluoranthene	0.010 U	--	0.025	0.025 U	--	--	0.010 U	0.010 U	0.010 U	--	--	0.024 U	0.023 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--
Fluorene	0.010 U	--	0.029 U	0.030 U	--	--	0.12	0.11	0.073	--	--	0.028 U	0.028 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--
Hexachlorobenzene	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	0.96 UJ	--	--	--	--	--	--	--	--	0.94 UJ	0.93 UJ	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	0.29 UJ	--	--	--	--	--	--	--	--	0.28 UJ	0.28 UJ	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	0.010 U	--	0.029 U	0.030 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.028 U	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--
Isophorone	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
Methacrylonitrile	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Methyl Acrylate	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Methyl Isobutyl Ketone	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Methyl Methacrylate	--	--	--	--	0.50 U	0.63	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Methyl tert-Butyl Ether (MTBE)	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--
Naphthalene	0.012	--	0.089 J	0.011 J	0.50 U	0.50 U	0.026	0.011	0.025	--	--	1.0 U	1.0 U	0.50 U	0.50 U	0.010 U	0.50 U	0.010 U	--	--	--	--
n-Butylbenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
N-Hexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.19 U	--	0.50 U	0.50 U	--	--	--	--	--	0.19 U	0.19 U	0.50 U	0.50 U	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
o-Cresol	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
p-Cresol	--	--	6.4	--	--	--	--	--	--	--	--	0.38 U	0.37 U	--	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Pentachlorophenol	--	--	0.34 U	--	--	--	--	--	--	--	--	0.33 U	0.33 U	--	--	--	--	--	--	--	--	--
Phenanthrene	0.010 U	--	0.038 U	0.040 U	--	--	0.049	0.031	0.027	--	--	0.038 U	0.037 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--
Phenol	--	--	0.29 U	--	--	--	--	--	--	--	--	0.28 U	0.28 U	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	1.0 U	--	--	--	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	--	--	--
Pyrene	0.010 U	--	0.029 U	0.030 U	--	--	0.010 U	0.010 U	0.010 U	--	--	0.028 U	0.028 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--
sec-Butylbenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
tert-Butylbenzene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Total cPAHs [1]	0.015 U	--	0.035 U	0.036 U	0.21 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	--	0.034 U	0.034 U	0.19 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW15		MW16									MW17	MW18									
	3/16/2010	8/18/2010	8/15/2007	7/29/2008	7/1/2009	9/18/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	8/17/2010	8/14/2007	8/15/2007	7/1/2009	9/22/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	9/30/2014	12/22/2014	3/30/2015
Semi-Volatile Organic Compounds (ug/L)																						
Total Naphthalenes	0.017	--	0.15 J	0.033 J	0.52 U	0.52 U	0.031	0.016	0.030	--	--	1.1 U	1.1 U	0.52 U	0.52 U	0.020 U	0.51 U	0.020 U	--	--	--	--
trans-1,3-Dichloropropene	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
trans-1,4-Dichloro-2-butene	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	1.0 U	--	0.50 U	0.50 U	--	0.50 U	--	--	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--
Vinyl Acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans (ug/L)[1]																						
1,2,3,4,6,7,8-HpCDD	--	--	--	0.00000056 U	0.0000025 UI	0.000017	--	0.0000046 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	0.00000073 U	0.0000032 UI	0.0000084	--	0.0000059 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	0.00000067 U	0.0000033 U	0.0000023 U	--	0.0000065 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	0.00000076 U	0.0000014 U	0.0000020 U	--	0.0000036 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	0.00000064 U	0.0000023 U	0.0000018	--	0.0000033 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	0.00000091 U	0.0000017 U	0.0000024 U	--	0.0000040 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	0.00000071 U	0.0000023 U	0.0000016 U	--	0.0000035 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	0.00000079 U	0.0000016 U	0.0000020 U	--	0.0000031 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	0.00000064 U	0.0000025 U	0.0000013 U	--	0.0000042 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	0.00000059 U	0.0000017 U	0.0000021 U	--	0.0000055 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	0.00000034 U	0.0000044 U	0.0000018 U	--	0.0000046 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	0.00000073 U	0.0000025 U	0.0000010 U	--	0.0000031 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	0.00000031 U	0.0000022 U	0.0000019 U	--	0.0000051 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	0.00000070 U	0.0000013 U	0.0000015 U	--	0.0000028 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	0.00000068 U	0.0000028 U	0.0000016 U	--	0.0000031 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
OCDD	--	--	--	0.000013	0.00019	0.00016	--	0.0000099 UI	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	0.0000016 U	0.000027 J	0.000031	--	0.0000061 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans	--	--	--	0.0000010	0.0000029 J	0.0000032	--	0.000013 UI	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (ug/L)																						
Aroclor 1016	--	--	0.48 U	--	--	0.010 U	--	0.20 U	--	--	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	--	--
Aroclor 1221	--	--	0.48 U	--	--	0.010 U	--	0.20 U	--	--	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	--	--
Aroclor 1232	--	--	0.48 U	--	--	0.010 U	--	0.20 U	--	--	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	--	--
Aroclor 1242	--	--	0.48 U	--	--	0.010 U	--	0.20 U	--	--	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	--	--
Aroclor 1248	--	--	0.48 U	--	--	0.010 U	--	0.20 U	--	--	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	--	--
Aroclor 1254	--	--	0.48 U	--	--	0.010 U	--	0.20 U	--	--	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	--	--
Aroclor 1260	--	--	0.48 U	--	--	0.010 U	--	0.20 U	--	--	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	--	--
Metals (ug/L)																						
Antimony (metallic)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, Inorganic (Total)	1.0 U	1.0 U	2.0 U	2.0 U	2.0	0.91	1.0 U	1.0 U	1.4	--	1.0 U	140	2.0 U	2.2	1.3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Arsenic, Inorganic (Dissolved)	1.0 U	1.0 U	--	--	4.4 BJ	4.7 BJ	1.0 U	1.0 U	1.0 U	--	1.0 U	--	--	6.2 BJ	3.6 BJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Barium (Total)	--	--	49	64	38	51	--	154	--	--	--	18	150	180	207	--	75	--	--	--	--	--
Barium (Dissolved)	--	--	--	--	33 BJ	--	--	--	--	--	--	--	--	220 BJ	--	--	--	--	--	--	--	--
Beryllium and compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (Total)	--	--	2.0 U	2.0 U	0.50 U	0.50 U	--	1.0 U	--	--	--	2.0 U	2.0 U	0.69	0.50 U	--	1.0 U	--	--	--	--	--
Cadmium (Dissolved)	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	1.0 J	--	--	--	--	--	--	--	--
Chromium (Total)	1.0 U	--	25 U	3.3	4.3	2.1	--	1.0 U	3.1	--	--	25 U	25 U	0.92	0.50 U	--	3.9	1.0 U	--	--	--	--
Chromium (Dissolved)	1.0 U	--	--	--	1.7 J	--	--	--	1.0 U	--	--	--	--	0.50 U	--	--	--	1.0 U	--	--	--	--
Cobalt	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper (Total)	1.0 U	1.0 U	--	--	5.4 BJ	2.6 BJ	1.0 U	1.0 U	4.7	--	1.4	--	--	3.6 BJ	2.2 BJ	2.2	4.5	3.7	2.0	--	--	--
Copper (Dissolved)	1.0 U	1.0 U	--	--	1.7 BJ	--	1.0 U	1.0 U	1.0 U	--	1.0 U	--	--	0.50 U	--	2.0	3.8	1.2	1.7	--	--	--
Lead and Compounds (Total)	1.0 U	1.0 U	2.0 U	0.76	4.8	2.9	1.0 U	1.0 U	2.5	--	1.0 U	2.0 U	2.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--
Lead and Compounds (Dissolved)	1.0 U	1.0 U	--	--	1.4 BJ	--	1.0 U	1.0 U	1.0 U	--	1.0 U	--	--	0.50 U	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--
Mercury, elemental (Total)	--	--	0.20 U	0.20 U	0.50 U	0.50 U	--	0.10 U	--	--	--	0.20 U	0.20 U	0.50 U	0.50 U	--	0.10 U	--	--	--	--	--
Mercury, elemental (Dissolved)	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW15		MW16									MW17	MW18									
	3/16/2010	8/18/2010	8/15/2007	7/29/2008	7/1/2009	9/18/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	8/17/2010	8/14/2007	8/15/2007	7/1/2009	9/22/2009	11/18/2009	12/17/2009	3/17/2010	8/16/2010	9/30/2014	12/22/2014	3/30/2015
Metals (ug/L)																						
Nickel Soluble Salts (Total)	1.0 U	1.0 U	--	--	2.8	1.4 BJ	1.0 U	1.0 U	2.5	--	1.0 U	--	--	2.3	1.2 BJ	1.2	1.4	1.6	1.0 U	--	--	--
Nickel Soluble Salts (Dissolved)	1.0 U	1.0 U	--	--	0.80 BJ	--	1.0 U	1.0 U	1.0 U	--	1.0 U	--	--	0.50 U	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--
Selenium (Total)	--	--	100 U	0.76	0.50 U	0.50 U	--	1.0 U	--	--	--	100 U	100 U	0.50 U	1.3	--	1.0 U	--	--	--	--	--
Selenium (Dissolved)	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--
Silver (Total)	--	--	20 U	2.0 U	0.50 U	0.50 U	--	1.0 U	--	--	--	20 U	20 U	0.50 U	0.50 U	--	1.0 U	--	--	--	--	--
Silver (Dissolved)	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--
Thallium (Soluble Salts)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc and Compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dinitrotoluenes (ug/L)																						
2,4-Dinitrotoluene	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	0.19 U	--	--	--	--	--	--	--	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

[1] Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in Groundwater and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in Groundwater. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

[2] MW12 was resampled in February 2015.

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																						
	MW18	MW19	MW20							MW21S				MW22S							MW23S		
	6/9/2015	8/14/2007	8/14/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	7/1/2009	9/22/2009	3/15/2010	8/16/2010	6/30/2009	9/21/2009	11/20/2009	12/16/2009	3/15/2010	8/17/2010	7/1/2009	9/18/2009	11/18/2009
Total Petroleum Hydrocarbons (ug/L)																							
TPH-D	100 U	120 U	120	250 U	250 U	--	100 U	100 U	100 U	250 U	250 U	100 U	100 U	250 U	250 U	--	100 U	100 U	100 U	250 U	250 U	--
TPH-G	--	50 U	50 U	50 U	50 U	--	500 U	250 U	--	50 U	50 U	250 U	--	50 U	50 U	--	500 U	250 U	--	50 U	50 U	--
TPH-HO	500 U	240 U	240 U	500 U	500 U	--	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	--	500 U	500 U	500 U	500 U	500 U	--
Volatile Organic Compounds (ug/L)																							
1,1,1-Trichloroethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,1,2,2-Tetrachloroethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,1,2-Trichloroethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,1-Dichloroethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,1-Dichloroethylene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.68	--
1,2-cis-Dichloroethylene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,2-Dichloroethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,2-Dichloropropane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,2-trans-Dichloroethylene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,4-Dichlorobenzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
2-Chloroethyl vinyl ether	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
2-Hexanone	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Acetone	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Benzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--
Bromodichloromethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Bromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Bromomethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Carbon Disulfide	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Carbon Tetrachloride	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Chlorobenzene	--	1.0 U	0.14 J	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Chloroform	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Chloromethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Dibromochloromethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Dichlorodifluoroethene	--	--	--	--	0.50 U	--	--	--	--	--	0.50 U	--	--	--	0.50 U	--	--	--	--	--	0.50 U	--
Ethyl Chloride	--	5.0 U	5.0 U	0.50 U	--	--	0.50 U	--	--	0.50 U	--	--	--	0.50 U	--	--	0.50 U	--	--	0.50 U	--	--
Ethyl Ether	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
Ethylbenzene	--	1.0 U	1.0 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--
m&p-Xylene	--	2.0 U	2.0 U	0.50 U	0.50 U	--	0.50 U	1.0 U	--	0.50 U	0.50 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	1.0 U	--	0.50 U	0.50 U	--
Methyl Ethyl Ketone (2-Butanone)	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Methyl Iodide	--	--	--	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U	--	--	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U	--
Methylene Chloride	--	1.0 U	1.0 U	--	--	--	2.5 U	--	--	--	--	--	--	--	2.5 U	--	2.5 U	--	--	--	--	--
n-Propylbenzene	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
o-Xylene	--	0.073 J	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--
p-Isopropyltoluene	--	1.0 U	0.43 J	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.62	--
Styrene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Tetrachloroethylene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Tetrahydrofuran	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	--	0.50 U	--	--	--	--	0.50 U	0.50 U	--
Toluene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	0.50 U	--	0.50 U	12	--	0.50 U	0.50 U	--	0.50 U	0.59	--
Total Xylenes	--	1.1 J	3.0 U	1.0 U	1.0 U	--	1.0 U	1.5 U	--	1.0 U	1.0 U	1.5 U	--	1.0 U	1.0 U	--	1.0 U	1.5 U	--	1.0 U	1.0 U	--
Trichloroethylene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Vinyl Chloride	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Semi-Volatile Organic Compounds (ug/L)																							
1,1,1,2-Tetrachloroethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																						
	MW18	MW19	MW20							MW21S				MW22S						MW23S		
	6/9/2015	8/14/2007	8/14/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	7/1/2009	9/22/2009	3/15/2010	8/16/2010	6/30/2009	9/21/2009	11/20/2009	12/16/2009	3/15/2010	8/17/2010	7/1/2009	9/18/2009	11/18/2009
Semi-Volatile Organic Compounds (ug/L)																						
1,2,3-Trichlorobenzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,2,3-Trichloropropane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,2,4-Trichlorobenzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,2,4-Trimethylbenzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,2-Dibromo-3-chloropropane	--	2.0 U	2.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,2-Dibromoethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,2-Dichlorobenzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,3,5-Trimethylbenzene	--	0.090 J	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,3-Dichlorobenzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1,3-Dichloropropane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
1-Methylnaphthalene	--	0.028 U	0.028 U	0.010 U	0.010 U	--	--	--	--	0.010 U	0.010 U	--	--	0.010 U	0.010 U	--	--	--	--	0.010 U	0.010 U	--
2,2-Dichloropropane	--	1.0 U	1.0 U	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--
2,4,5-Trichlorophenol	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	0.28 U	0.28 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	0.94 U	0.94 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	2.4 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro-1,3-butadiene	--	--	--	3.0 U	3.0 U	--	--	--	--	3.0 U	3.0 U	--	--	3.0 U	3.0 U	--	--	--	--	3.0 U	3.0 U	--
2-Chlorophenol	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	0.094 U	0.094 U	0.010 U	0.010 U	0.036	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.017
2-Nitroaniline	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	0.94 U	0.94 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	1.9 U	1.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	0.28 U	0.28 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	0.94 U	0.94 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	0.047 U	0.047 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U
Acenaphthylene	--	0.038 U	0.038 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U
Acetonitrile	--	--	--	2.0 U	2.0 U	--	--	--	--	2.0 U	2.0 U	--	--	2.0 U	2.0 U	--	--	--	--	2.0 U	2.0 U	--
Acrolein	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	2.0 U	2.0 U	--	--	2.0 U	2.0 U	--	0.50 U	--	--	2.0 U	2.0 U	--
Allyl Chloride	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
Anthracene	--	0.019 U	0.019 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U
Benz[a]anthracene	--	0.028 U	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	--	0.2 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.021
Benzo(g,h,i)perylene	--	0.028 U	0.028 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U
Benzo[a]pyrene	--	0.019 U	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U
Benzo[b]fluoranthene	--	0.038 U	0.038 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010
Benzo[k]fluoranthene	--	0.028 U	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	0.94 U	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	0.028 UJ	0.028 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	1.4 U	1.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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Constituent	Site ID (Sample Date)																					
	MW18	MW19	MW20							MW21S				MW22S						MW23S		
	6/9/2015	8/14/2007	8/14/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	7/1/2009	9/22/2009	3/15/2010	8/16/2010	6/30/2009	9/21/2009	11/20/2009	12/16/2009	3/15/2010	8/17/2010	7/1/2009	9/18/2009	11/18/2009
Semi-Volatile Organic Compounds (ug/L)																						
Bromobenzene	--	1.0 U	1.0 U	--	0.50 U	--	0.50 U	--	--	--	0.50 U	--	--	--	0.50 U	--	0.50 U	--	--	--	0.50 U	--
Bromochloromethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Butyl Benzyl Phthlate	--	0.28 U	0.28 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	0.019 U	0.019 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U
cis-1,3-Dichloropropene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
cis-1,4-Dichloro-2-butene	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
Cumene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Dibenz[a,h]anthracene	--	0.028 U	0.028 U	0.2 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	1.8 JN	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.2 JN	0.010 U	0.010 U
Dibromomethane (Methylene Bromide)	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Dibutyl-n-butyl Phthalate	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	1.0 U	1.0 U	0.50 U	--	--	0.50 U	--	--	0.50 U	--	--	--	0.50 U	--	--	0.50 U	--	--	0.50 U	--	--
Diethyl Phthalate	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl cyanide	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
Fluoranthene	--	0.024 U	0.024 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.027
Fluorene	--	0.028 U	0.028 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U
Hexachlorobenzene	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Hexachlorocyclopentadiene	--	0.94 UJ	0.94 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	0.28 UJ	0.28 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	--	0.028 U	0.028 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U
Isophorone	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methacrylonitrile	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
Methyl Acrylate	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
Methyl Isobutyl Ketone	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--	--	2.5 U	--	--	--	--	--
Methyl Methacrylate	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.67	--
Methyl tert-Butyl Ether (MTBE)	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--
Naphthalene	--	1.0 U	1.0 U	0.50 U	0.50 U	0.11	0.50 U	0.010 U	--	0.50 U	0.50 U	0.010 U	--	0.50 U	0.50 U	0.010 U	0.013	0.021	--	0.50 U	0.50 U	0.024
n-Butylbenzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
N-Hexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	0.19 U	0.19 U	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
N-Nitroso-di-N-propylamine	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
o-Cresol	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
p-Cresol	--	0.38 U	0.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
Pentachlorophenol	--	0.33 U	0.33 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	0.038 U	0.038 U	--	--	0.026	0.010 U	0.010 U	--	--	--	0.010 U	--	--	--	0.015	0.010 U	0.010 U	--	--	--	0.026
Phenol	--	0.28 U	0.28 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	1.0 U	1.0 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	0.028 U	0.028 U	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	0.027
sec-Butylbenzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
tert-Butylbenzene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Total cPAHs [1]	--	0.034 U	0.034 U	0.027 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	0.19 JN	0.015 U	0.015 U	--	0.027 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	0.027 JN	0.015 U	0.0097

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW18	MW19	MW20							MW21S				MW22S						MW23S		
	6/9/2015	8/14/2007	8/14/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	7/1/2009	9/22/2009	3/15/2010	8/16/2010	6/30/2009	9/21/2009	11/20/2009	12/16/2009	3/15/2010	8/17/2010	7/1/2009	9/18/2009	11/18/2009
Semi-Volatile Organic Compounds (ug/L)																						
Total Naphthalenes	--	1.1 U	1.1 U	0.52 U	0.52 U	0.14	0.51 U	0.020 U	--	0.52 U	0.52 U	0.020 U	--	0.52 U	0.52 U	0.020 U	0.018	0.026	--	0.52 U	0.52 U	0.041
trans-1,3-Dichloropropene	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
trans-1,4-Dichloro-2-butene	--	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	--	--	--	0.50 U	0.50 U	--
Trichlorofluoromethane	--	1.0 U	1.0 U	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	0.50 U	0.50 U	--
Vinyl Acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans (ug/L)[1]																						
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (ug/L)																						
Aroclor 1016	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--	--	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--
Aroclor 1221	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--	--	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--
Aroclor 1232	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--	--	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--
Aroclor 1242	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--	--	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--
Aroclor 1248	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--	--	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--
Aroclor 1254	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--	--	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--
Aroclor 1260	--	0.48 U	0.48 U	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--	--	--	0.010 U	--	0.20 U	--	--	--	0.010 U	--
Metals (ug/L)																						
Antimony (metallic)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, Inorganic (Total)	1.0 U	2.0 U	2.0 U	1.6	0.50 U	2.4	2.6	1.3	12	4.8	4.6	3.2	3.9	4.4	3.0	3.1	1.8	2.2	2.1	0.90	0.56	2.9
Arsenic, Inorganic (Dissolved)	1.0 U	--	--	--	5.2 BJ	1.0 U	1.0 U	1.0 U	1.0 U	5.1 BJ	5.9 BJ	1.0 U	1.1	--	3.2 BJ	1.0 U	1.0 U	1.0 U	1.5	--	3.9 BJ	1.9
Barium (Total)	--	67	110	104	77	--	66	--	--	103	98	--	--	26	35	--	18	--	--	56	82	--
Barium (Dissolved)	--	--	--	--	--	--	--	--	--	47 BJ	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium and compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (Total)	--	2.0 U	2.0 U	0.50 U	0.50 U	--	1.0 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	1.0 U	--	--	0.50 U	0.50 U	--
Cadmium (Dissolved)	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	--	25 U	25 U	0.60	0.50 U	--	1.0 U	1.0 U	--	0.50	0.65	1.0 U	--	1.6	2.1	--	1.4	1.1	--	1.2	0.52	--
Chromium (Dissolved)	--	--	--	--	--	--	--	1.0 U	--	0.50 U	--	1.0 U	--	--	--	--	--	1.0 U	--	--	--	--
Cobalt	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper (Total)	--	--	--	1.9 BJ	0.54 BJ	5.3	1.0	1.0	52	0.50 BJ	0.62 BJ	1.0	1.0 U	2.7 BJ	5.68 BJ	5.8	1.9	2.0	2.6	2.9 BJ	0.95 BJ	2.4
Copper (Dissolved)	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.80 BJ	--	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U
Lead and Compounds (Total)	--	2.0 U	2.0 U	1.9	0.50 U	1.8	1.0 U	1.0 U	34	0.50 U	0.50 U	1.0 U	1.0 U	1.2	2.0	2.0	1.0 U	1.0 U	1.0 U	2.9	1.8	1.6
Lead and Compounds (Dissolved)	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	--	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U
Mercury, elemental (Total)	--	0.20 U	0.20 U	0.50 U	0.50 U	--	0.10 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.10 U	--	--	0.50 U	0.50 U	--
Mercury, elemental (Dissolved)	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW18	MW19	MW20							MW21S				MW22S						MW23S		
	6/9/2015	8/14/2007	8/14/2007	7/1/2009	9/22/2009	11/18/2009	12/15/2009	3/17/2010	8/16/2010	7/1/2009	9/22/2009	3/15/2010	8/16/2010	6/30/2009	9/21/2009	11/20/2009	12/16/2009	3/15/2010	8/17/2010	7/1/2009	9/18/2009	11/18/2009
Metals (ug/L)																						
Nickel Soluble Salts (Total)	--	--	--	0.60	0.50 U	1.4	1.0 U	1.0 U	28	1.1	0.92 BJ	1.0 U	1.0 U	1.0	2.4 BJ	3.6	1.0 U	2.0	1.6	0.70	0.51 BJ	1.4
Nickel Soluble Salts (Dissolved)	--	--	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.1 BJ	--	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U
Selenium (Total)	--	100 U	100 U	0.50 U	0.50 U	--	1.0 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	1.0 U	--	--	0.50 U	0.50 U	--
Selenium (Dissolved)	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--
Silver (Total)	--	20 U	20 U	0.50 U	0.50 U	--	1.0 U	--	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	1.0 U	--	--	0.50 U	0.50 U	--
Silver (Dissolved)	--	--	--	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--
Thallium (Soluble Salts)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc and Compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dinitrotoluenes (ug/L)																						
2,4-Dinitrotoluene	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	0.19 U	0.19 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

[1] Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in Groundwater and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in Groundwater. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

[2] MW12 was resampled in February 2015.

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW23S			MW24S							MW25S						MW26				MW27	
	12/17/2009	3/16/2010	8/17/2010	7/2/2009	9/18/2009	11/19/2009	12/17/2009	3/16/2010	8/17/2010	8/18/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	9/29/2014	12/22/2014	3/25/2015	6/9/2015	9/29/2014	12/22/2014
Total Petroleum Hydrocarbons (ug/L)																						
TPH-D	173	100 U	124	250 U	250 U	--	100 U	100 U	--	101	250 U	250 U	--	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
TPH-G	500 U	250 U	--	50 U	50 U	--	500 U	250 U	--	--	50 U	50 U	--	500 U	250 U	--	250 U	--	--	--	250 U	--
TPH-HO	500 U	500 U	500 U	500 U	500 U	--	516	500 U	--	500 U	500 U	500 U	--	642	500 U	635	500 U	500 U	500 U	500 U	500 U	500 U
Volatile Organic Compounds (ug/L)																						
1,1,1-Trichloroethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,1-Dichloroethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	0.50 U	--	--	0.50 U	0.84	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2-cis-Dichloroethylene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2-Dichloroethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2-Dichloropropane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2-trans-Dichloroethylene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
2-Hexanone	2.5 U	--	--	--	--	--	2.5 U	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--
Acetone	2.5 U	--	--	--	--	--	2.5 U	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--
Benzene	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Bromodichloromethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Bromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Bromomethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Carbon Disulfide	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Carbon Tetrachloride	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Chlorobenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Chloroform	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Chloromethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Dibromochloromethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Dichlorodifluoroethene	--	--	--	--	0.50 U	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--
Ethyl Chloride	0.50 U	--	--	0.50 U	--	--	0.50 U	--	--	--	0.50 U	--	--	0.50 U	--	--	--	--	--	--	--	--
Ethyl Ether	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	--	--	--	--	--
m&p-Xylene	0.50 U	1.0 U	--	0.50 U	0.50 U	--	0.50 U	1.0 U	--	--	0.50 U	0.50 U	--	0.50 U	1.0 U	--	--	--	--	--	--	--
Methyl Ethyl Ketone (2-Butanone)	2.5 U	--	--	--	--	--	2.5 U	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--
Methyl Iodide	--	--	--	1.0 U	1.0 U	--	--	--	--	--	1.0 U	1.0 U	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	2.5 U	--	--	--	2.5 U	--	2.5 U	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--
n-Propylbenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
o-Xylene	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	--	--	--	--	--
p-Isopropyltoluene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.66	--	0.50 U	--	--	--	--	--	--	--	--
Styrene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Tetrachloroethylene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Tetrahydrofuran	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--
Toluene	0.50 U	0.50 U	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	0.50 U	--	--	--	--	--	--	--
Total Xylenes	1.0 U	1.5 U	--	1.0 U	1.0 U	--	1.0 U	1.5 U	--	--	1.0 U	1.0 U	--	1.0 U	1.5 U	--	--	--	--	--	--	--
Trichloroethylene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Vinyl Chloride	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (ug/L)																						
1,1,1,2-Tetrachloroethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW23S			MW24S							MW25S						MW26				MW27	
	12/17/2009	3/16/2010	8/17/2010	7/2/2009	9/18/2009	11/19/2009	12/17/2009	3/16/2010	8/17/2010	8/18/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	9/29/2014	12/22/2014	3/25/2015	6/9/2015	9/29/2014	12/22/2014
Semi-Volatile Organic Compounds (ug/L)																						
1,2,3-Trichlorobenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2-Dibromoethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1,3-Dichloropropane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
1-Methylnaphthalene	--	--	--	0.010 U	0.010 U	--	--	--	--	--	0.010 U	0.010 U	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	0.50 U	--	--	--	--	--	0.50 U	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro-1,3-butadiene	--	--	--	3.0 U	3.0 U	--	--	--	--	--	3.0 U	3.0 U	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	0.010 U	0.010 U	--	0.10	0.010 U	0.021	0.010	0.012	--	--	0.010 U	0.010 U	0.010 U	0.010	0.032	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-o-cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	0.010 U	0.010 U	--	--	--	0.010 U	0.015	0.023	--	--	--	--	0.052	0.040	0.032	--	--	--	--	--	--	--
Acenaphthylene	0.010 U	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--	--	--	--
Acetonitrile	--	--	--	2.0 U	2.0 U	--	--	--	--	--	2.0 U	2.0 U	--	--	--	--	--	--	--	--	--	--
Acrolein	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	0.50 U	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	2.0 U	2.0 U	--	0.50 U	--	--	--	--	--	--	--	--
Allyl Chloride	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
Anthracene	0.010 U	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--	--	--	--
Benz[a]anthracene	0.010 U	0.010 U	--	0.2 JN	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.2 JN	0.50 JN	0.022	0.010 U	0.010 U	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	0.010 U	0.010 U	--	--	--	0.010 U	0.010 U	0.010 U	--	--	--	--	0.012	0.010 U	0.010 U	--	--	--	--	--	--	--
Benzo[a]pyrene	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--	--	--	--
Benzo[b]fluoranthene	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.010 U	0.010 U	0.011	0.010 U	0.010 U	--	--	--	--	--	--	--
Benzo[k]fluoranthene	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--	--	--	--
Benzofluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-Chloronaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW23S			MW24S							MW25S						MW26				MW27	
	12/17/2009	3/16/2010	8/17/2010	7/2/2009	9/18/2009	11/19/2009	12/17/2009	3/16/2010	8/17/2010	8/18/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	9/29/2014	12/22/2014	3/25/2015	6/9/2015	9/29/2014	12/22/2014
Semi-Volatile Organic Compounds (ug/L)																						
Bromobenzene	0.50 U	--	--	--	0.50 U	--	0.50 U	--	--	--	--	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Bromochloromethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Butyl Benzyl Phthlate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.010 U	0.010 U	0.013	0.010 U	0.010 U	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
cis-1,4-Dichloro-2-butene	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
Cumene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Dibenz[a,h]anthracene	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--	--	--	--
Dibromomethane (Methylene Bromide)	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	0.50 U	--	--	0.50 U	--	--	0.50 U	--	--	--	0.50 U	--	--	0.50 U	--	--	--	--	--	--	--	--
Diethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl cyanide	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
Fluoranthene	0.010 U	0.010 U	--	--	--	0.016	0.016	0.020	--	--	--	--	0.026	0.025	0.012	--	--	--	--	--	--	--
Fluorene	0.010 U	0.010 U	--	--	--	0.010 U	0.011	0.014	--	--	--	--	0.063	0.035	0.041	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	0.010 U	0.010 U	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	--	--	--	--	--	--	--
Isophorone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methacrylonitrile	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
Methyl Acrylate	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
Methyl Isobutyl Ketone	2.5 U	--	--	--	--	--	2.5 U	--	--	--	--	--	--	2.5 U	--	--	--	--	--	--	--	--
Methyl Methacrylate	--	--	--	0.50 U	0.78	--	--	--	--	--	0.50 U	0.69	--	--	--	--	--	--	--	--	--	--
Methyl tert-Butyl Ether (MTBE)	0.50 U	--	--	--	--	--	0.50 U	--	--	--	--	--	--	0.50 U	--	--	--	--	--	--	--	--
Naphthalene	0.50 U	0.015	--	0.10	0.50 U	0.027	0.021	0.026	--	--	0.50 U	0.50 U	0.010 U	0.028	0.022	--	--	--	--	--	--	--
n-Butylbenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
N-Hexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-N-propylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
o-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chloroaniline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-chloro-m-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
p-Cresol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	0.010 U	0.010 U	--	--	--	0.045	0.021	0.033	--	--	--	--	0.10	0.050	0.059	--	--	--	--	--	--	--
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propyl benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	0.010 U	0.010 U	--	--	--	0.014	0.018	0.020	--	--	--	--	0.026	0.032	0.010 U	--	--	--	--	--	--	--
sec-Butylbenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
tert-Butylbenzene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Total cPAHs [1]	0.015 U	0.015 U	--	0.027 JN	0.015 U	0.015 U	0.015 U	0.015 U	--	--	0.027 JN	0.057 JN	0.0099	0.015 U	0.015 U	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW23S			MW24S							MW25S						MW26				MW27	
	12/17/2009	3/16/2010	8/17/2010	7/2/2009	9/18/2009	11/19/2009	12/17/2009	3/16/2010	8/17/2010	8/18/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	9/29/2014	12/22/2014	3/25/2015	6/9/2015	9/29/2014	12/22/2014
Semi-Volatile Organic Compounds (ug/L)																						
Total Naphthalenes	0.51 U	0.020	--	0.21	0.52 U	0.048	0.031	0.038	--	--	0.52 U	0.52 U	0.020 U	0.038	0.054	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
trans-1,4-Dichloro-2-butene	--	--	--	0.50 U	0.50 U	--	--	--	--	--	0.50 U	0.50 U	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	0.50 U	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	0.50 U	0.50 U	--	0.50 U	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans (ug/L)[1]																						
1,2,3,4,6,7,8-HpCDD	--	--	--	0.0000095 J	0.0000058	--	0.0000069 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	--	--	--	0.0000016 UI	0.0000021	--	0.0000064 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	--	--	--	0.0000017 U	0.0000017 U	--	0.0000072 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	--	--	--	0.00000086 U	0.0000014 U	--	0.0000049 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	--	--	--	0.0000015 U	0.00000091 U	--	0.0000036 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	--	--	--	0.00000079 U	0.0000015 U	--	0.0000047 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	--	--	--	0.0000016 U	0.00000088 U	--	0.0000037 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	--	--	--	0.00000088 U	0.00000099 U	--	0.0000042 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	--	--	--	0.0000014 U	0.00000087 U	--	0.0000046 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	--	--	--	0.00000097 U	0.0000015 U	--	0.0000068 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	--	--	--	0.0000021 U	0.0000017 U	--	0.0000051 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	--	--	--	0.0000011 U	0.00000072 U	--	0.0000035 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	--	--	--	0.0000013 U	0.0000013 U	--	0.0000054 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	--	--	--	0.0000011 U	0.0000013 U	--	0.0000031 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	--	--	--	0.0000015 U	0.0000012 U	--	0.0000033 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	--	--	--	0.000091 BJ	0.000054	--	0.000094 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	--	--	--	0.000011 J	0.0000083	--	0.000010 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dioxin/Furans	--	--	--	0.0000019 BJ	0.0000022	--	0.0000076 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (ug/L)																						
Aroclor 1016	0.20 U	--	--	0.010 U	0.010 U	--	0.20 U	--	--	--	--	0.010 U	--	0.20 U	--	--	--	--	--	--	--	--
Aroclor 1221	0.20 U	--	--	0.010 U	0.010 U	--	0.20 U	--	--	--	--	0.010 U	--	0.20 U	--	--	--	--	--	--	--	--
Aroclor 1232	0.20 U	--	--	0.010 U	0.010 U	--	0.20 U	--	--	--	--	0.010 U	--	0.20 U	--	--	--	--	--	--	--	--
Aroclor 1242	0.20 U	--	--	0.010 U	0.010 U	--	0.20 U	--	--	--	--	0.010 U	--	0.20 U	--	--	--	--	--	--	--	--
Aroclor 1248	0.20 U	--	--	0.010 U	0.010 U	--	0.20 U	--	--	--	--	0.010 U	--	0.20 U	--	--	--	--	--	--	--	--
Aroclor 1254	0.20 U	--	--	0.010 U	0.010 U	--	0.20 U	--	--	--	--	0.010 U	--	0.20 U	--	--	--	--	--	--	--	--
Aroclor 1260	0.20 U	--	--	0.010 U	0.010 U	--	0.20 U	--	--	--	--	0.010 U	--	0.20 U	--	--	--	--	--	--	--	--
Metals (ug/L)																						
Antimony (metallic)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, Inorganic (Total)	1.6	1.0 U	1.0 U	14	5.3	5.5	6.3	5.0	13	--	3.4	2.3	1.8	2.7	1.4	2.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Arsenic, Inorganic (Dissolved)	1.0 U	1.0 U	1.0 U	16 BJ	8.6 BJ	5.1	6.1	5.0	12	--	--	4.2 BJ	1.0 U	1.0 U	1.0 U	1.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Barium (Total)	67	--	--	22	30	--	27	--	--	--	57	33	--	37	--	--	--	--	--	--	--	--
Barium (Dissolved)	--	--	--	17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium and compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (Total)	1.0 U	--	--	0.50 U	0.50 U	--	1.0 U	--	--	--	0.50 U	0.50 U	--	1.0 U	--	--	--	--	--	--	--	--
Cadmium (Dissolved)	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	1.0 U	1.0 U	--	0.50 U	0.50 U	--	1.0 U	1.0 U	--	--	0.80	0.50 U	--	3.3	1.0 U	--	--	--	--	--	--	--
Chromium (Dissolved)	--	1.0 U	--	0.20	--	--	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--	--	--	--	--	--
Cobalt	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper (Total)	1.0 U	1.6	3.1	3.0 BJ	1.3 BJ	2.3	5.1	4.8	1.4	--	1.9 BJ	1.3 BJ	2.4	7.5	2.6	1.7	--	--	--	--	--	--
Copper (Dissolved)	1.0 U	1.0 U	1.0 U	1.6 BJ	--	1.2	2.1	1.6	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	--	--
Lead and Compounds (Total)	1.0 U	1.2	2.7	0.60	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	--	3.2	2.0	3.2	12	2.3	2.3	--	--	--	--	--	--
Lead and Compounds (Dissolved)	1.0 U	1.0 U	1.0 U	0.50 BJ	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	--	--
Mercury, elemental (Total)	0.10 U	--	--	0.50 U	0.50 U	--	0.10 U	--	--	--	0.50 U	0.50 U	--	0.10 U	--	--	--	--	--	--	--	--
Mercury, elemental (Dissolved)	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)																					
	MW23S			MW24S							MW25S						MW26				MW27	
	12/17/2009	3/16/2010	8/17/2010	7/2/2009	9/18/2009	11/19/2009	12/17/2009	3/16/2010	8/17/2010	8/18/2010	6/30/2009	9/21/2009	11/19/2009	12/16/2009	3/16/2010	8/17/2010	9/29/2014	12/22/2014	3/25/2015	6/9/2015	9/29/2014	12/22/2014
Metals (ug/L)																						
Nickel Soluble Salts (Total)	1.0 U	1.2	1.1	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.2	0.55 BJ	1.1	3.2	1.0 U	1.0 U	--	--	--	--	--	--
Nickel Soluble Salts (Dissolved)	1.0 U	1.0 U	1.0 U	0.60 BJ	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--	--	--
Selenium (Total)	1.0 U	--	--	0.50 U	0.50 U	--	1.0 U	--	--	--	0.50 U	0.50 U	--	1.0 U	--	--	--	--	--	--	--	--
Selenium (Dissolved)	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver (Total)	1.0 U	--	--	0.50 U	0.50 U	--	1.0 U	--	--	--	0.50 U	0.50 U	--	1.0 U	--	--	--	--	--	--	--	--
Silver (Dissolved)	--	--	--	0.50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium (Soluble Salts)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc and Compounds	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dinitrotoluenes (ug/L)																						
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

--: Not analyzed

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

[1] Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in Groundwater and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in Groundwater. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

[2] MW12 was resampled in February 2015.

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)	
	MW27	
	3/25/2015	6/9/2015
Total Petroleum Hydrocarbons (ug/L)		
TPH-D	100 U	100 U
TPH-G	--	--
TPH-HO	500 U	500 U
Volatile Organic Compounds (ug/L)		
1,1,1-Trichloroethane	--	--
1,1,2,2-Tetrachloroethane	--	--
1,1,2-Trichloroethane	--	--
1,1-Dichloroethane	--	--
1,1-Dichloroethylene	--	--
1,2-cis-Dichloroethylene	--	--
1,2-Dichloroethane	--	--
1,2-Dichloropropane	--	--
1,2-trans-Dichloroethylene	--	--
1,4-Dichlorobenzene	--	--
2-Chloroethyl vinyl ether	--	--
2-Hexanone	--	--
Acetone	--	--
Benzene	--	--
Bromodichloromethane	--	--
Bromoethane	--	--
Bromoform	--	--
Bromomethane	--	--
Carbon Disulfide	--	--
Carbon Tetrachloride	--	--
Chlorobenzene	--	--
Chloroform	--	--
Chloromethane	--	--
Dibromochloromethane	--	--
Dichlorodifluoroethene	--	--
Ethyl Chloride	--	--
Ethyl Ether	--	--
Ethylbenzene	--	--
m&p-Xylene	--	--
Methyl Ethyl Ketone (2-Butanone)	--	--
Methyl Iodide	--	--
Methylene Chloride	--	--
n-Propylbenzene	--	--
o-Xylene	--	--
p-Isopropyltoluene	--	--
Styrene	--	--
Tetrachloroethylene	--	--
Tetrahydrofuran	--	--
Toluene	--	--
Total Xylenes	--	--
Trichloroethylene	--	--
Vinyl Chloride	--	--
Semi-Volatile Organic Compounds (ug/L)		
1,1,1,2-Tetrachloroethane	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--
1,1-Dichloropropene	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)	
	MW27	
	3/25/2015	6/9/2015
Semi-Volatile Organic Compounds (ug/L)		
1,2,3-Trichlorobenzene	--	--
1,2,3-Trichloropropane	--	--
1,2,4-Trichlorobenzene	--	--
1,2,4-Trimethylbenzene	--	--
1,2-Dibromo-3-chloropropane	--	--
1,2-Dibromoethane	--	--
1,2-Dichlorobenzene	--	--
1,3,5-Trimethylbenzene	--	--
1,3-Dichlorobenzene	--	--
1,3-Dichloropropane	--	--
1-Methylnaphthalene	--	--
2,2-Dichloropropane	--	--
2,4,5-Trichlorophenol	--	--
2,4,6-Trichlorophenol	--	--
2,4-Dichlorophenol	--	--
2,4-Dimethylphenol	--	--
2,4-Dinitrophenol	--	--
2-Chloro-1,3-butadiene	--	--
2-Chlorophenol	--	--
2-Methylnaphthalene	--	--
2-Nitroaniline	--	--
2-Nitrophenol	--	--
3- & 4-Methylphenol Coelution	--	--
3,3'-Dichlorobenzidine	--	--
3-Nitroaniline	--	--
4,6-Dinitro-o-cresol	--	--
4-Bromophenylphenylether	--	--
4-Chlorophenylphenylether	--	--
4-Nitroaniline	--	--
4-Nitrophenol	--	--
Acenaphthene	--	--
Acenaphthylene	--	--
Acetonitrile	--	--
Acrolein	--	--
Acrylonitrile	--	--
Allyl Chloride	--	--
Anthracene	--	--
Benz[a]anthracene	--	--
Benzo(g,h,i)perylene	--	--
Benzo[a]pyrene	--	--
Benzo[b]fluoranthene	--	--
Benzo[k]fluoranthene	--	--
Benzofluoranthene	--	--
Benzoic Acid	--	--
Benzyl Alcohol	--	--
beta-Chloronaphthalene	--	--
Bis(2-chloro-1-methylethyl) ether	--	--
Bis(2-chloroethoxy)methane	--	--
Bis(2-chloroethyl)ether	--	--
Bis(2-chloroisopropyl)ether	--	--
Bis(2-ethylhexyl)phthalate	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)	
	MW27	
	3/25/2015	6/9/2015
Semi-Volatile Organic Compounds (ug/L)		
Bromobenzene	--	--
Bromochloromethane	--	--
Butyl Benzyl Phthlate	--	--
Carbazole	--	--
Chrysene	--	--
cis-1,3-Dichloropropene	--	--
cis-1,4-Dichloro-2-butene	--	--
Cumene	--	--
Dibenz[a,h]anthracene	--	--
Dibromomethane (Methylene Bromide)	--	--
Dibutyl-n-butyl Phthalate	--	--
Dichlorodifluoromethane	--	--
Diethyl Phthalate	--	--
Dimethyl Phthalate	--	--
Di-n-octyl Phthalate	--	--
Ethyl cyanide	--	--
Fluoranthene	--	--
Fluorene	--	--
Hexachlorobenzene	--	--
Hexachlorobutadiene	--	--
Hexachlorocyclopentadiene	--	--
Hexachloroethane	--	--
Indeno[1,2,3-cd]pyrene	--	--
Isophorone	--	--
Methacrylonitrile	--	--
Methyl Acrylate	--	--
Methyl Isobutyl Ketone	--	--
Methyl Methacrylate	--	--
Methyl tert-Butyl Ether (MTBE)	--	--
Naphthalene	--	--
n-Butylbenzene	--	--
N-Hexane	--	--
Nitrobenzene	--	--
N-Nitroso-di-N-propylamine	--	--
N-Nitrosodiphenylamine	--	--
o-Chlorotoluene	--	--
o-Cresol	--	--
p-Chloroaniline	--	--
p-chloro-m-Cresol	--	--
p-Chlorotoluene	--	--
p-Cresol	--	--
Pentachlorobenzene	--	--
Pentachlorophenol	--	--
Phenanthrene	--	--
Phenol	--	--
Propyl benzene	--	--
Pyrene	--	--
sec-Butylbenzene	--	--
tert-Butylbenzene	--	--
Total cPAHs [1]	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)	
	MW27	
	3/25/2015	6/9/2015
Semi-Volatile Organic Compounds (ug/L)		
Total Naphthalenes	--	--
trans-1,3-Dichloropropene	--	--
trans-1,4-Dichloro-2-butene	--	--
Trichlorofluoromethane	--	--
Vinyl Acetate	--	--
Total Dioxin/Furans (ug/L)[1]		
1,2,3,4,6,7,8-HpCDD	--	--
1,2,3,4,6,7,8-HpCDF	--	--
1,2,3,4,7,8,9-HpCDF	--	--
1,2,3,4,7,8-HxCDD	--	--
1,2,3,4,7,8-HxCDF	--	--
1,2,3,6,7,8-HxCDD	--	--
1,2,3,6,7,8-HxCDF	--	--
1,2,3,7,8,9-HxCDD	--	--
1,2,3,7,8,9-HxCDF	--	--
1,2,3,7,8-PeCDD	--	--
1,2,3,7,8-PeCDF	--	--
2,3,4,6,7,8-HxCDF	--	--
2,3,4,7,8-PeCDF	--	--
2,3,7,8-TCDD	--	--
2,3,7,8-TCDF	--	--
Dibenzofuran	--	--
OCDD	--	--
OCDF	--	--
Total Dioxin/Furans	--	--
Polychlorinated Biphenyls (ug/L)		
Aroclor 1016	--	--
Aroclor 1221	--	--
Aroclor 1232	--	--
Aroclor 1242	--	--
Aroclor 1248	--	--
Aroclor 1254	--	--
Aroclor 1260	--	--
Metals (ug/L)		
Antimony (metallic)	--	--
Arsenic, Inorganic (Total)	1.0 U	1.0 U
Arsenic, Inorganic (Dissolved)	1.0 U	1.0 U
Barium (Total)	--	--
Barium (Dissolved)	--	--
Beryllium and compounds	--	--
Cadmium (Total)	--	--
Cadmium (Dissolved)	--	--
Chromium (Total)	--	--
Chromium (Dissolved)	--	--
Cobalt	--	--
Copper (Total)	--	--
Copper (Dissolved)	--	--
Lead and Compounds (Total)	--	--
Lead and Compounds (Dissolved)	--	--
Mercury, elemental (Total)	--	--
Mercury, elemental (Dissolved)	--	--

Table L-2: Results for Groundwater Samples

Constituent	Site ID (Sample Date)	
	MW27	
	3/25/2015	6/9/2015
Metals (ug/L)		
Nickel Soluble Salts (Total)	--	--
Nickel Soluble Salts (Dissolved)	--	--
Selenium (Total)	--	--
Selenium (Dissolved)	--	--
Silver (Total)	--	--
Silver (Dissolved)	--	--
Thallium (Soluble Salts)	--	--
Vanadium	--	--
Zinc and Compounds	--	--
Dinitrotoluenes (ug/L)		
2,4-Dinitrotoluene	--	--
2,6-Dinitrotoluene	--	--

Notes:

--: Not analyzed

Qualifier

B: Less than 10x higher than the method blank level

CON: Confirmation analysis

D: Result obtained from analysis of diluted sample

E: Exceeds calibration range

I: Interference present

J: Estimated value

P: Polychlorinated diphenyl ether interference

U: Not detected at shown concentration

Results are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number and dioxins/furans are shown in scientific notation to two significant figures.

[1] Compound totaling was performed in accordance with Ecology's amendments to MTCA (Ecology 2001a). For congeners that occur at the Site (detected in any medium), but not detected in that sample, a value of half the detection limit was assigned. For congeners that do not occur at the Site (not detected in any medium), a value of zero was assigned. In the case of cPAHs, all congeners were detected at least once in Groundwater and groundwater. In the case of total dioxins/furans, all congeners were detected at least once in Groundwater. Therefore, cPAHs and total dioxins/furans that were not detected were assigned a value of half the detection limit.

[2] MW12 was resampled in February 2015.

Appendix M

Determination of Soil SLs, COPCs, and RLs, and Groundwater SLs

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ACRONYMS AND ABBREVIATIONS

Acronym	Explanation
CLARC	Cleanup Levels and Risk Calculation
COIs	Constituents of Interest
COPCs	Constituents of Potential Concern
cPAHs	Carcinogenic Polycyclic Aromatic Hydrocarbons
CSEM	Conceptual Site Exposure Model
Dioxins/Furans	Chlorinated Dibenzo-p-dioxins and Chlorinated Dibenzofurans
Ecology	Washington State Department of Ecology
EPH	Extractable Petroleum Hydrocarbons
IA	Interim Action
LNAPL	Light Non-Aqueous Phase Liquid
MTCA	Model Toxics Control Act
RI	Remedial Investigation
RL	Remediation Level
Site	East Bay Redevelopment Site
SL	Screening Level
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons in the Diesel Range
TPH-G	Total Petroleum Hydrocarbons in the Gasoline Range
TPH-HO	Total Petroleum Hydrocarbons in the Heavy Oil Range
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WAC	Washington Administrative Code

SECTION 1 – SOIL SLS AND COPCS

The purpose of this section is to present the methodology used to determine soil screening levels (SLs) and soil constituents of potential concern (COPCs) for the East Bay Redevelopment Site (Site).

1.1 Exposure Pathways for Quantification of Soil SLs

A conceptual site exposure model (CSEM) is presented in Figure 2-13 of the main text, and discussed in Section 2.8 and Appendix G of the main text. As presented in Figure 2-13, Section 2.8, and Appendix G of the main text, the following CSEM pathways were identified for consideration in the quantification of soil SLs:

- Direct contact (incidental ingestion and dermal contact) with soil and inhalation of particulates by:
  - Single-family residents.
  - Commercial workers.
  - Construction/utility workers during the remediation and redevelopment construction phase.
  - Utility maintenance workers during the post-remediation and post-redevelopment phase.
- For total petroleum hydrocarbons (TPH) in the gasoline range (TPH-G) and total naphthalenes only, inhalation of vapors by:
  - Single-family residents.
  - Commercial workers.
  - Commercial workers during the post-redevelopment land use phase.
- For arsenic, TPH in the diesel range (TPH-D) and TPH in the heavy oil range (TPH-HO) combined only, direct contact (incidental ingestion and dermal contact) with East Bay surface water and sediment, as well as consumption of East Bay seafood, by recreators, subsistence fishers, and aquatic organisms during all land use phases.

Consistent with Model Toxics Control Act (MTCA) regulations, single-family residential exposure assumptions were used to quantify SLs for the soil direct contact, inhalation of particulates, and inhalation of vapors pathways in order to develop more protective SLs.

1.2 Soil COIs

As discussed in Section 3.1 of the main text, soil samples collected during the remedial investigation (RI) were analyzed for a variety of constituents of interest (COIs). A COI is defined as any constituent that was analyzed in on-site RI soil samples, including samples that were removed during an Interim Action (IA), and samples that were subsequently replaced with a co-located sample. A summary of analytical laboratory results for each soil COI is presented in Table M-1. As shown in Table M-1, 48 COIs were detected in on-site soil samples.

1.3 Development of Soil SLs for Detected COIs

Soil SLs were developed for COIs detected in any on-site RI soil sample. The SLs were based on single-family residential land use (i.e., unrestricted land use) in order to develop more protective SLs consistent with MTCA requirements even though there is no current residential land use and zoning does not allow future single-family residential land use. Nonetheless, soil SLs for unrestricted land use were developed using the most stringent of the following values, subject to any necessary adjustments per Washington Administrative Code (WAC) 173-340-740(5)(c):

- Soil concentrations protective of the inhalation of particulates pathway in an unrestricted land use scenario (see Tables M-2 and M-3).
- Soil concentrations protective of the direct contact (incidental ingestion and dermal contact) pathway in an unrestricted land use scenario (see Tables M-4 and M-5).
- MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses for TPH-G and total naphthalenes in order to be protective of the soil-to-indoor air pathway (PIONEER 2014).
- Arsenic and TPH-D and TPH-HO combined soil concentrations protective of the soil-to-surface water (via groundwater) pathway (see Table M-6).

The resulting soil SL for unrestricted land use for each detected COI is presented in Table M-7.

1.4 Determination of Soil COPCs

Soil COPCs were determined by comparing the following maximum detected concentrations for each detected COI with the soil SLs determined in Table M-7:

- The maximum detected concentration in on-site RI soil samples (from Table M-1).
- The maximum detected concentration in Infrastructure IA soil stockpile samples (PIONEER 2010).
- The maximum detected concentration in Parcel 4/5 IA soil stockpile samples (Brown and Caldwell 2015).

A detected COI was identified as a soil COPC if any of the aforementioned maximum detected concentrations exceeded the soil SL. As shown in Table M-8, the following COIs were identified as soil COPCs:

- Arsenic
- Lead
- TPH-G
- Total naphthalenes
- TPH-D and TPH-HO combined
- Total carcinogenic polycyclic aromatic hydrocarbons (cPAHs)
- Total chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans (dioxins/furans)

SECTION 2 – SOIL RLS

The purpose of this section is to present the methodology used to determine soil remediation levels (RLs) for the seven soil COPCs (see Section 1.4). Soil RLs were developed for soil COPCs based on a commercial land use scenario, with the exception that MTCA Method A Soil Cleanup Levels for Unrestricted Land Use for TPH-G and total naphthalenes were used to be protective of the soil-to-indoor air pathway per prior agreement (PIONEER 2014). Consistent with MTCA regulations, the protective exposure assumptions for commercial workers were used as surrogates for construction/utility worker exposures and utility maintenance worker exposures during the development of soil RLs. Thus, soil RLs were developed using the most stringent of the following values as shown in Table M-9:

- Soil concentrations protective of the inhalation of particulates pathway in a commercial land use scenario (see Tables M-2 and M-3).
- Soil concentrations protective of the direct contact (incidental ingestion and dermal contact) pathway in in a commercial land use scenario (see Tables M-4 and M-5).
- MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses for TPH-G and total naphthalenes in order to be protective of the soil-to-indoor air pathway (PIONEER 2014).
- Arsenic and TPH-D and TPH-HO combined soil concentrations protective of the soil-to-surface water (via groundwater) pathway (see Table M-6).
- The MTCA Method A Cleanup Level for TPH-G if benzene is present was not used for the following reasons (Ecology 2016, PIONEER 2016):
    - Out of 104 on-site soil samples analyzed for benzene, benzene was only "detected" in three soil samples at the Site (see Table M-10). However, in all three cases the "J" qualified detections were less than the RL. The laboratory presented these results as "J" qualified detections because the concentrations were greater than the method detection limit, but less than the associated RL. The maximum of the three "J" qualified detected benzene concentrations was 0.011 J mg/kg, which is less than the MTCA Method A Soil Cleanup Level for Unrestricted Land Use of 0.03 mg/kg.
    - Only a few non-detect benzene results had a RL significantly greater than the MTCA Method A Soil Cleanup Level for Unrestricted Land Use of 0.03 mg/kg. For the purposes of this report, a target RL of greater than two times 0.03 mg/kg was considered a significantly elevated RL since it is a common convention to assume a non-detect result equals half the RL. As shown on Figure M-1, only three in-place soil samples had a non-detect RL greater than 0.06 mg/kg: a MW15 sample with a 0.075 mg/kg RL, a DP15 sample with a 0.076 mg/kg RL, and a DP06 sample with a 0.75 mg/kg RL. The DP06 soil sample will be removed pursuant to the recommended alternative.
    - Sample locations MW15 and DP15 were collected below the water table (10-12 feet below ground surface). The Method A Soil Cleanup Level for benzene is based on the protection of groundwater for drinking water use.
    - Actual RLs are often higher than ideal target RLs for legitimate reasons such as matrix interferences, necessary sample dilutions, laboratory equipment capabilities, et cetera.

Soil SLs and soil RLs for the soil COPCs are presented in Table M-11.

SECTION 3 – GROUNDWATER SLS

The purpose of this section is to present the methodology used to determine groundwater SLs for the two groundwater COPCs (dissolved arsenic, and TPH-D and TPH-HO combined) that were previously established (PIONEER 2011). In accordance with the CSEM, groundwater SLs were developed to be protective of all potential surface water receptors. Groundwater SLs were developed in accordance with the MTCA Method B surface water cleanup level requirements in WAC 173-340-730(3)(b) subject to any necessary natural background adjustments per WAC 173-340-730(5)(c). The development of groundwater SLs is presented in Table M-12.

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Figures

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Legend

- Site Boundary
- Constituent Delineation for TPH-G and Total Naphthalenes Only

Soil Data (0-2' bgs)
- NLIP Due to Past Soil Removal
- Not Detected with RL <= 0.06 mg/kg
- Detected <= 0.03 mg/kg
- Not Detected with RL > 0.06 mg/kg

Soil Data (2-6' bgs)
- NLIP Due to Past Soil Removal
- Not Detected with RL <= 0.06 mg/kg
- Detected <= 0.03 mg/kg
- Not Detected with RL > 0.06 mg/kg

Soil Data (>=6' bgs)
- NLIP Due to Past Soil Removal
- Not Detected with RL <= 0.06 mg/kg
- Detected <= 0.03 mg/kg
- Not Detected with RL > 0.06 mg/kg

Notes:
ft bgs: feet below ground surface
NLIP: No Longer in Place
RL: Reporting Limit
U: Not detected at shown RL

The MTCA Method A soil cleanup level for unrestricted land uses is 0.03 mg/kg. Non-detect results are shown relative to 0.06 mg/kg since a common convention is to assume non-detected results equal half the RL.

0 100 200 300 Feet

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Benzene Soil Samples and Reporting Limits
East Bay Redevelopment Site

Figure M-1

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Tables

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Table M-1: Results Summary for Soil COIs

Constituent of Interest [1]	Number of Soil Samples	Number of Detected Results	Frequency of Detection (%)	Minimum Non-Detect PQL (mg/kg)	Maximum Non-Detect PQL (mg/kg)	Minimum Detected Concentration (mg/kg)	Maximum Detected Concentration (mg/kg)	COI Detected in Soil? (Yes / No)
Total Petroleum Hydrocarbons								
TPH-D and TPH-HO Combined	128	77	60	50	544	18.0	23,900	**Yes**
TPH-G	103	25	24	0.73	73	0.78	1,100	**Yes**
Volatile Organic Compounds								
1,1,1-Trichloroethane	61	0	0	0.016	1.5	--	--	No
1,1,2,2-Tetrachloroethane	61	0	0	0.0082	0.75	--	--	No
1,1,2-Trichloroethane	61	0	0	0.041	3.7	--	--	No
1,1-Dichloroethane	61	0	0	0.041	3.7	--	--	No
1,1-Dichloroethylene	61	0	0	0.016	1.5	--	--	No
1,2-cis-Dichloroethylene	61	0	0	0.041	3.7	--	--	No
1,2-Dichloroethane	63	0	0	0.0050	3.7	--	--	No
1,2-Dichloropropane	61	0	0	0.0082	0.75	--	--	No
1,2-trans-Dichloroethylene	61	0	0	0.041	3.7	--	--	No
1,4-Dichlorobenzene	61	0	0	0.0051	0.72	--	--	No
Benzene	104	3	2.9	0.0010	0.75	0.0064	0.011	**Yes**
Bromodichloromethane	61	0	0	0.041	3.7	--	--	No
Bromoform	61	0	0	0.041	3.7	--	--	No
Bromomethane	61	1	1.6	0.055	19	0.35	0.35	**Yes**
Carbon Tetrachloride	61	0	0	0.016	1.5	--	--	No
Chlorobenzene	61	0	0	0.041	3.7	--	--	No
Chloroform	61	0	0	0.041	3.7	--	--	No
Chloromethane	61	8	13	0.015	3.7	0.017	0.090	**Yes**
Dibromochloromethane	61	0	0	0.041	3.7	--	--	No
Ethyl Chloride	61	0	0	0.21	19	--	--	No
Ethylbenzene	104	1	0.96	0.0010	3.7	0.12	0.12	**Yes**
m&p-Xylene	99	0	0	0.0020	3.7	--	--	No
Methylene Chloride	61	0	0	0.015	3.7	--	--	No
o-Xylene	79	1	1.3	0.0050	3.7	0.15	0.15	**Yes**
p-Isopropyltoluene	61	19	31	0.041	3.7	0.0063	4.3	**Yes**
Styrene	61	0	0	0.041	3.7	--	--	No
Tetrachloroethylene	61	0	0	0.026	2.3	--	--	No
Toluene	104	3	2.9	0.0010	3.7	0.017	0.043	**Yes**
Total Xylenes	101	1	0.99	0.0020	7.4	0.15	0.15	**Yes**
Trichloroethylene	61	0	0	0.016	1.5	--	--	No

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Table M-1: Results Summary for Soil COIs

Constituent of Interest [1]	Number of Soil Samples	Number of Detected Results	Frequency of Detection (%)	Minimum Non-Detect PQL (mg/kg)	Maximum Non-Detect PQL (mg/kg)	Minimum Detected Concentration (mg/kg)	Maximum Detected Concentration (mg/kg)	COI Detected in Soil? (Yes / No)
Vinyl Chloride	61	0	0	0.016	1.5	--	--	No
Semi-Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	61	0	0	0.041	3.7	--	--	No
1,1-Dichloropropene	61	0	0	0.041	3.7	--	--	No
1,2,3-Trichlorobenzene	61	0	0	0.041	3.7	--	--	No
1,2,3-Trichloropropane	61	0	0	0.041	3.7	--	--	No
1,2,4-Trichlorobenzene	61	0	0	0.0051	0.72	--	--	No
1,2,4-Trimethylbenzene	63	6	9.5	0.041	3.7	0.0095	0.94	**Yes**
1,2-Dibromo-3-chloropropane	61	0	0	0.041	3.7	--	--	No
1,2-Dibromoethane	63	0	0	0.0010	3.7	--	--	No
1,2-Dichlorobenzene	61	0	0	0.0051	0.72	--	--	No
1,3,5-Trimethylbenzene	63	4	6.3	0.0050	3.7	0.027	0.29	**Yes**
1,3-Dichlorobenzene	61	0	0	0.0051	0.72	--	--	No
1,3-Dichloropropane	61	0	0	0.016	1.5	--	--	No
2,2-Dichloropropane	61	0	0	0.041	3.7	--	--	No
2,4,5-Trichlorophenol	60	0	0	0.010	1.0	--	--	No
2,4,6-Trichlorophenol	60	0	0	0.015	1.5	--	--	No
2,4-Dichlorophenol	60	0	0	0.010	1.0	--	--	No
2,4-Dimethylphenol	60	0	0	0.010	1.0	--	--	No
2,4-Dinitrophenol	60	0	0	0.10	10.0	--	--	No
2,4-Dinitrotoluene	60	0	0	0.010	1.0	--	--	No
2,6-Dinitrotoluene	60	1	1.7	0.010	1.0	0.033	0.033	**Yes**
2-Chlorophenol	60	0	0	0.010	1.0	--	--	No
2-Nitroaniline	60	0	0	0.010	1.0	--	--	No
2-Nitrophenol	60	0	0	0.010	1.0	--	--	No
3- & 4-Methylphenol Coelution	32	3	9.4	0.020	2.0	0.041	0.16	**Yes**
3,3'-Dichlorobenzidine	60	0	0	0.020	2.0	--	--	No
3-Nitroaniline	60	0	0	0.010	1.0	--	--	No
4,6-Dinitro-o-cresol	60	0	0	0.10	10.0	--	--	No
4-Bromophenylphenylether	60	0	0	0.010	1.0	--	--	No
4-Chlorophenylphenylether	60	0	0	0.010	1.0	--	--	No
4-Nitroaniline	60	0	0	0.010	1.0	--	--	No
4-Nitrophenol	60	0	0	0.10	10.0	--	--	No
Acenaphthene	94	21	22	0.0020	0.25	0.0022	1.9	**Yes**

Table M-1: Results Summary for Soil COIs

Constituent of Interest [1]	Number of Soil Samples	Number of Detected Results	Frequency of Detection (%)	Minimum Non-Detect PQL (mg/kg)	Maximum Non-Detect PQL (mg/kg)	Minimum Detected Concentration (mg/kg)	Maximum Detected Concentration (mg/kg)	COI Detected in Soil? (Yes / No)
Acenaphthylene	94	22	23	0.0020	0.25	0.0028	0.13	**Yes**
Anthracene	94	30	32	0.0020	0.50	0.0040	0.57	**Yes**
Benzo(g,h,i)perylene	94	44	47	0.0028	0.50	0.00047	0.44	**Yes**
Benzofluoranthene	23	20	87	0.0046	0.013	0.0014	0.91	**Yes**
Benzoic Acid	60	0	0	0.26	25	--	--	No
Benzyl Alcohol	60	1	1.7	0.010	1.0	0.77	0.77	**Yes**
beta-Chloronaphthalene	60	0	0	0.0020	0.20	--	--	No
Bis(2-chloroethoxy)methane	60	0	0	0.010	1.0	--	--	No
Bis(2-chloroethyl)ether	60	0	0	0.010	1.0	--	--	No
Bis(2-chloroisopropyl)ether	60	0	0	0.015	1.5	--	--	No
Bis(2-ethylhexyl)phthalate	60	6	10	0.15	170	0.71	530	**Yes**
Bromobenzene	61	0	0	0.041	3.7	--	--	No
Bromochloromethane	61	0	0	0.041	3.7	--	--	No
Butyl Benzyl Phthlate	60	3	5	0.010	1.0	0.023	0.065	**Yes**
Carbazole	60	1	1.7	0.015	1.5	0.069	0.069	**Yes**
cis-1,3-Dichloropropene	61	0	0	0.041	3.7	--	--	No
Cumene	61	0	0	0.041	3.7	--	--	No
Dibenzofuran	60	2	3.3	0.010	1.0	0.039	0.94	**Yes**
Dibromomethane (Methylene Bromide)	61	0	0.0	0.041	3.7	--	--	No
Dibutyl-n-butyl Phthalate	60	11	18	0.020	2.0	0.041	0.43	**Yes**
Dichlorodifluoromethane	61	0	0	0.041	3.7	--	--	No
Diethyl Phthalate	60	1	1.7	0.010	1.0	0.016	0.016	**Yes**
Dimethyl Phthalate	60	0	0	0.010	1.0	--	--	No
Di-n-octyl Phthalate	60	4	6.7	0.020	2.0	0.14	1.4	**Yes**
Fluoranthene	94	49	52	0.0022	1.5	0.0050	2.9	**Yes**
Fluorene	94	27	29	0.0020	1.0	0.0050	1.2	**Yes**
Hexachlorobenzene	60	0	0	0.0051	0.50	--	--	No
Hexachlorobutadiene	61	0	0	0.0051	0.72	--	--	No
Hexachlorocyclopentadiene	60	0	0	0.010	1.0	--	--	No
Hexachloroethane	60	0	0	0.010	1.0	--	--	No
Isophorone	60	0	0	0.010	1.0	--	--	No
n-Butylbenzene	61	0	0	0.041	3.7	--	--	No
Nitrobenzene	60	0	0	0.010	1.0	--	--	No
N-Nitroso-di-N-propylamine	60	0	0	0.010	1.0	--	--	No

Table M-1: Results Summary for Soil COIs

Constituent of Interest [1]	Number of Soil Samples	Number of Detected Results	Frequency of Detection (%)	Minimum Non-Detect PQL (mg/kg)	Maximum Non-Detect PQL (mg/kg)	Minimum Detected Concentration (mg/kg)	Maximum Detected Concentration (mg/kg)	COI Detected in Soil? (Yes / No)
N-Nitrosodiphenylamine	60	0	0	0.0051	0.50	--	--	No
o-Chlorotoluene	61	0	0	0.041	3.7	--	--	No
o-Cresol	60	0	0	0.010	1.0	--	--	No
p-Chloroaniline	60	1	1.7	0.010	1.0	0.018	0.018	**Yes**
p-chloro-m-Cresol	60	0	0	0.010	1.0	--	--	No
p-Chlorotoluene	61	0	0	0.041	3.7	--	--	No
p-Cresol	28	1	3.6	0.022	0.93	6.1	6.1	**Yes**
Pentachlorophenol	60	5	8.3	0.010	1.0	0.013	0.17	**Yes**
Phenanthrene	94	47	50	0.0022	0.20	0.0025	2.9	**Yes**
Phenol	60	0	0	0.010	1.0	--	--	No
Propyl benzene	61	0	0	0.041	3.7	--	--	No
Pyrene	94	52	55	0.0022	0.093	0.0061	4.5	**Yes**
sec-Butylbenzene	61	2	3.3	0.041	3.7	0.020	0.037	**Yes**
tert-Butylbenzene	61	0	0	0.041	3.7	--	--	No
trans-1,3-Dichloropropene	61	0	0	0.041	3.7	--	--	No
Trichlorofluoromethane	61	0	0	0.041	3.7	--	--	No
Benz[a]anthracene[2]	146	78	53	0.0028	0.62	0.0029	2.0	No[3]
Benzo[a]pyrene[2]	146	73	50	0.0031	0.74	0.00072	0.81	No[3]
Benzo[b]fluoranthene[2]	146	65	45	0.0022	0.50	0.0013	1.1	No[3]
Benzo[k]fluoranthene[2]	146	57	39	0.0027	0.62	0.00042	0.39	No[3]
Chrysene[2]	146	66	45	0.0028	0.62	0.0042	0.94	No[3]
Dibenz[a,h]anthracene[2]	146	46	32	0.0041	0.99	0.00038	0.29	No[3]
Indeno[1,2,3-cd]pyrene[2]	146	63	43	0.0044	0.99	0.00058	0.60	No[3]
Total cPAHs [2]	146	88	60	0.0051	1.1	0.0013	1.1	**Yes**
Total Naphthalenes	117	53	45	0.0071	0.75	0.016	150	**Yes**
Dioxins/Furans								
Total Dioxins/Furans [2]	111	110	99	0.00000013	0.00000013	0.00000014	0.0022	**Yes**
Polychlorinated Biphenyls								
Aroclor 1260	80	3	3.8	0.0099	0.54	0.0080	0.058	**Yes**
Aroclor 1254	80	0	0	0.0099	0.54	--	--	No
Aroclor 1221	80	0	0	0.0099	0.54	--	--	No
Aroclor 1232	80	0	0	0.0099	0.54	--	--	No
Aroclor 1248	80	0	0	0.0099	0.54	--	--	No
Aroclor 1016	80	0	0	0.0099	0.54	--	--	No

Table M-1: Results Summary for Soil COIs

Constituent of Interest [1]	Number of Soil Samples	Number of Detected Results	Frequency of Detection (%)	Minimum Non-Detect PQL (mg/kg)	Maximum Non-Detect PQL (mg/kg)	Minimum Detected Concentration (mg/kg)	Maximum Detected Concentration (mg/kg)	COI Detected in Soil? (Yes / No)
Aroclor 1242	77	0	0	0.0099	0.54	--	--	No
Metals								
Arsenic	158	128	81	0.25	14	1.6	84	**Yes**
Barium	83	83	100	N/A	N/A	4.7	320	**Yes**
Cadmium	107	39	36	0.18	2.4	0.023	5.2	**Yes**
Chromium (VI)	4	0	0	0.10	5.0	--	--	No
Chromium	85	85	100	N/A	N/A	2.3	120	**Yes**
Copper	51	51	100	N/A	N/A	4.7	50	**Yes**
Lead	171	159	93	1.5	5.7	0.46	2,500	**Yes**
Mercury	80	34	43	0.013	0.14	0.011	0.22	**Yes**
Nickel	51	51	100	N/A	N/A	2.2	59	**Yes**
Selenium	83	25	30	0.20	24	0.29	73	**Yes**
Silver	83	0	0	0.20	4.8	--	--	No

Notes:

--: Constituent was not detected.

N/A: Not applicable

PQL: Practical quantitation limit

Concentrations are shown as two significant figures in standard notation with the exception that numbers greater than 100 are rounded to a whole number.

[1] Constituents that were analyzed in any on-site RI sample, including samples that are no longer in place because the associated soil was subsequently removed during an IA and samples that were subsequently replaced with a co-located sample.

[2] Total cPAHs and total dioxins/furans concentrations were calculated using toxic equivalency factors based on the toxicity of benzo(a)pyrene and 2,3,7,8-tetrachlorodibenzo-p-dioxin, respectively, in accordance with WAC 173-340-708(8).

[3] Individual cPAHs were not identified as COPCs in accordance with WAC 173-340-708(8)(e).

Table M-2: Equations and Parameters for the Inhalation of Particulates Pathway Calculations

Non-Carcinogenic Level (mg/kg) [1]			$= \frac{RfDi * HQ * ABW * AT * 365\ days/year * PEF}{IR * EF * ED}$			
Carcinogenic Level (mg/kg) [1]			$= \frac{Risk * ABW * AT * 365\ days/year * PEF}{CPFi * IR * EF * ED}$			
			Unrestricted Land Use [2]		**Commercial Land Use [3]**	
Abbreviation	**Parameter**	**Units**	**Non-Carcinogen Values [2]**	**Carcinogen Values [2]**	**Non-Carcinogen Values [3]**	**Carcinogen Values [3]**
RfDi	Reference Dose (inhalation)	mg/kg-day	Chemical-specific	N/A	Chemical-specific	N/A
HQ	Hazard Quotient	unitless	1	N/A	1	N/A
CPFi	Carcinogenic Potency Factor (inhalation)	kg-day/mg	N/A	Chemical-specific	N/A	Chemical-specific
Risk	Acceptable Cancer Risk Level	unitless	N/A	1.00E-06	N/A	1.00E-05
ABW	Average Body Weight	kg	16	16	70	70
AT	Averaging Time	years	6	75	20	75
PEF	Particulate Emission Factor	m^3/kg	4.63E+09 [1]	4.63E+09 [1]	4.63E+09 [1]	4.63E+09 [1]
IR	Inhalation Rate	m^3/day	10 [1]	10 [1]	20 [1]	20 [1]
EF	Exposure Frequency	days/year	365	365	146	146
ED	Exposure Duration	years	6	6	20	20

Notes:

[1] From Interim Risk Assessment Guidance for Superfund (USEPA 1991).

[2] Default exposure assumptions for a child resident. From WAC 173-340-740(3)(b)(iii)(B) unless otherwise noted.

[3] Default exposure assumptions for an adult worker. From WAC 173-340-745(5)(b)(iii)(B) unless otherwise noted.

Table M-3: Soil SL Calculations for the Inhalation of Particulates Pathway

Detected Constituents of Interest	Inhalation Reference Dose [1] (mg/kg-day)	Non-Carcinogenic Levels (mg/kg)		Inhalation Cancer Potency Factor [1] (kg-day/mg)	Carcinogenic Levels (mg/kg)		Resulting Soil SL for the Inhalation of Particulates Pathway (mg/kg)
		Unrestricted Land Use	Commercial Land Use		Unrestricted Land Use	Commercial Land Use	
Total Petroleum Hydrocarbons							
TPH-D and TPH-HO Combined	--	--	--	--	--	--	No Value
TPH-G	--	--	--	--	--	--	No Value
Volatile Organic Compounds							
Benzene	8.6E-03	6.3E+07	3.5E+08	2.7E-02	3.4E+06	5.6E+07	3.4E+06
Bromomethane	1.4E-03	1.1E+07	5.8E+07	--	--	--	1.1E+07
Chloromethane	2.6E-02	1.9E+08	1.0E+09	--	--	--	1.9E+08
Ethylbenzene	2.9E-01	2.1E+09	1.2E+10	--	--	--	2.1E+09
o-Xylene	2.9E-02	2.1E+08	1.2E+09	--	--	--	2.1E+08
p-Isopropyltoluene	--	--	--	--	--	--	No Value
Toluene	1.4E+00	1.1E+10	5.8E+10	--	--	--	1.1E+10
Total Xylenes	2.9E-02	2.1E+08	1.2E+09	--	--	--	2.1E+08
Semi-Volatile Organic Compounds							
1,2,4-Trimethylbenzene	2.0E-03	1.5E+07	8.1E+07	--	--	--	1.5E+07
1,3,5-Trimethylbenzene	--	--	--	--	--	--	No Value
2,6-Dinitrotoluene	--	--	--	--	--	--	No Value
3- & 4-Methylphenol Coelution	--	--	--	--	--	--	No Value
Acenaphthene	--	--	--	--	--	--	No Value
Acenaphthylene	--	--	--	--	--	--	No Value
Anthracene	--	--	--	--	--	--	No Value
Benzo(g,h,i)perylene	--	--	--	--	--	--	No Value
Benzofluoranthene	--	--	--	--	--	--	No Value
Benzyl Alcohol	--	--	--	--	--	--	No Value
Bis(2-ethylhexyl)phthalate	--	--	--	8.4E-03	1.1E+07	1.8E+08	No Value
Butyl Benzyl Phthlate	--	--	--	--	--	--	No Value
Carbazole	--	--	--	--	--	--	No Value
Dibenzofuran	--	--	--	--	--	--	No Value
Dibutyl-n-butyl Phthalate	--	--	--	--	--	--	No Value
Diethyl Phthalate	--	--	--	--	--	--	No Value
Di-n-octyl Phthalate	--	--	--	--	--	--	No Value
Fluoranthene	--	--	--	--	--	--	No Value
Fluorene	--	--	--	--	--	--	No Value
p-Chloroaniline	--	--	--	--	--	--	No Value
p-Cresol	1.7E-01	1.3E+09	6.9E+09	--	--	--	1.3E+09
Pentachlorophenol	--	--	--	1.8E-02	5.2E+06	8.5E+07	5.2E+06
Phenanthrene	--	--	--	--	--	--	No Value
Pyrene	--	--	--	--	--	--	No Value
sec-Butylbenzene	--	--	--	--	--	--	No Value
Total cPAHs [2]	--	--	--	3.9E+00	2.4E+04	3.9E+05	2.4E+04
Total Naphthalenes [2]	8.6E-04	6.3E+06	3.5E+07	1.2E-01	7.8E+05	1.3E+07	7.8E+05
Dioxins/Furans							
Total Dioxins/Furans [2]	1.1E-08	8.5E+01	4.6E+02	1.3E+05	7.0E-01	1.1E+01	7.0E-01
Polychlorinated Biphenyls							
Aroclor 1260	--	--	--	2.0E+00	4.6E+04	7.6E+05	4.6E+04

Table M-3: Soil SL Calculations for the Inhalation of Particulates Pathway

Detected Constituents of Interest	Inhalation Reference Dose [1] (mg/kg-day)	Non-Carcinogenic Levels (mg/kg)		Inhalation Cancer Potency Factor [1] (kg-day/mg)	Carcinogenic Levels (mg/kg)		Resulting Soil SL for the Inhalation of Particulates Pathway (mg/kg)
		Unrestricted Land Use	Commercial Land Use		Unrestricted Land Use	Commercial Land Use	
Metals							
Arsenic	4.3E-06	3.2E+04	1.7E+05	1.5E+01	6.2E+03	1.0E+05	6.2E+03
Barium	1.4E-04	1.1E+06	5.8E+06	--	--	--	1.1E+06
Cadmium	2.9E-06	2.1E+04	1.2E+05	6.3E+00	1.5E+04	2.4E+05	1.5E+04
Chromium	--	--	--	--	--	--	No Value
Copper	--	--	--	--	--	--	No Value
Lead	--	--	--	--	--	--	No Value
Mercury	8.6E-05	6.3E+05	3.5E+06	--	--	--	6.3E+05
Nickel	2.6E-05	1.9E+05	1.0E+06	9.1E-01	1.0E+05	1.7E+06	1.0E+05
Selenium	5.7E-03	4.2E+07	2.3E+08	--	--	--	No Value

Notes:

--: No value could be directly calculated since appropriate toxicity information was unavalaible.

Values are shown as two significant figures in scientific notation.

[1] Values were obtained from CLARC (Ecology 2015b).

[2] Benzo(a)pyrene, 2,3,7,8-tetrachlorodibenzo-p-dioxin, and naphthalene were used to calculate levels for total cPAHs, total dioxins/furans, and total naphthalenes, respectively, per WAC 173-340-708(8) and footnotes on MTCA Tables 740-1 and 745-1.

Table M-4: Equations and Parameters for the Direct Contact (Ingestion and Dermal) Pathway

Non-Carcinogenic Level (mg/kg) [1]			$= \frac{HQ * ABW * AT}{EF * ED\left[\left(\frac{1}{RfDo} * \frac{SIR * AB1}{10\text{^}6mg/kg}\right) + \left(\frac{1}{RfDd} * \frac{SA * AF * ABS}{10\text{^}6mg/kg}\right)\right]}$			
Carcinogenic Level (mg/kg) [1]			$= \frac{RISK * ABW * AT}{EF * ED\left[\left(\frac{SIR * AB1 * CPFo}{10\text{^}6mg/kg}\right) + \left(\frac{SA * AF * ABS * CPFd}{10\text{^}6mg/kg}\right)\right]}$			
			Unrestricted Land Use [2]		**Commercial Land Use [3]**	
Abbreviation	**Parameter**	**Units**	**Non-Carcinogenic Values [2]**	**Carcinogenic Values [2]**	**Non-Carcinogenic Values [3]**	**Carcinogenic Values [3]**
RfDd	Reference dose (dermal)	mg/kg-day	Chemical-specific [4]	N/A	Chemical-specific [4]	N/A
RfDo	Reference dose (oral)	mg/kg-day	Chemical-specific	N/A	Chemical-specific	N/A
HQ	Hazard quotient	unitless	1	N/A	1	N/A
Risk	Acceptable cancer risk level	unitless	N/A	1.00E-06	N/A	1.00E-05
ABW	Average Body Weight	kg	16	16	70	70
AT	Averaging time	years	6	75	20	75
EF	Exposure Frequency	days/year	365	365	255	255
ED	Exposure Duration	years	6	6	20	20
SIR	Soil Ingestion Rate	mg/day	200	200	50	50
AB1	Gastrointestinal Adsorption Factor	unitless	1 [5]	1 [5]	1 [5]	1 [5]
SA	Dermal Surface Area	cm^2	2,200	2,200	2,500	2,500
AF	Adherence Factor	mg/cm^2-day	0.20	0.20	0.20	0.20
ABS	Dermal Absorption Factor	unitless	Chemical-specific [6]	Chemical-specific [6]	Chemical-specific [6]	Chemical-specific [6]
GI	Gastrointestinal Adsorption Conversion Factor	unitless	Chemical-specific [7]	Chemical-specific [7]	Chemical-specific [7]	Chemical-specific [7]
CPFo	Oral Cancer Potency Factor	kg-day/mg	N/A	Chemical-specific	N/A	Chemical-specific
CPFd	Dermal Cancer Potency Factor	kg-day/mg	N/A	Chemical-specific [4]	N/A	Chemical-specific [4]

Notes:

[1] From MTCA Equation 740-4 for non-carcinogenic levels and Equation 740-5 for carcinogenic levels.

[2] Default exposure assumptions for a child resident from WAC 173-340-740(3)(c)(iii).

[3] Default exposure assumptions for an adult worker from WAC 173-340-745(5)(c)(iii).

[4] Per the defaults in MTCA Equation 740-4, RfDd = RfDo x GI. Per the defaults in MTCA Equation 740-5, CPFd = CPFo/GI.

[5] Used 0.6 for mixtures of dioxins/furans per WAC 173-340-740(3)(c)(iii) and WAC 173-340-745(5)(c)(iii).

[6] The following dermal adsorption factors were used per WAC 173-340-740(3)(c)(iii) and WAC 173-340-745(5)(c)(iii):
0.01 for inorganic hazardous substances,
0.0005 for volatile organic compounds (VOCs) with vapor pressure >= benzene,
0.03 for VOCs with vapor pressure < benzene and for mixtures of dioxins/furans, or
0.1 for other organic hazardous substances.

[7] The following gastrointestinal adsorption factors were used per WAC 173-340-740(3)(c)(iii) and WAC 173-340-745(5)(c)(iii):
0.2 for inorganic constituents,
0.8 for VOCs and for dioxins/furans, or
0.5 for other organic hazardous substances.

Table M-5: Soil SL Calculations for the Direct Contact (Ingestion and Dermal) Pathway

Detected Constituents of Interest	Calculated Noncarcinogenic Values for Unrestricted Land Use [1] (mg/kg)	Calculated Carcinogenic Values for Unrestricted Land Use [1] (mg/kg)	Resulting Soil SLs for the Direct Contact Pathway in an Unrestricted Land Use Scenario [2] (mg/kg)	Calculated Noncarcinogenic Values for Commercial Land Use [1] (mg/kg)	Calculated Carcinogenic Values for Commercial Land Use [1] (mg/kg)	Resulting Soil SLs for the Direct Contact Pathway in a Commercial Land Use Scenario [2] (mg/kg)
Total Petroleum Hydrocarbons						
TPH-D and TPH-HO Combined	--	--	4,700[10]	--	--	61,000 [5]
TPH-G	--	--	1,500 [6]	--	--	150,000 [6]
Volatile Organic Compounds						
Benzene	320	18	18	7,950	1,355	1,355
Bromomethane	112	--	112	2,783	--	2,783
Chloromethane	--	--	No Value	--	--	No Value
Ethylbenzene	7,390	--	7,390	145,455	--	145,455
o-Xylene	14,781	--	14,781	290,909	--	290,909
p-Isopropyltoluene	--	--	No Value [7]	--	--	No Value [7]
Toluene	5,912	--	5,912	116,364	--	116,364
Total Xylenes	14,781	--	14,781	290,909	--	290,909
Semi-Volatile Organic Compounds						
1,2,4-Trimethylbenzene	--	--	No Value [7]	--	--	No Value [7]
1,3,5-Trimethylbenzene	556	--	556	6,667	--	6,667
2,6-Dinitrotoluene	17	0.46	0.46	200	17	17
3- & 4-Methylphenol Coelution	--	--	No Value	--	--	No Value
Acenaphthene	3,333	--	3,333	40,000	--	40,000
Acenaphthylene	--	--	No Value [7]	--	--	No Value [7]
Anthracene	16,667	--	16,667	200,000	--	200,000
Benzo(g,h,i)perylene	--	--	No Value [7]	--	--	No Value [7]
Benzofluoranthene	--	--	No Value [7]	--	--	No Value [7]
Benzyl Alcohol	5,556	--	5,556	66,667	--	66,667
Bis(2-ethylhexyl)phthalate	1,111	50	50	13,333	1,786	1,786
Butyl Benzyl Phthlate	11,111	365	365	133,333	13,158	13,158
Carbazole	--	--	No Value	--	--	No Value
Dibenzofuran	56	--	56	667	--	667
Dibutyl-n-butyl Phthalate	5,556	--	5,556	66,667	--	66,667
Diethyl Phthalate	44,444	--	44,444	533,333	--	533,333
Di-n-octyl Phthalate	556	--	556	6,667	--	6,667
Fluoranthene	2,222	--	2,222	26,667	--	26,667
Fluorene	2,222	--	2,222	26,667	--	26,667
p-Chloroaniline	222	3.5	3.5	2,667	125	125
p-Cresol	5,556	--	5,556	66,667	--	66,667
Pentachlorophenol	278	1.7	1.7	3,333	63	63

Table M-5: Soil SL Calculations for the Direct Contact (Ingestion and Dermal) Pathway

Detected Constituents of Interest	Calculated Noncarcinogenic Values for Unrestricted Land Use [1] (mg/kg)	Calculated Carcinogenic Values for Unrestricted Land Use [1] (mg/kg)	Resulting Soil SLs for the Direct Contact Pathway in an Unrestricted Land Use Scenario [2] (mg/kg)	Calculated Noncarcinogenic Values for Commercial Land Use [1] (mg/kg)	Calculated Carcinogenic Values for Commercial Land Use [1] (mg/kg)	Resulting Soil SLs for the Direct Contact Pathway in a Commercial Land Use Scenario [2] (mg/kg)
Phenanthrene	--	--	No Value [7]	--	--	No Value [7]
Pyrene	1,667	--	1,667	20,000	--	20,000
sec-Butylbenzene	5,556	--	5,556	66,667	--	66,667
Total cPAHs [3]	--	0.095	0.095	--	3.4	3.4
Total Naphthalenes [3]	1,111	--	1,111	13,333	--	13,333
Dioxins/Furans						
Total Dioxins/Furans [3]	0.000082	0.000011	0.000011	0.0014	0.00059	0.00059
Polychlorinated Biphenyls						
Aroclor 1260	--	0.35	0.35	--	13	13
Metals						
Arsenic	22	0.60	20 [8]	400	33	33
Barium	14,414	--	14,414	266,667	--	266,667
Cadmium	36	--	36	667	--	667
Chromium [4]	108,108	--	108,108	2,000,000	--	2,000,000
Copper	2,883	--	2,883	53,333	--	53,333
Lead	--	--	250 [9]	--	--	1,000 [9]
Mercury	--	--	18 [6]	--	--	252 [6]
Nickel	1,441	--	1,441	26,667	--	26,667
Selenium	360	--	360	6,667	--	6,667

Notes:

--: No value could be directly calculated since appropriate toxicity information was unavalaible.

Values less than 100 are shown as two significant figures in standard notation. Values greater than 100 are rounded to a whole number.

[1] Values obtained from CLARC (Ecology 2015b).

[2] The most stringent of the calculated non-carcinogenic and carcinogenic values is the resulting soil SL.

[3] Benzo(a)pyrene, 2,3,7,8-tetrachlorodibenzo-p-dioxin, and naphthalene were used to calculate SLs for total cPAHs, total dioxins/furans, and total naphthalenes, respectively, per WAC 173-340-708(8) and footnotes on MTCA Tables 740-1 and 745-1.

[4] Screening levels are based on values for chromium (III) because chromium (VI) has not been detected at the Site, including in two of the three soil samples that exceeded the accepted Puget Sound area background concentration for total chromium of 48 mg/kg (Ecology 1994).

[5] Site-specific extractable petroleum hydrocarbons (EPH) data were used for this calculation as shown in Attachment M-1. Specifically, EPH data from soil sample SO-DP-57-092214-3-5 were used since that sample had the highest TPH concentration of any site-specific EPH sample. In accordance with Ecology guidance, (1) a non-detect EPH fraction was assigned a value of half the reporting limit if that EPH fraction was detected in any EPH sample, and (2) a non-detect EPH fraction was assigned a value of zero if that EPH fraction was not detected in any EPH sample (Ecology 2011). The unrestricted land use SL calculation used MTCA Equation 740-3 per WAC 173-340-740(3)(b)(iii)(B)(III). The commercial/industrial land use SL calculation used MTCA Equation 745-3 per WAC 173-340-745(5)(b)(iii)(B)(III).

[6] Default direct contact values for TPH-G and mercury (which do not have CLARC values) from Ecology guidance (Ecology 2001a, 2001b) with the exception that a TPH-G value of 1,500 mg/kg was used for the unrestricted land use scenario (Ecology 2016).

[7] Alkylbenzenes and non-carcinogenic polycyclic aromatic hydrocarbons are components of petroleum products that are accounted for in the TPH screening levels (e.g., see footnote 14a in MTCA Table 830-1).

[8] Adjusted to accepted background concentration of 20 mg/kg per WAC 173-340-740(5)(c) (see MTCA Table 740-1 footnote b).

[9] MTCA Method A soil cleanup levels for lead.

Table M-5: Soil SL Calculations for the Direct Contact (Ingestion and Dermal) Pathway

Detected Constituents of Interest	Calculated Noncarcinogenic Values for Unrestricted Land Use [1] (mg/kg)	Calculated Carcinogenic Values for Unrestricted Land Use [1] (mg/kg)	Resulting Soil SLs for the Direct Contact Pathway in an Unrestricted Land Use Scenario [2] (mg/kg)	Calculated Noncarcinogenic Values for Commercial Land Use [1] (mg/kg)	Calculated Carcinogenic Values for Commercial Land Use [1] (mg/kg)	Resulting Soil SLs for the Direct Contact Pathway in a Commercial Land Use Scenario [2] (mg/kg)

[10] The resulting soil SLs for an unrestricted land use scenario were adjusted down to 4,700 mg/kg so that the cumulative hazard index for TPH-G plus TPH-D and TPH-HO combined does not exceed 1.0 (PIONEER 2016).

Table M-6: Soil SL Calculations for the Soil-to-Surface Water (via Groundwater) Pathway

Constituent	MTCA Soil Concentrations for Protection of Surface Water Receptors [1] (mg/kg)	LNAPL Residual Saturation Criterion (mg/kg)	Resulting Soil SLs for the Soil-to-Surface Water (via Groundwater) Pathway [2] (mg/kg)
Arsenic	20 [3]	Not applicable for arsenic	20
TPH-D and TPH-HO Combined	Not applicable based on results from the four-phase partitioning model [4]	24,000 [5]	24,000

Notes:

LNAPL: Light non-aqueous phase liquid

[1] Soil concentration that will be protective of the groundwater SL (see Table M-11). The groundwater SL is based on protection of surface water receptors.

[2] The most stringent of the MTCA soil concentration for protection of surface water receptors and the LNAPL residual saturation criterion.

[3] The calculated soil concentration for the protection of the groundwater SL per WAC 173-340-747(4) is less than the accepted natural background concentration (PIONEER 2009). Thus, the concentration was adjusted to the accepted background concentration of 20 mg/kg per WAC 173-340-740(5)(c) (see MTCA Table 740-1 footnote b).

[4] As shown in Attachment M-1, the MTCA four-phase partitioning model results based on site-specific EPH data indicated that TPH-D and TPH-HO are not a concern for the soil-to-surface water (via groundwater) pathway at any soil concentration less than pure LNAPL. In other words, this WAC 173-340-747(6) calculation indicated TPH-D and TPH-HO in soil are unlikely to impact surface water given the composition of petroleum hydrocarbons present at the Site. This site-specific result is consistent with the four-phase partitioning model results used to determine the MTCA Method A soil cleanup levels for TPH-D and TPH-HO (Ecology 2001a, 2001b).

[5] Although LNAPL measurement data empirically demonstrated that Site soil concentrations have not caused an accumulation of LNAPL on or in groundwater in accordance with WAC 173-340-747(10)(c) (see Section 3 of the main text for the LNAPL measurement data), a 24,000 mg/kg (maximum concentration at Site) value was used per Ecology request (PIONEER 2016).

Table M-7: Development of Soil SLs for Detected COIs

Detected Constituents of Interest	Soil SLs for the Inhalation of Particulates Pathway in an Unrestricted Land Use Scenario [1] (mg/kg)	Soil SLs for the Direct Contact Pathway in an Unrestricted Land Use Scenario [2] (mg/kg)	MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses for TPH-G and Total Naphthalenes (mg/kg)	Soil SLs for the Soil-to-Surface Water (via Groundwater) Pathway [3] (mg/kg)	Resulting Soil SLs for Unrestricted Land Use [4] (mg/kg)
Total Petroleum Hydrocarbons					
TPH-D and TPH-HO Combined	No Value	4,700	N/A	24,000	4,700
TPH-G	No Value	1,500	100[7]	N/A	100
Volatile Organic Compounds					
Benzene	3.4E+06	18	N/A	N/A	18
Bromomethane	1.1E+07	112	N/A	N/A	112
Chloromethane	1.9E+08	No Value	N/A	N/A	190,491,429
Ethylbenzene	2.1E+09	7,390	N/A	N/A	7,390
o-Xylene	2.1E+08	14,781	N/A	N/A	14,781
p-Isopropyltoluene	No Value	No Value [6]	N/A	N/A	No Value [6]
Toluene	1.1E+10	5,912	N/A	N/A	5,912
Total Xylenes	2.1E+08	14,781	N/A	N/A	14,781
Semi-Volatile Organic Compounds					
1,2,4-Trimethylbenzene	1.5E+07	No Value [6]	N/A	N/A	14,816,000
1,3,5-Trimethylbenzene	No Value	556	N/A	N/A	556
2,6-Dinitrotoluene	No Value	0.46	N/A	N/A	0.46
3- & 4-Methylphenol Coelution	No Value	No Value	N/A	N/A	No Value
Acenaphthene	No Value	3,333	N/A	N/A	3,333
Acenaphthylene	No Value	No Value [6]	N/A	N/A	No Value [6]
Anthracene	No Value	16,667	N/A	N/A	16,667
Benzo(g,h,i)perylene	No Value	No Value [6]	N/A	N/A	No Value [6]
Benzofluoranthene	No Value	No Value [6]	N/A	N/A	No Value [6]
Benzyl Alcohol	No Value	5,556	N/A	N/A	5,556
Bis(2-ethylhexyl)phthalate	No Value	50	N/A	N/A	50
Butyl Benzyl Phthlate	No Value	365	N/A	N/A	365
Carbazole	No Value	No Value	N/A	N/A	No Value
Dibenzofuran	No Value	56	N/A	N/A	56
Dibutyl-n-butyl Phthalate	No Value	5,556	N/A	N/A	5,556
Diethyl Phthalate	No Value	44,444	N/A	N/A	44,444
Di-n-octyl Phthalate	No Value	556	N/A	N/A	556
Fluoranthene	No Value	2,222	N/A	N/A	2,222
Fluorene	No Value	2,222	N/A	N/A	2,222
p-Chloroaniline	No Value	3.5	N/A	N/A	3.5
p-Cresol	1.3E+09	5,556	N/A	N/A	5,556
Pentachlorophenol	5.2E+06	1.7	N/A	N/A	1.7
Phenanthrene	No Value	No Value [6]	N/A	N/A	No Value [6]

Table M-7: Development of Soil SLs for Detected COIs

Detected Constituents of Interest	Soil SLs for the Inhalation of Particulates Pathway in an Unrestricted Land Use Scenario [1] (mg/kg)	Soil SLs for the Direct Contact Pathway in an Unrestricted Land Use Scenario [2] (mg/kg)	MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses for TPH-G and Total Naphthalenes (mg/kg)	Soil SLs for the Soil-to-Surface Water (via Groundwater) Pathway [3] (mg/kg)	Resulting Soil SLs for Unrestricted Land Use [4] (mg/kg)
Pyrene	No Value	1,667	N/A	N/A	1,667
sec-Butylbenzene	No Value	5,556	N/A	N/A	5,556
Total cPAHs [5]	2.4E+04	0.095	N/A	N/A	0.095
Total Naphthalenes [5]	7.8E+05	1,111	5.0	N/A	5.0
Dioxins/Furans					
Total Dioxins/Furans [5]	7.0E-01	0.000011	N/A	N/A	0.000011
Polychlorinated Biphenyls					
Aroclor 1260	4.6E+04	0.35	N/A	N/A	0.35
Metals					
Arsenic	6.2E+03	20	N/A	20	20
Barium	1.1E+06	14,414	N/A	N/A	14,414
Cadmium	1.5E+04	36	N/A	N/A	36
Chromium	No Value	108,108	N/A	N/A	108,108
Copper	No Value	2,883	N/A	N/A	2,883
Lead	No Value	250	N/A	N/A	250
Mercury	6.3E+05	18	N/A	N/A	18
Nickel	1.0E+05	1,441	N/A	N/A	1,441
Selenium	No Value	360	N/A	N/A	360

Notes:

N/A: Not applicable

Soil SLs less than 100 are shown as two significant figures in standard notation, and values greater than 100 are rounded to a whole number. SLs for the inhalation of particulates pathway are shown in scientific notation.

[1] Values from Table M-3.

[2] Values from Table M-5.

[3] Arsenic, TPH-D, and TPH-HO values from Table M-6. It was empirically demonstrated per WAC 173-340-747(9) that all other constituents have not impacted groundwater, and therefore will not impact surface water (PIONEER 2011).

[4] Resulting soil SLs are the most stringent of the soil SLs in the previous columns.

[5] Benzo(a)pyrene, 2,3,7,8-tetrachlorodibenzo-p-dioxin, and naphthalene were used to calculate levels for total cPAHs, total dioxins/furans, and total naphthalenes, respectively, per WAC 173-340-708(8) and footnotes on MTCA Tables 740-1 and 745-1.

[6] Alkylbenzenes and non-carcinogenic polycyclic aromatic hydrocarbons are components of petroleum products that are accounted for in the TPH screening levels (e.g., see footnote 14a in MTCA Table 830-1).

Table M-8: Determination of Soil COPCs

Detected Constituents of Interest	Maximum Detected Concentrations in On-Site RI Soil Samples [1] (mg/kg)	Maximum Detected Concentrations in Infrastructure IA Soil Stockpile Samples [2] (mg/kg)	Maximum Detected Concentrations in Parcel 4/5 IA Soil Stockpile Samples [3] (mg/kg)	Soil SLs for Unrestricted Land Use [4] (mg/kg)	Soil COPC? [5] (Yes / No)
Total Petroleum Hydrocarbons					
TPH-D and TPH-HO Combined	23,900	350	3,436	4,700	**Yes**
TPH-G	1,100	ND	76	100	**Yes**
Volatile Organic Compounds					
Benzene	0.011	ND	ND	18	No
Bromomethane	0.35	NA	NA	112	No
Chloromethane	0.090	NA	NA	190,491,429	No
Ethylbenzene	0.12	ND	ND	7,390	No
o-Xylene	0.15	NA	NA	14,781	No
p-Isopropyltoluene	4.3	NA	NA	No Value [7]	No
Toluene	0.043	ND	ND	5,912	No
Total Xylenes	0.15	ND	ND	14,781	No
Semi-Volatile Organic Compounds					
1,2,4-Trimethylbenzene	0.94	NA	NA	14,816,000	No
1,3,5-Trimethylbenzene	0.29	NA	NA	556	No
2,6-Dinitrotoluene	0.033	NA	NA	0.46	No
3- & 4-Methylphenol Coelution	0.16	NA	NA	No Value	No
Acenaphthene	1.9	NA	NA	3,333	No
Acenaphthylene	0.13	NA	NA	No Value [7]	No
Anthracene	0.57	NA	NA	16,667	No
Benzo(g,h,i)perylene	0.44	NA	NA	No Value [7]	No
Benzofluoranthene	0.91	NA	NA	No Value [7]	No
Benzyl Alcohol	0.77	NA	NA	5,556	No
Bis(2-ethylhexyl)phthalate	530	NA	NA	50	No [8]
Butyl Benzyl Phthlate	0.065	NA	NA	365	No
Carbazole	0.069	NA	NA	No Value	No
Dibenzofuran	0.94	NA	NA	56	No
Dibutyl-n-butyl Phthalate	0.43	NA	NA	5,556	No
Diethyl Phthalate	0.016	NA	NA	44,444	No
Di-n-octyl Phthalate	1.4	NA	NA	556	No
Fluoranthene	2.9	NA	NA	2,222	No
Fluorene	1.2	NA	NA	2,222	No
p-Chloroaniline	0.018	NA	NA	3.5	No
p-Cresol	6.1	NA	NA	5,556	No
Pentachlorophenol	0.17	NA	NA	1.7	No

Table M-8: Determination of Soil COPCs

Detected Constituents of Interest	Maximum Detected Concentrations in On-Site RI Soil Samples [1] (mg/kg)	Maximum Detected Concentrations in Infrastructure IA Soil Stockpile Samples [2] (mg/kg)	Maximum Detected Concentrations in Parcel 4/5 IA Soil Stockpile Samples [3] (mg/kg)	Soil SLs for Unrestricted Land Use [4] (mg/kg)	Soil COPC? [5] (Yes / No)
Phenanthrene	2.9	NA	NA	No Value [7]	No
Pyrene	4.5	NA	NA	1,667	No
sec-Butylbenzene	0.037	NA	NA	5,556	No
Total cPAHs [6]	1.1	11	1.1	0.095	**Yes**
Total Naphthalenes [6]	150	3.8	1.0	5.0	**Yes**
Dioxins/Furans					
Total Dioxins/Furans [6]	0.0022	0.000051	0.00028	0.000011	**Yes**
Polychlorinated Biphenyls					
Aroclor 1260	0.058	ND	NA	0.35	No
Metals					
Arsenic	84	14 J	14	20	**Yes**
Barium	320	NA	NA	14,414	No
Cadmium	5.2	1.3	2.0	36	No
Chromium	120	NA	NA	108,108	No
Copper	50	NA	139	2,883	No
Lead	2,500	190 J	1,210	250	**Yes**
Mercury	0.22	NA	NA	18	No
Nickel	59	NA	69	1,441	No
Selenium	73	NA	NA	360	No

Notes:

J: Estimated concentration

NA: Not analyzed

ND: Constituent not detected in any sample

Values less than 100 are shown as two significant figures in standard notation. Values greater than 100 are rounded to a whole number.

[1] Values from Table M-1.

[2] Values from the Infrastructure IA Report (PIONEER 2010).

[3] Values from the Parcel 4/5 IA Report (Brown and Caldwell 2015).

[4] Values from Table M-8.

[5] Detected COIs were identified as COPCs if the maximum detected concentration in (1) an on-site RI soil sample, (2) an Infrastructure IA soil stockpile sample, or (3) a Parcel 4/5 IA soil stockpile sample exceeded the soil SL for unrestricted land use.

[6] Benzo(a)pyrene, 2,3,7,8-tetrachlorodibenzo-p-dioxin, and naphthalene were used to calculate levels for total cPAHs, total dioxins/furans, and total naphthalenes, respectively, per WAC 173-340-708(8) and footnotes on MTCA Tables 740-1 and 745-1.

[7] Alkylbenzenes and non-carcinogenic polycyclic aromatic hydrocarbons are components of petroleum products that are accounted for in the TPH screening levels (e.g., see footnote 14a in MTCA Table 830-1).

[8] The six detections of the ubiquitous plasticizer bis(2-ethylhexyl)phthalate in 2007 were most likely associated with field/lab contamination rather than a Site release. As a result, bis(2-ethylhexyyl)phthalate was explicitly excluded from the COPC list in previous Site documents (e.g., GeoEngineers and PIONEER 2008; PIONEER 2009).

Table M-9: Development of Soil RLs for Soil COPCs

Soil COPCs	Soil SL for the Inhalation of Particulates Pathway in in a Commercial Land Use Scenario [1] (mg/kg)	Soil SL for the Direct Contact Pathway in a Commercial Land Use Scenario [2] (mg/kg)	MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses for TPH-G and Total Naphthalenes (mg/kg)	Soil SL for the Soil-to-Surface Water (via Groundwater) Pathway [3] (mg/kg)	Resulting Soil RL [4] (mg/kg)
Arsenic	100,945	33	N/A	20	20
Lead	No Value	1,000	N/A	N/A	1,000
TPH-D and TPH-HO Combined	No Value	61,000	N/A	2.4E+04	24,000[6]
TPH-G	No Value	150,000	100	N/A	100
Total Naphthalenes [5]	12,766,544	13,333	5.0	N/A	5.0
Total cPAHs [5]	394,602	3.4	N/A	N/A	3.4
Total Dioxins/Furans [5]	11	0.00059	N/A	N/A	0.00059

Notes:

N/A: Not applicable

Soil SLs less than 100 are shown as two significant figures in standard notation, and values greater than 100 are rounded to a whole number. SLs for the inhalation of particulates pathway are shown in scientific notation.

[1] Values from Table M-3.

[2] Values from Table M-5.

[3] Arsenic, TPH-D, and TPH-HO values from Table M-6. It was previously empirically demonstrated per WAC 173-340-747(9) that all other constituents have not impacted groundwater, and therefore will not impact surface water (PIONEER 2011).

[4] Resulting soil RLs are the most stringent of the soil SLs in the previous columns.

[5] Benzo(a)pyrene, 2,3,7,8-tetrachlorodibenzo-p-dioxin, and naphthalene were used to calculate levels for total cPAHs, total dioxins/furans, and total naphthalenes, respectively, per WAC 173-340-708(8) and footnotes on MTCA Tables 740-1 and 745-1.

[6] If a TPH-D and TPH-HO combined concentration higher than the RL is encountered in Site soil in the future, the TPH-D and TPH-HO RL will be adjusted up to that measured concentration since it has already been empirically demonstrated that existing TPH-D and TPH-HO concentrations in SIte soil have not caused groundwater exceedances.

Table M-10: Benzene Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (feet bgs)	Result (mg/kg)	Qualifier
BC_TP02	10/9/2008	2	0.011	U
		4	0.0078	U
DP01	9/25/2006	1-3	0.016	U
DP02	9/25/2006	1-3	0.016	U
DP03	9/25/2006	1-3	0.013	U
DP04	9/25/2006	1-3	0.014	U
		4-6	0.024	U
DP05	9/25/2006	1.5-3.5	0.013	U
DP06	9/26/2006	3-5	0.75	U
DP07	9/26/2006	4.5-6.5	0.015	U
DP08	9/26/2006	1-3	0.015	U
DP09	9/25/2006	1-3	0.014	U
DP10	9/26/2006	2-4	0.012	U
DP11	1/2/2007	0-2	0.0064	J
		8-10	0.067	U
DP12	1/2/2007	0-2	0.0082	U
		8-10	0.010	U
DP15	1/15/2007	2-4	0.031	U
		10-12	0.076	U
DP17	8/3/2007	4-6	0.14	U
		10-12	0.10	U
DP18	8/3/2007	2-4	0.022	U
		10-12	0.075	U
DP18-1	11/8/2010	15	0.0034	U
DP18-2	11/8/2010	10	0.023	U
		13	0.0051	U
		2	0.0030	U
DP18-3	11/8/2010	10	0.017	U
		13.5	0.0063	U
DP18-3	11/8/2010	2	0.0026	U
DP18-4	11/8/2010	2	0.0031	U
		10	0.024	U
		13	0.022	U
DP18-5	11/8/2010	10	0.022	U
		13.5	0.0060	U
		2	0.0031	U
DP19	8/3/2007	6-8	0.016	U
		10-12	0.034	U
DP20	8/3/2007	2-4	0.017	U
		10-12	0.046	U
DP21	8/3/2007	6-8	0.022	U
		10-12	0.11	U
DP22	8/3/2007	4-6	0.017	U
		10-12	0.0085	J
DP27	11/4/2008	3-4	0.0010	U
DP28	6/10/2009	1-2	0.050	U
		3.5-5	0.050	U
DP34	11/4/2008	4-6	0.0010	U
		7.5-9.5	0.0010	U
DP36	11/4/2008	5-6	0.0010	U
DP37	6/10/2009	2-3.5	0.050	U
		6-7.5	0.050	U
DP38	11/4/2008	5-6	0.0010	U
		6-7	0.0010	U
DP39	6/10/2009	0.5-2	0.050	U
		3-5	0.050	U

Table M-10: Benzene Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (feet bgs)	Result (mg/kg)	Qualifier
DP40	11/4/2008	1-2	0.0010	U
		3-4	0.0010	U
		5-6	0.0010	U
DP-57	9/22/2014	12-14	0.010	U
		3-5	0.010	U
DP-58	9/22/2014	6-8	0.010	U
MW01	1/2/2007	4-6	0.011	U
		10-12	0.011	U
MW02	1/2/2007	2-4	0.025	U
		8-10	0.017	U
MW03	1/2/2007	4-6	0.0093	U
		8-10	0.013	U
MW04	1/2/2007	2-4	0.012	U
		14-16	0.011	U
MW05	1/15/2007	10-12	0.017	U
MW06	1/15/2007	2-4	0.014	U
		10-12	0.011	J
MW09	1/17/2007	2-4	0.013	U
		4-6	0.014	U
MW10	1/15/2007	2-4	0.023	U
		10-12	0.031	U
MW11	8/1/2007	2-4	0.020	U
		10-12	0.019	U
MW12	8/1/2007	4-6	0.018	U
		10-12	0.017	U
MW13	8/1/2007	6-8	0.018	U
		10-12	0.019	U
MW15	8/3/2007	4-6	0.017	U
		10-12	0.075	U
MW16	7/31/2007	4-6	0.016	U
		14-16	0.041	U
		16-18	0.021	U
MW18	8/2/2007	8-10	0.021	U
		10-12	0.015	U
MW19	8/1/2007	4-6	0.025	U
		8-10	0.042	U
MW20	8/2/2007	2-4	0.021	U
		6-8	0.060	U
MW21S	6/12/2009	2.5-4	0.050	U
MW23S	6/12/2009	5-6	0.050	U
		9-10.5	0.050	U
MW24S	6/12/2009	6.5-8	0.050	U
		9-10	0.050	U
MW25S	6/12/2009	10.5-12	0.050	U
		12.4-14	0.050	U
		6.5-7.5	0.050	UJ
SVP-1SO	5/7/2013	3-5	0.0050	U
SVP-2SO	5/7/2013	4-6	0.0050	U

Notes:

J: Estimated value

U: Not detected at shown reporting limit

Shaded samples are no longer in place.

Bold type face results exceed the SL.

Table M-11: Summary of Soil SLs and RLs

Soil COPCs [1]	Soil SL [2] (mg/kg)	Soil RL [3] (mg/kg)
Arsenic	20	20
Lead	250	1,000
TPH-D and TPH-HO Combined	4,700	24,000[5]
TPH-G	100	100
Total Naphthalenes	5.0	5.0
Total cPAHs	0.095	3.4
Total Dioxins/Furans [4]	0.000011	0.00059

Notes:

[1] See Table M-8 for determination of COPCs.

[2] The soil SL is the Soil SL for Unrestricted Land Use from Table M-7.

[3] See Table M-9 for the development of soil RLs.

[4] For simplicity, the soil SL and soil RL for total dioxins/furans are presented in units of ng/kg in the main text, tables, and figures.

[5] If a TPH-D and TPH-HO combined concentration higher than the RL is encountered in Site soil in the future, the TPH-D and TPH-HO RL will be adjusted up to that measured concentration since it has already been empirically demonstrated that existing TPH-D and TPH-HO concentrations in SIte soil have not caused groundwater exceedances.

Table M-12: Development of Groundwater SLs

Groundwater COPCs [1]	MTCA Method B Surface Water SL Based on ARARs and Human Health Protection [2] (ug/L)	MTCA Method B Surface Water SL Based on Environmental Effects When No ARARs Exist [3] (ug/L)	Resulting Groundwater SL [4] (ug/L)
Dissolved Arsenic [5]	5.0 [6]	N/A	5.0
TPH-D and TPH-HO Combined	1,500 [7]	720 [8]	720

Notes:

ARAR: Applicable or relevant and appropriate requirement

N/A: Not applicable

[1] The groundwater SLs for the groundwater COPCs are based on protection of surface water receptors.

[2] In accordance with WAC 173-340-730(3)(b)(i) and WAC 173-340-730(3)(b)(iii).

[3] In accordance with WAC 173-340-730(3)(b)(ii), concentrations that are estimated to result in no adverse effects on aquatic life may be established when environmental effects-based concentrations have not been established in ARARs for certain constituents (e.g., TPH-D and TPH-HO).

[4] The most stringent of the MTCA Method B surface water SL based on ARARs and human health protection and MTCA Method B surface water SL based on environmental effects when no ARARs exist.

[5] As allowed by WAC 173-340-720(9)(b), dissolved concentrations are being used to evaluate compliance for the reasons discussed in Section 6.2.1 of the *Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water Via Groundwater* (PIONEER 2011), which is included as Appendix C to the main text.

[6] The MTCA Method B surface water SL based on ARARs and human health protection is less than the MTCA-established natural background concentration for arsenic (PIONEER 2011). Thus, the concentration was adjusted to the accepted background concentration of 5 ug/L per WAC 173-340-730(5)(c) (see MTCA Table 720-1 footnote b).

[7] There are no ARARs for TPH-D or TPH-HO. In accordance with WAC 173-340-730(3)(b)(iii)(C), protection of drinking criteria may be used to calculate TPH-D and TPH-HO SLs for surface water human health protection since there are no surface water toxicity values for TPH-D and TPH-HO. Thus, site-specific EPH data were used to calculate MTCA Method B groundwater SLs for TPH-D and TPH-HO via MTCA Equation 720-3 as shown in Attachment M-1. Specifically, EPH data from soil sample SO-DP-57-092214-3-5 were used since that sample had the highest TPH concentration of any site-specific EPH sample. In accordance with Ecology guidance, (1) the EPH fractionated composition for groundwater was assumed to be the same as soil, (2) a non-detect EPH fraction was assigned a value of half the reporting limit if that EPH fraction was detected in any EPH sample, and (3) a non-detect EPH fraction was assigned a value of zero if that EPH fraction was not detected in any EPH sample (Ecology 2011).

[8] The Ecology Site Manager established a Site-specific concentration of 720 ug/L for protection of aquatic life at this Site (Ecology 2015a).

Attachment M-1

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A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 09/22/14
Site Name: Port of Olympia East Bay Redevelopment Site
Sample Name: SO-DP-57-092214-3-5

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6		0.00%
AL_EC >6-8		0.00%
AL_EC >8-10	2.5	0.02%
AL_EC >10-12		0.00%
AL_EC >12-16	110	0.80%
AL_EC >16-21	750	5.46%
AL_EC >21-34	7300	53.16%
AR_EC >8-10		0.00%
AR_EC >10-12		0.00%
AR_EC >12-16		0.00%
AR_EC >16-21	370	2.69%
AR_EC >21-34	5200	37.87%
Benzene		0.00%
Toluene		0.00%
Ethylbenzene		0.00%
Total Xylenes		0.00%
Naphthalene		0.00%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene		0.00%
n-Hexane		0.00%
MTBE		0.00%
Ethylene Dibromide (EDB)		0.00%
1,2 Dichloroethane (EDC)		0.00%
Benzo(a)anthracene		0.00%
Benzo(b)fluoranthene		0.00%
Benzo(k)fluoranthene		0.00%
Benzo(a)pyrene		0.00%
Chrysene		0.00%
Dibenz(a,h)anthracene		0.00%
Indeno(1,2,3-cd)pyrene		0.00%
Sum	13732.5	100.00%

Notes for Data Entry | Set Default Hydrogeology | Clear All Soil Concentration Data Entry Cells | Restore All Soil Concentration Data cleared previously

REMARK:
See memo text.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentration (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: 500 ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 9/22/2014
Site Name: Port of Olympia East Bay Redevelopment Site
Sample Name: SO-DP-57-092214-3-5
Measured Soil TPH Concentration, mg/kg: **13,732.500**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	5,083	0.00E+00	2.70E+00	Fail
	Method C	61,008	0.00E+00	2.25E-01	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	100% NAPL	0.00E+00	2.57E-03	Pass
	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**5,083.14**	**61,007.63**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	5.08E+03	0.00E+00	1.00E+00	YES	6.10E+04	0.00E+00	1.00E+00
Total Risk=1E-5	NA	NA	NA	NA	NA	NA	NA	NA
Risk of Benzene= 1E-6	NA	NA	NA	NA	NA			
Risk of cPAHs mixture= 1E-6	NA	NA	NA	NA				
EDB	NA	NA	NA	NA		NA		
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**NA**
Protective Ground Water Concentration, ug/L	**NA**
Protective Soil Concentration, mg/kg	**Soil-to-Ground Water is not a critical pathway!**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	1.27E+00	0.00E+00	2.57E-03	100% NAPL
Total Risk = 1E-5	NA	NA	NA	NA	NA
Total Risk = 1E-6	NA	NA	NA	NA	NA
Risk of cPAHs mixture= 1E-5	NA	NA	NA	NA	NA
Benzene MCL = 5 ug/L	NA	NA	NA	NA	NA
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 81000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	1.27E+00	0.00E+00	2.57E-03	**100% NAPL**

B. Worksheet for Calculating Potable Ground Water Cleanup Levels
(Method B only) WAC 173-340-720

1. Enter Site Information

Date: 9/22/2014
Site Name: Port of Olympia East Bay Redevelopment Site
Sample info: SO-DP-57-092214-3-5

2. Enter Ground Water Concentration Measured

Notes for Data Entry

Chemical of Concern or EC Group	Measured GW Conc	GW Cleanup Level	Current Condition HQ	Current Condition RISK	Current Condition Pass or Fail?	Adjusted Condition GW Conc being tested	Adjusted Condition HQ	Adjusted Condition RISK	Adjusted Condition Pass or Fail?
	ug/L	ug/L	unitless	unitless		ug/L	unitless	unitless	
Petroleum EC Fraction									
AL_EC >5-6									
AL_EC >6-8									
AL_EC >8-10	2.5		1.04E-02			2.66E-01	1.11E-03		
AL_EC >10-12									
AL_EC >12-16	110		2.29E-01			1.17E+01	2.44E-02		
AL_EC >16-21	750		2.34E-02			7.99E+01	2.50E-03		
AL_EC >21-34	7300		2.28E-01			7.78E+02	2.43E-02		
AR_EC >8-10									
AR_EC >10-12									
AR_EC >12-16									
AR_EC >16-21	370		7.71E-01			3.94E+01	8.21E-02		
AR_EC >21-34	5200		8.13E+00			5.54E+02	8.66E-01		
Benzene		5							
Toluene		1000							
Ethylbenzene		700							
Total Xylenes		1000							
Naphthalene		160							
1-Methyl Naphthalene									
2-Methyl Naphthalene									
n-Hexane									
MTBE		20							
Ethylene Dibromide (EDB)		0.01							
1,2 Dichloroethane (EDC)		5							
Benzo(a)anthracene		for			*for*				*for*
Benzo(b)fluoranthene		all			*all*				*all*
Benzo(k)fluoranthene		cPAHs			*cPAHs*				*cPAHs*
Benzo(a)pyrene		Risk =							
Chrysene		1E-05							
Dibenz(a,h)anthracene					Σ Risk=				Σ Risk=
Indeno(1,2,3-cd)pyrene					0.00E+00				0.00E+00
Sum	**13732.5**		9.39E+00	0.00E+00	***Fail***	1.46E+03	1.00E+00	0.00E+00	

TEST CURRENT CONDITION

Measured TPH GW Conc, ug/L = 13732.5
HI = 9.387E+00
RISK = 0.000E+00
Pass or Fail? ***Fail***

CALCULATE PROTECTIVE CONDITION

This tool allows the user to calculate a protective TPH ground water concentration based on various ground water quality criteria. The Workbook uses the same composition ratio as for the measured data.

Calculate Protective TPH GW Conc

Selected Criterion: @ HI=1
Most Stringent? YES
Protective TPH GW Conc, ug/L = 1462.93
HI = 1.00E+00
RISK = 0.00E+00

SUMMARY OF PROTECTIVE GW CONCENTRATIONS

Protective GW TPH Conc, ug/L	**1462.93**
Most Stringent Criterion	**HI = 1**

Ground Water Criteria	Most Stringent?	GW TPH, ug/L	RISK @	HI @
HI = 1	YES	1.46E+03	0.00E+00	1.00E+00
Total Risk = 1E-5	NA	NA	NA	NA
Total Risk = 1E-6	NA	NA	NA	NA
Benzene MCL = 5 ug/L	NA	NA	NA	NA
MTBE = 20 ug/L	NA	NA	NA	NA
Risk of cPAHs = 1E-5	NA	NA	NA	NA
Toluene =1000 ug/L	NA	NA	NA	NA
Ethylbenzene = 700 ug/L	NA	NA	NA	NA
Total Xylenes = 1000 ug/L	NA	NA	NA	NA

TEST ADJUSTED CONDITION

This tool allows the user to test whether a particular TPH soil concentration is protective of human health. The Workbook uses the same composition ratio as for the measured data.

Test Adjusted TPH GW Conc

Tested TPH GW Conc, ug/L=
HI=
RISK=
Pass or Fail?

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Appendix N

Tier 2 Methane Evaluation Report

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Tier 2 Methane Evaluation for the East Bay Redevelopment Site

East Bay Redevelopment Site
Agreed Order DE7830

Prepared for:

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October 2016

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List of Acronyms

Acronym	Explanation
ASTM	American Society of Testing and Materials
bgs	Below Ground Surface
Ecology	Washington State Department of Ecology
MTCA	Model Toxics Control Act
PIONEER	PIONEER Technologies Corporation
Port	Port of Olympia
Site	East Bay Redevelopment Site
SVP	Soil Vapor Probe
Work Plan	Data Gap Work Plan for Evaluating Methane in Soil Gas at the East Bay Redevelopment Site

SECTION 1: INTRODUCTION

On behalf of the Port of Olympia (Port), PIONEER Technologies Corporation (PIONEER) performed a Tier 2 methane evaluation at the Port's East Bay Redevelopment Site (Site) which is located in Olympia, Washington, on the southeast corner of the Port peninsula adjacent to East Bay of Budd Inlet (see Figure 1). The Tier 2 evaluation was conducted in accordance with the American Society of Testing and Materials (ASTM) Standard Guide for Evaluating Potential Hazard as a Result of Methane in the Vadose Zone (Designation: E2993-16). To determine whether or not methane poses a safety concern at the Site, soil gas and indoor air concentrations were measured per the Data Gap Work Plan for Evaluating Methane in Soil Gas at the East Bay Redevelopment Site (Work Plan; PIONEER 2016).[1] The results of the Tier 2 evaluation are presented in this report.

Methane is potentially a concern at the approximately 15-acre Site because the Site was built on fill material, has a significant amount of debris in some areas, and has anoxic conditions in subsurface soil overlying shallow groundwater, which is typically present from two to eight feet below ground surface (bgs). These conditions may produce methane and potentially pose a safety concern at current and future buildings and confined spaces at the Site.

This report is organized as follows:

- Section 2: Summary of Investigation Activities
- Section 3: Results, Discussion, and Conclusions
- Section 4: References

Methane is a colorless, odorless, naturally-occurring and man-made gas and is generally not toxic to humans (other than as an asphyxiant). However, methane is flammable and can be explosive under certain conditions which can result in significant safety concerns for overlying buildings and confined spaces. Historically, methane has been a concern at oil and gas fields and sanitary landfills. However, methanogenesis (i.e., the formation of methane by microbes known as methanogens) has also been observed in some anoxic environments where organic matter is present (e.g., swamps/bogs, organic fill).

[1] This Model Toxics Control Act (MTCA) Site is currently being addressed under Agreed Order DE7830.

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SECTION 2: SUMMARY OF INVESTIGATION ACTIVITIES

The Tier 2 investigation activities were conducted on September 12th and September 28 – 30, 2016 in accordance with the Washington State Department of Ecology (Ecology) approved Work Plan (PIONEER 2016). Copies of the field notes are included in Appendix A. A photographic log is included in Appendix B. The September 2016 investigation activities included:

- Measuring methane, carbon dioxide, and oxygen soil gas concentrations at 22 locations (see Figure 2) using a GEM2000 Landfill Analyzer. Hydrogen sulfide was also measured at each location using a BW Gas Alert Extreme H2S Model. Depth-to-groundwater was measured before measuring soil gas concentrations.
  - For locations where depth-to-groundwater was less than two feet bgs, samples were measured by installing a flux chamber six inches above groundwater (see Figure 3).
  - For locations where depth-to-groundwater was greater than two feet bgs, samples were collected using soil vapor probes (SVPs) installed by licensed drillers (see Figure 4).
- Measuring differential pressure at each sample location using a GEM2000 Landfill Analyzer.
- Collecting soil gas samples using Summa canisters at select locations to confirm GEM2000 Landfill Analyzer measurements.
- Measuring methane indoor air concentrations at the Hand's On Children's Museum and in nearby stormwater drains (see Figure 5 and Figure 6).
- Measuring methane indoor air concentrations in the restrooms at the East Bay Plaza (see Figure 6).

2.1 Deviations from the Work Plan

The following deviations from the Work Plan were identified:

- One sample location (FC-2) was added to improve coverage around on-Site surface water.
- One sample location (SVP-7) was moved due to refusal.
- Three sample locations (FC-4, SVP-12, and SVP-13) were moved due to the presence of standing water.
- Per the Work Plan, the sample locations where a sample would also be collected using a Summa canister would be the locations with the highest methane measurements. The highest methane concentrations were measured on Friday, September 30th. Typically, samples are not collected and shipped on Friday since they are sent express overnight and would arrive to the laboratories outside of business hours. Instead of the highest methane concentrations, three other sample locations were sampled[2] and the rationale for each sample is described below.
  - One was requested on-Site by Ecology (SVP-1) since it had been sampled previously and the concentrations measured by the GEM2000 were much lower than the previous concentration.
  - One was requested on-Site by Ecology (SVP-3) because it was the highest measured methane soil gas concentration on that day.

[2] One other sample location (SVP-10) was sampled but the SVP was inundated when it was pulled out. The Summa canister sample was considered compromised and the analysis was cancelled.

- One was requested by Ecology (SVP-8) because it was the soil gas sample location closest to the Hand's on Children's Museum.

2.2 Equilibration Times

Per the Work Plan, equilibration times were determined for the flux chamber samples and SVP samples. Samples were collected using the GEM2000 Landfill Analyzer and the BW Gas Alert Extreme H2S Model every hour for four hours from the first flux chamber location, and every half hour for the first hour from the first SVP location (SVP-1; see Figure 2). After the results were assessed, the equilibration times were determined to be two hours for flux chamber locations and half an hour for SVP locations.

SECTION 3: RESULTS, DISCUSSION, AND CONCLUSIONS

Since the Site may be redeveloped in the future, soil gas and indoor air concentrations were compared to the ASTM Designation: E2993-16 criteria presented in Table 1. These criteria are intended for evaluating potential hazards associated with methane in the vadose zone beneath or near existing or proposed buildings or other structures. The only buildings at the Site are on Parcels 4 and 5; therefore, the indoor air concentrations in these buildings were considered representative of site-wide indoor air concentrations. Per the criteria in ASTM Designation E2993-16, further action is dependent on three items: soil gas concentrations, indoor air concentrations, and pressure differential (see Table 1). Soil gas, indoor air, and pressure differential sampling results are presented in Tables 2, 3, and 4. The analytical reports and chain-of-custody forms are included in Appendix C.

3.1 Results

3.1.1 Soil Gas

Methane concentrations in soil gas ranged from 0% to 56% in the GEM2000 Landfill Analyzer samples (see Table 2). Methane concentrations in soil gas ranged from 1.8% to 26% in the three Summa canisters samples (SVP-01, SVP-03, and SVP-08; see Table 3). The results from the three Summa canister samples were compared to the corresponding GEM2000 Landfill Analyzer results to determine the reliability of the GEM2000 Landfill Analyzer. On average, methane concentrations measured in the Summa canisters were within 2% of the GEM2000 Landfill Analyzer concentrations. Consequently, the GEM2000 Landfill Analyzer results were considered valid for this study. No pressure differential measurements were greater than 50 Pascals.

3.1.2 Indoor Air

Methane concentrations in indoor air were 0% in the Hand's On Children's Museum and in the East Bay Plaza restrooms (see Table 4). The pressure differential could not be measured beneath the Hand's On Children's Museum; therefore, the pressure differential at the closest sample location (SVP-8) was used as the differential pressure level for the Hand's On Children's Museum.

3.2 Discussion and Conclusions

Site methane concentrations were evaluated using ASTM Designation E2993-16 criteria (soil gas concentrations, indoor air concentrations and pressure differentials) to determine if methane poses a safety concern at the Site (see Table 1). The methane concentrations for all samples except SVP-12 and SVP-13 met the ASTM Designation E2993-16 criteria for no further action (i.e., methane soil gas concentrations were less than 30%, indoor air concentrations were less than 0.010%, and pressure differential measurements were less than 500 Pascals). The methane concentrations at SVP-12 and SVP-13 were greater than 30%; however, the pressure differential measurements were 7.5 Pascals or below which indicates that methane is not a concern. No buildings are present at these locations so indoor air could not be measured.

Based on the results of this Tier 2 evaluation, methane does not pose a safety concern at the Site and no further action is required per the ASTM Designation E2993-16 criteria.

SECTION 4: REFERENCES

ASTM. 2016. Standard Guide for Evaluating Potential Hazard as a Result of Methane in the Vadose Zone. Designation: E2993-16. May.

PIONEER. 2016. Data Gap Work Plan for Evaluating Methane in Soil Gas at the East Bay Redevelopment Site. Agreed Order DE7830. September 27.

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Figures

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Legend

- Site Boundary
- Parcel
- 1982 Fill

0 50 100 200 300 Feet

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Site Location and Parcel Boundaries
Tier 2 Methane Evaluation for the East Bay Redevelopment Site
East Bay Redevelopment Site

Figure 1

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Legend

- Site Boundary
- Parcel Boundaries
- 1982 Fill

Soil Gas Sample Locations

- Flux Chamber
- Soil Vapor Probe

0 50 100 200 300 Feet

PIONEER TECHNOLOGIES CORPORATION

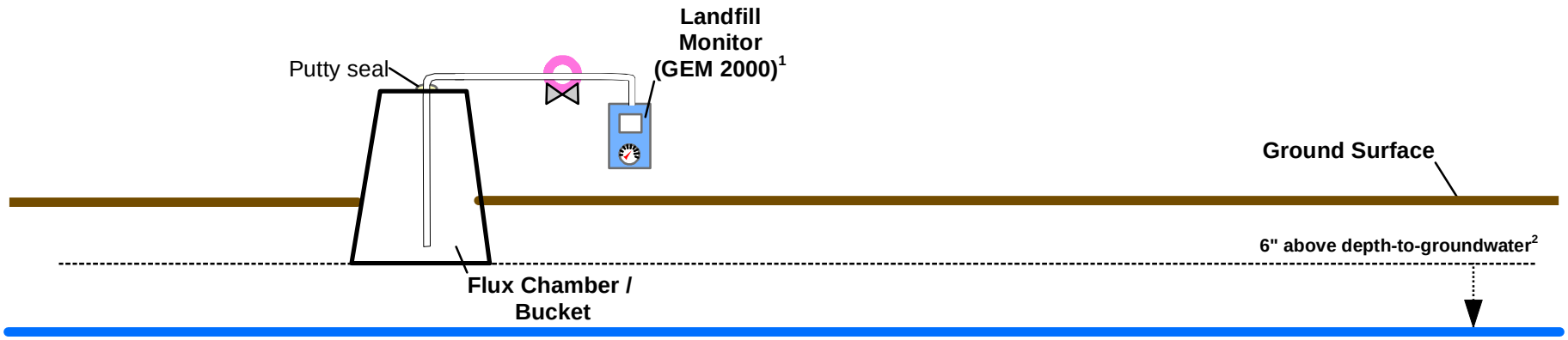
Soil Gas Sample Locations
Tier 2 Methane Evaluation for the East Bay Redevelopment Site
East Bay Redevelopment Site

Figure 2

Document Path: G:\Projects\Port of Olympia\East Bay\GIS\Maps\Maps 2016\Soil Gas Results\Figure_2_SG_Locations.mxd; Author: SS; Date Saved: 10/13/2016

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Legend:

: Brass quick-disconnect

: Teflon Tubing

Notes:
- Figure not drawn to scale
[1]Landfill monitor measured methane, oxygen, carbon dioxide, and pressure differential.
[2]For locations where depth-to-groundwater was less than or equal to 2 feet bgs.

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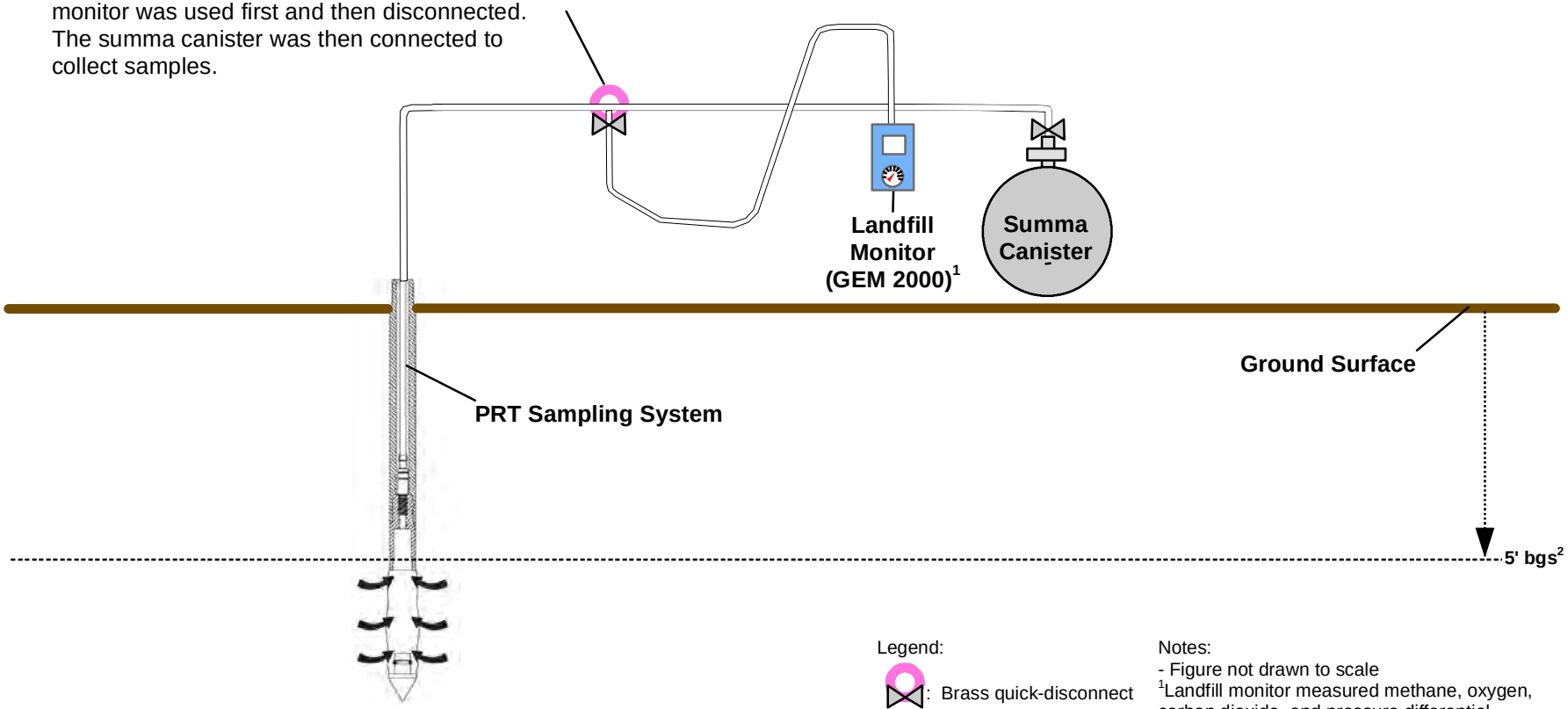
Flux Chamber Sampling Train
Tier 2 Methane Evaluation for the East Bay Redevelopment Site
East Bay Redevelopment Site

Figure 3

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The Summa canister and the landfill monitor were not connected at the same time. The landfill monitor was used first and then disconnected. The summa canister was then connected to collect samples.



Notes:
- Figure not drawn to scale
[1]Landfill monitor measured methane, oxygen, carbon dioxide, and pressure differential.
[2]In instances where the depth-to-groundwater was greater than 2 feet bgs and less than 5 feet bgs, the PRT was advanced to 6 inches above the depth-to-groundwater.

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Soil Vapor Probe Sampling Train
Tier 2 Methane Evaluation for the East Bay Redevelopment Site
East Bay Redevelopment Site

Figure 4

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Notes:
RR: Restroom
- Figure not drawn to scale
- Multiple samples may have been collected within each room. See Table 3 for corresponding sample descriptions and concentrations.

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Hand's On Children's Museum Indoor Air Sample Locations
Tier 2 Methane Evaluation for the East Bay Redevelopment Site
East Bay Redevelopment Site

Figure 5

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Legend

- Site Boundary
- Parcel Boundaries
- 1982 Fill
- Indoor Air or Stormwater Drain Samples

0 12.5 25 50 75 Feet

PIONEER TECHNOLOGIES CORPORATION

Stormwater Drain and East Bay Plaza Sample Locations
Tier 2 Methane Evaluation for the East Bay Redevelopment Site
East Bay Redevelopment Site

Figure 6

Document Path: G:\Projects\Port of Olympia\East Bay\GIS\Maps\Maps 2016\Soil Gas Results\Figure_6_SW_EBPP_Locations.mxd; Author: SS; Date Saved: 10/12/2016

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Tables

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Table 1: ASTM Designation E2993-16 Criteria

Methane Shallow Soil Gas Concentration	Methane Indoor Air Concentration			
	No Measurements Available	<0.01% (<100 ppm)	0.01% to <1.25%	>1.25%
<1.25% to 5%	No further action	No further action	No further action	Immediately notify authorities, recommend owner/operator evacuate building
>5% to 30%	No further action unless pressure differential >500 Pascals	No further action unless pressure differential >500 Pascals	No further action unless pressure differential >500 Pascals	
>30%[(1)]	Collect indoor air data	Evaluate on case-by-case basis	Evaluate on case-by-case basis	

Notes:

[1] The potential for pressure gradients to occur in the future at a given site should be considered.

Table 2: Soil Gas Results

Sample ID	Time	Differential Pressure (Pascals)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Hydrogen Sulfide (%)	Notes
SVP-01-092816	9:05	-10	1.2	3.1	9.5	0.0	
	9:35	-10	1.2	3.7	8.4	0.0	
	10:05	7.5	1.5	3.7	5.7	0.0	
	10:35	7.5	1.7	5.2	5.4	0.0	
	11:05	10	1.5	4.9	4.8	0.0	
SVP-02-092816	10:30	0.0	4.4	1.1	9.4	0.0	
	11:00	10	4.8	1.2	6.8	0.0	
	11:30	10	4.6	1.2	6.7	0.0	
SVP-03-092816	11:13	10	27	21	0.0	0.0	
	11:43	10	28	22	0.0	0.0	
	12:13	12	27	21	0.0	0.0	
	12:43	35	28	21	0.0	0.0	
SVP-04-092816	12:05	20	0.0	7.7	6.7	0.0	Pressure appears to increase as ambient temperature increases.
	12:35	35	0.0	9.1	4.4	0.0	
SVP-05-092816	12:40	35	0.0	1.2	19	0.0	
	1:10	40	0.0	1.2	19	0.0	
SVP-06-092816	1:25	40	0.30	0.40	0.50	0.0	
	1:55	47	0.30	0.40	0.0	0.0	
SVP-07-092816	2:08	30	0.0	5.1	10	0.0	
	2:38	22	0.0	6.4	6.6	0.0	
SVP-08-092916	9:20	-25	30	7.5	0.0	0.0	
	9:50	-22	30	7.5	0.0	0.0	
	10:20	-22	30	7.5	0.0	0.0	
SVP-09-092916	1:30	0.0	20	4.8	14	0.0	
	2:00	0.0	28	6.5	11	0.0	
	2:30	22	28	6.9	11	0.0	
	3:20	22	30	7.6	9.5	0.0	
SVP-10-092916	1:45	5.0	50	5.8	8.6	0.0	SVP was inundated when pulled out. Sample was repeated the next day.
	2:45	22	9.1	1.6	18	0.0	
	3:15	22	0.0	0.10	21	0.0	
SVP-10-093016	9:05	7.5	0.20	0.10	21	0.0	SVP was inundated when pulled out. Sample was repeated later that day.
	9:25	7.5	0.30	0.10	21	0.0	
	9:40	7.5	0.0	0.0	21	0.0	
SVP-10-093016	1:00	2.5	25	1.6	7.9	0.0	
	1:30	2.5	26	2.1	7.8	0.0	
SVP-11-092916	3:00	22	0.0	4.4	9.1	0.0	
	3:30	22	0.0	4.5	9.3	0.0	

Table 2: Soil Gas Results

Sample ID	Time	Differential Pressure (Pascals)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Hydrogen Sulfide (%)	Notes
SVP-12-093016	9:45	7.5	35	2.9	10	0.0	
	10:15	-5.0	35	2.7	11	0.0	
SVP-13-093016	10:00	7.5	56	6.8	0.0	0.0	
	10:30	-5.0	56	6.7	0.0	0.0	
SVP-14-093016	10:35	-5.0	0.0	0.80	20	0.0	
	11:05	-17	0.0	2.2	17	0.0	
SVP-15-093016	11:15	-17	0.0	0.20	21	0.0	
	11:45	-12	0.0	0.30	21	0.0	
SVP-16-093016	2:10	5.0	0.0	1.9	18	0.0	
	2:40	7.5	0.0	1.9	18	0.0	
SVP-17-093016	1:45	-2.5	0.0	0.0	21	0.0	
	2:15	5.0	0.0	0.0	22	0.0	
FC-01-092916	10:10	-22	0.30	0.10	21	0.0	
	11:10	-7.5	0.80	0.30	21	0.0	
	12:10	-2.5	0.70	0.30	21	0.0	
	1:10	0.0	0.60	0.30	21	0.0	
	2:10	7.5	0.50	0.30	20	0.0	
FC-02-092916	10:25	-22	0.0	0.10	21	0.0	
	11:25	-22	0.0	0.20	21	0.0	
	12:25	-22	0.0	0.20	21	0.0	
	1:25	-22	0.0	0.20	21	0.0	
	2:25	-22	0.0	0.30	21	0.0	
FC-03-092916	12:30	0.0	0.0	0.10	21	0.0	
	1:30	0.0	0.80	0.30	20	0.0	
	2:30	22	0.0	0.30	20	0.0	
FC-04-092916	12:40	7.5	0.0	0.40	21	0.0	
	1:40	0.0	0.0	0.30	21	0.0	
	2:40	22	1.4	0.40	20	0.0	
	3:40	22	1.8	0.40	20	0.0	
FC-05-092916	1:45	0.0	0.10	0.20	21	0.0	
	2:45	22	1.2	0.60	19	0.0	
	3:45	22	1.9	0.90	19	0.0	

Notes:

Field notes are included in Appendix A.

Table 3: Summa Canister Results Compared to GEM2000 Landfill Analyzer Results

Sample ID	Analyte	Summa Canister Result (%)	GEM2000 Landfill Analyzer Result (%)	Difference
SG-SVP-01-092816	Oxygen	7.9	4.8	3.1
	Methane	1.8	1.5	0.30
	Carbon Dioxide	3.5	4.9	-1.4
SG-SVP-03-092816	Oxygen	2.8	0.0	2.8
	Methane	26	28	-1.6
	Carbon Dioxide	19	21	-2.2
SG-SVP-08-092816	Oxygen	3.4	0.0	3.4
	Methane	26	30	-4.2
	Carbon Dioxide	6.3	7.5	-1.2

Notes:

Summa canister results are included in Appendix C.

Table 4: Indoor Air Results

Room ID[1]	Room	Description	Methane Concentration (%)
1	Stairs 1	Beneath stairs, by utility penetrations	Not detected
2	Dish Room	Floor drain 1	Not detected
		Floor drain 2	Not detected
		Pipe under sink	Not detected
3	Family Restroom	Pipe into floor	Not detected
		Floor drain	Not detected
4	Café Prep	Pipe under cabinet (utility penetration)	Not detected
		Under appliance	Not detected
5	Café/Lobby	Electrical utility box	Not detected
6	Main Entrance	Vestibule grate	Not detected
7	Storage 1	Under door before opened	Not detected
		Under cabinets	Not detected
8	Storage 2	Floor seams in bike storage	Not detected
9	Admin Office 3	Floor seams in office	Not detected
10	Male Restroom	Floor drain	Not detected
		Toilet	Not detected
11	Janitor Closet	Floor drain	Not detected
		Under sink with pipe penetration	Not detected
12	Closet	Utility penetration	Not detected
		Ambient air	Not detected
13	Stairs 2	Underneath stairs	Not detected
14	Mechanical/Electrical Shop	Utility penetration with crack in slab	Not detected
		Crack in slab	Not detected
		Water pipe penetrations	Not detected
		Floor drain	Not detected
		Crack in slab	Not detected
15	Female Restroom	Floor drain	Not detected
		Toilet	Not detected
16	Repair Shop	Electrical box	Not detected
		Under sink	Not detected
17	Main Gallery	Inside boat exhibit	Not detected
		Crack in slab	Not detected
18	Elevator	West door	Not detected
		East door	Not detected
1(2)	East Bay Plaza	Male Restrooms	Not detected
		Female Restrooms	Not detected
2(2)	Exterior	Stormwater catch basin by back entrance	Not detected
3(2)	Exterior	Stormwater treatment vault in alley north of Hand's On Children's Museum	Not detected
4(2)	Exterior	Stormwater vault northeast of Hand's on Children's Museum	Not detected
5(2)	Exterior	Stormwater treatment vault on Marine Drive	Not detected

Notes:

[1] Room ID corresponds to sample labels on Figure 5, with some exceptions (see Footnote 2).

[2] Room ID corresponds to sample labels on Figure 6.

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Appendix A

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PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Task Name: East Bay HOCM IA Screening Site Location: East Bay, Olympia

Requested By / Date: TDB / 9/9/16 Work Scheduled: 9/12/16

SERVICES REQUESTED	COMPLETED
1. Conduct tailgate and record weather, tide, and meter make and model	☑ YES ☐ NO
2. Calibrate meter	☑ YES ☐ NO
3. Collect methane measurements from TBD worst-case locations on 1st floor with poor ventilation and/or slab perforations (e.g., utility closets, near unsealed utility perforations, closed cabinets, underneath sinks, near cracks in slab, etc)	☑ YES ☐ NO
4. Collect methane measurements from a few locations in center of rooms	☑ YES ☐ NO
5. Collect replicated measurements from a few indoor locations after time has passed DETERMINED TO NOT BE NECESSARY	☐ YES ☑ NO
6. Collect methane measurement from HOCM elevator pit if possible	☑ YES ☐ NO
7. Collect methane measurement from City stormwater vault along in alley north of HOCM if possible	☑ YES ☐ NO
8. Collect methane measurement from Port stormwater treatment vault along Marine Drive if possible	☑ YES ☐ NO
9. Take field notes and representative photos	☑ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
Contact #s: Patty 789-9061 Kathy 956-0818x142 Jack 239-3577 Andy 753-8475	

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☒ Review Docs: ASTM 2993-16	☒ YES ☐ NO	☒ Daily Health & Safety Meeting	☑ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☒ Coordinate Access: Port, City, HOCM	☒ YES ☐ NO	☒ Draw Site Map Sample Locations	☑ YES ☐ NO
☐ Coordinate w/ Sub:	☐ YES ☐ NO	☐ Cuttings / Decon Water	
☒ Rent Equip: methane meter	☑ YES ☐ NO	☐ Drum	☐ YES ☐ NO
☒ Client/Agency Coordination: Port/Ecology	☒ YES ☐ NO	☐ Sample	☐ YES ☐ NO
☒ Calibrate Equipment: methane meter	☑ YES ☐ NO	☐ Discharge near boring	☐ YES ☐ NO

SAMPLING REQUIREMENTS

☒ Field Testing: CH4 field measurements at TBD locations

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

OTHER FIELD SUPPLIES NEEDED

☒ Site Map ☒ Camera ☐ Survey Equip / GPS ☐ Van

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon, shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☐ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☐ Sample Kits / Cooler / COC / Ice _____

☐ IDW: ☐ Drums _____ ☐ 5-gal buckets _____

☐ Other: _____

☐ Other: _____

PIONEER
DAILY FIELD REPORT

Date: 9/12/16 Site Location: EAST BAY Site Arrival Time: 8:15 Site Departure Time: 10:00

WEATHER	Clear Sun X	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70 V	70-85	85 Up
WIND	Calm X	Med.	Strong	Severe	

CLOSE TO LOW TIDE ~~ABOUT~~ @ ~ 945

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
TROY BOSSEY	PTC	SAME AS ABOVE
SHEENA SWAIN	↓	↓
RACHAEL JAMISON	PORT OF OLYMPIA	
STEVE TEEL	ECOLOGY	

METER CALIBRATED PRIOR TO WORK

NOTES ON WORK COMPLETED

METER SERIAL # MA213-029711

GAS LOT # TKAP-135A-2.5-7

METER = BW GAS ALERT MAX XT II DETECTION LIMIT WAS 1000 PPM

SAMPLED IA A HOLM ~ 0910 - 0930 ; RE-CALIBRATED METER @ 0935 - TWO POINT CALIBRATE @ 0% & 2.5%

SAMPLED SW VAULTS 9:45 - 9:55

LOCATION NAME	SAMPLE ID	RESULT
BIKE STORAGE (113)	#1	ND (=0.0%)
OFFICE (112)	#2	↓
FAMILY RESTROOM (120)	#3	
FLOOR DRAIN		
DISHES AREA (121) FLOOR DRAIN	#4A	
FLOOR DRAIN	#4B	
UNDER SINK	#4C	
CAFE PREP (122) IN CABINET		
UNDER SINK WITH UTILITY PENETRATION	#5A	
UNDER APPLIANCE	#5B	
ELECTRICAL UTILITY BOX IN CAFE (123)	#6	
VESTIBULE (101) GRATE	#7	
CUSTODIAL CLOSET (111)		
FLOOR DRAIN	#8A	
UNDER SINK WITH PIPE PENETRATION	#8B	
ROOM 110 UTILITY PENETRATION	#9A	
GENERAL ROOM	#9B	
BOYS RR (109) FLOOR DRAIN	#10A	
TOILET URINAL	#10B	
GIRLS RR (108) FLOOR DRAIN	#11A	
TOILET URINAL	#11B	
REPAIR SHOP (107) Electrical Box	#12A	
UNDER SINK	#12B	↓

LOCATION NAME	SAMPLE ID	RESULT
MECHANICAL/ELECTRICAL (106)		~~ND (=0.0%)~~
UTILITY PENETRATION WITH CRACK IN SLAB	#13A	ND (=0.0%)
CRACK IN SLAB	#13B	↓
WATER PIPE PENETRATIONS	#13C	
FLOOR DRAIN	#13D	
CRACK IN SLAB	#13E	
MAIN GALLERY (103)		
INSIDE BOAT EXHIBIT	#14A	
CRACK IN SLAB	#14B	
G.S. STORAGE (117)		
UNDER DOOR BEFORE OPENED	#15A	
UNDER CABINETS		
UNDERNEATH STAIR 1 BY PIPE UTILITY PENETRATION	#16	
ELEVATOR PIT WEST DOOR	#17A	
EAST DOOR	#17B	
UNDERNEATH STAIR 2 IN POORLY VENTILATED AREA	#18	
SW TREATMENT VAULT IN ALLEY NORTH OF HOLM	V #A	
SW VAULT NE OF HOLM BY ALLEY ENTRANCE	V #B	
SW TREATMENT VAULT IN MARINE BAY	V #C	
SW CATCH BASIN BY HOLM BACK ENTRANCE	V #D	↓

V#A SW TREATMENT VAULT IN ALLEY NORTH OF HOLM = ND

V#B SW VAULT NE OF HOLM = ND

V#C SW TREATMENT VAULT IN MARINE BAY = ND

V#D SW CATCH BASIN BY HOLM BACK ENTRANCE = ND

SIGNATURE: [signature] DATE: 9/12/16

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
FIELD CHECKLIST

Project/Site Name: EAST BAY CH4 Site Location: EAST BAY
Requested By / Date: PORT/LOTT 9/28/16 Work Deadline: 9/30/16

SERVICES REQUESTED	COMPLETED
Install 21 SVP and collect samples w/GEM2000	☑ YES ☐ NO
Collect up to 4 summa canister	☑ YES ☐ NO
Collect 1 indoor air samples	☑ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☑ Review Docs: Work Plan	☑ YES ☐ NO	☑ Health & Safety Meeting	☒ YES ☐ NO
☐ Agency NOI / ☑ Utility Locate / ☐ Concrete Coring	☑ YES ☐ NO	☒ Call PM from Site	☑ YES ☐ NO
☒ Coordinate Access: Port/Lott	☑ YES ☐ NO	☑ Draw Site Map _____	☑ YES ☐ NO
☑ Coordinate Sub / Equip: CH4 monitor	☒ YES ☐ NO	☑ Cuttings / Purge Water Characterization & Disposal	
☐ Purchase / Rent Equip: _____	☐ YES ☐ NO	☐ Potential HW _____	☐ YES ☐ NO
☐ Client/Agency Coordination: _____	☐ YES ☐ NO	☒ Non-Haz _____	☑ YES ☐ NO
☐ Calibrate Equipment: _____	☐ YES ☐ NO	☐ Background _____	☐ YES ☐ NO

SAMPLING REQUIREMENTS

☑ Field Testing: GEM 2000
☒ Lab Testing: CH_4, CO_2, O_2, N Laboratory: Eurofin
☐ Lab Testing: _____ Laboratory: _____
☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

☑ Site Map ☒ Camera ☑ Survey Equip / GPS ☑ Vehicle ☐ Water Level Indicator / Interface Probe
☑ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools) ☐ Water Quality Meter _____ ☐ Field Test Kits _____
☑ Drilling Equip (PID, references, knife, baggies, tape) ☐ Sample Kit / Cooler / COC / Ice _____
☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves) ☐ IDW: ☐ Drums _____ ☑ 5-gal buckets 7
☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB) ☐ Other: _____
☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch) ☐ Other: _____

PIONEER
DAILY FIELD REPORT

Date: 9/7.8/16 Site Location: EAST BAY Site Arrival Time: 7:30 Site Departure Time: 4:00

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To-32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHEILA SWAIN	PIONEER	7:30 - 4:00
STACY MUNSON	PIONEER	7:30 - 4:00
RICHARD	ESN	8:00 - 3:45

NOTES ON WORK COMPLETED

8:00 RICHARD ARRIVED ON-SITE
SAFETY TALK AT 8:05. SITE AND METHANE ISSUES MAIN FOCUS

8:45 SVP-1 DTW = 6 feet SVD @ 5 summa canister

10:15 SVP-2 DTW = 4 feet SVP @ 3.5

10:11:00 SVP-3 DTW = 6-7 ft SVP @ 5ft summa canister sampled

12:00 SVP-4 DTW = 4.5 ft SVP @ 4 ft Temp increasing as day goes on

12:40 SVP-5 DTW = 5.2 ft SVP @ 4.6 ft SVP-4 & 5 soil @ 13:14 (pi

13:10 SVP-6 DTW = 5.5ft SVP @ 5ft

14:00 SVP-7 DTW = 5ft SVP @ 4.5ft

SIGNATURE: _____ DATE: 9/7&8/16

PIONEER
DAILY FIELD REPORT

Date: 9/29/16 Site Location: EB Site Arrival Time: 8:15 Site Departure Time: 4:25

WEATHER	~~Clear~~ Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	70-85	85 Up
WIND	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHELBY SWANN	PTC	8:00 - 4:25
STACY MUNSON	PTC	8:00 - 4:25
CASEY	EGN	8:00 - 4:30

NOTES ON WORK COMPLETED

8:15 safety talk S/T/F, methane, traffic

8:45 SVP-8 DTW=6 ft SVP @ 5.5 ft

9:40 FC-1 DTW~10 in. FC @ 4 inches

~~10:00 FC-3 DTW=4.5 ft @ first Rechk @ 24 in FC @ 16 in~~

10:00 FC-2 DTW=1.25 ft FC @ 0.75 ft

10:30 FC-3 DTW=4.5 ft, gw coming up ~~Rocked~~ Rechk GW @ 21 in FC @ 16 inches

11:50 FC-4 DTW=10.95 ft FC @ 5.4 inches

12:15 FC-5 DTW=2 ft FC=1.5 ft

1:05 SVP-9 DTW=4.2 ft SVP @ 3.5 ft 1:28 (gone)

1:30 SVP-10 DTW=4 ft SVP @ 9.5 ft

2:30 SVP-11 DTW 4.5 ft SVP 3.5 ft

* SVP-10 inundated when pulled out. Will try again 9/30

SIGNATURE: DATE: 9/29/16

PIONEER
DAILY FIELD REPORT

Date: 9/30/16 Site Location: EAST BAY Site Arrival Time: 8:00 Site Departure Time: 3:15

WEATHER	Clear Sun	(Overcast)	Drizzle	Rain	Snow
TEMPERATURE	To 32	(32-50)	50-70	70-85	85 Up
WIND	(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
SHEILA SWAIN	PIONEER	8:00 - 3:15
STACY MADISON	PIONEER	8:00 - 3:15
CASEY	ESN	8:00 - 3:15

NOTES ON WORK COMPLETED

8:00 Arrive on site
8:10 Safety talk, S/T/F, City, traffic, weather

8:45 Redo SVP-10 due to probe inundation. Casey checked gw. No gw @ 5 ft initially. Rechecked, at 4, Rechecked, at 3. Will set probe at 2.5 ft. and do readings every 15 min in case of inundation.
DTW = 3.5 ~~Hp~~ appears to be inundated
SVP @ 3

9:30 SVP-12 DTW @ 3 ft
SVP @ 2 ← To avoid punching GW

9:45 SVP-13 DTW @ 3.41 ft SVP @ 2.5 ft

10:15 SVP-14 DTW @ 9 ft SVP @ 5 ft

11:05 SVP-15 DTW @ 8 ft SVP @ 5 ft

12:45 SVP-10 Redo SVP-10 due to inundation
DTW @ 2.54 ft SVP @ 2 ft ↓ inundation again @ 2nd

1:25 SVP-16 DTW @ 3.5 ft
SVP @ 3 ft ← GW pulled in Reading tube, reset @ 2 ft

1:40 SVP-17 DTW @ 3.5 ft
SVP @ 3 ft ~~GW pulled in tube~~
reset @ 2 ft

SIGNATURE: _____ DATE: 9/30/16

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP 1	Drilling Co.	ESN
Project/Site Name	EAST BAY	Lisc. Driller	Richard
Field Professional	Richard	Drilling Method	Direct Push
Start Date/Time	8:45	Drill Rig	
Stop Date/Time	8:45	Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	6		/ /			Sandy gray				
				/ /							
	6	8		/ /		GW @ 6 ft bgs	clay				
				/ /							
	8	9		/ /			Sandy gray loam				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

6 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP-2	Drilling Co.	FSW
Project/Site Name	EAST BAY	Lisc. Driller	Richard
Field Professional	STELLA	Drilling Method	Direct Push
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	1		/ /			gravel				
				/ /							
	1	2		/ /			sandy loam				
				/ /							
	3	4		/ /			clay				
				/ /							
	4	5		/ /			Sandy loam				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
4 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: SVP-3
Project/Site Name: EAST BAY
Field Professional: SS
Start Date/Time:
Stop Date/Time:
Drilling Co.: ESN
Lisc. Driller: RICHARD
Drilling Method: DIRECT PUSH
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	2		/ /			light brown sand w/ gravel				
				/ /							
	2	6		/ /			light brown sand w/ wood chips*				
				/ /							
				/ /							
	6	8		/ /			Clay w/ wood chips*				
				/ /							
				/ /			*light amount of chips				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): 6-7 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP-4	Drilling Co.	ESN
Project/Site Name	EAST BAY	Lisc. Driller	Richard
Field Professional	SS	Drilling Method	Direct Push
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /			Dark sand w/shells				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
4.5 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP-54	Drilling Co.	ERD
Project/Site Name	EAST BAY	Lisc. Driller	Richard
Field Professional	Stella Swaim	Drilling Method	Direct Push
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	1		/ /			~~SM~~ Dirt & gravel				
				/ /							
	1	5		/ /		Gw@5	Sand, shell, fill				
				/ /			Material				
	5	8		/ /			Dark sand & shell				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position): 5.2 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP-6	Drilling Co.	ESN
Project/Site Name	EAST BAY	Lisc. Driller	Richard
Field Professional	BS	Drilling Method	Direct Push
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	2	GP	/ /			Sand & gravel				
				/ /							
	2	4		/ /			Packed, loamy				
				/ /			sand				
				/ /							
	4	6		/ /	GW @ 5.5		Sand and gravel				
				/ /							
	6	8		/ /			Dark saturated sand				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
5.5 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP-7	Drilling Co.	ESN
Project/Site Name	EAST BAY	Lisc. Driller	RICHARD
Field Professional	SHELLA	Drilling Method	DIRECT RUSH
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /			Sand, gravel, brick fill				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

5ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP-8	Drilling Co.	E.N.V
Project/Site Name	EASTBAY	Lisc. Driller	GARY
Field Professional	SS	Drilling Method	DIRECT PUSH
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	1	4.5		/ /			White fill w/ sandy gravel				
				/ /							
				/ /							
	4.5	6.5		/ /			Sandy				
				/ /							
	6.5	8		/ /			Gray clay w/ shells				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

6 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP-9	Drilling Co.	EEN
Project/Site Name	EAST BAY	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	Direct Push
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	1		/ /			Gravel / rock				
				/ /							
	2	3		/ /			Dark gray sand				
				/ /							
	3	4		/ /			soft organic material				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
4-2 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP-10	Drilling Co.	ESN
Project/Site Name	EAST BAY	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	0.5		/ /			Top soil				
				/ /							
	0.5	3.5		/ /			Gravel & fill				
				/ /							
	3.5	4		/ /			Loamy dark sand				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							
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				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
4ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP -11	Drilling Co.	FRN
Project/Site Name	EAST BAY	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
				/ /			NO RECOVERY PAST 1 ft				
				/ /							
				/ /							
	0	1		/ /			Gravel				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

4 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: SVP-12
Project/Site Name: EB
Field Professional: SS
Start Date/Time:
Stop Date/Time:
Drilling Co.: ESN
Lisc. Driller: CASEY
Drilling Method: DP
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	1		/ /			Brown topsoil				
	1			/ /							
	1	3		/ /			Gravel & sand				
				/ /							
	3	3.9		/ /			Dark gray sand and clay				
				/ /							
	3.9	4		/ /			Dark organic matter				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
3 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: SVP-13
Project/Site Name: EB
Field Professional: SS
Start Date/Time:
Stop Date/Time:
Drilling Co.: ESN
Lisc. Driller: CASEY
Drilling Method: DP
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	1		/ /			Dark brown loamy sand; wood waste				
				/ /							
	1	2.5		/ /			Dark sand & gravel				
				/ /							
	2.5	4		/ /			Large sand				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
3.41 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	FC-1	Drilling Co.	FSN
Project/Site Name	EAST BAY	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	1	4		/ /			Brown gravel & White fill				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
@ 10 inches

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	FC-2	Drilling Co.	ESN
Project/Site Name	EB	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	2		/ /			Brown dirt & gravel				
				/ /							
				/ /							
	2	4	⊠	/ /			gray sand				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
1.25 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	#C-3	Drilling Co.	ESN
Project/Site Name	FB	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	3		/ /			White fill, Brown Sand & gravel				
	~~3~~	~~6~~		/ /							
	3	6		/ /			Sand, pebbles and clay				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

4.5 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	EC-4	Drilling Co.	E.S.D
Project/Site Name	E.B.	Lisc. Driller	DAISY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	2		/ /			sand and gravel				
				/ /							
	2	4		/ /			No recovery				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
0.95 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	FC-5	Drilling Co.	ESN
Project/Site Name	EB	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	3		/ /			sand and gravel				
				/ /							
	3	4		/ /			dark sand				
				/ /			* petroleum odor				
				/ /							
				/ /							
				/ /							
				/ /							
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GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

2 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/SVP/MW ID	SVP-13	Drilling Co.	ESN
Project/Site Name	EB	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	To	PID (ppm)	Sent to Lab?
	0	2		/ /			sharp gravel				
				/ /							
	2	6		/ /			sand, fill, gravel, light gray and white				
				/ /							
				/ /							
	6	8		/ /			Brown sand w/ small pebbles				
				/ /							
				/ /							
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				/ /							
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GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

9 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: SVP-15
Project/Site Name: 03
Field Professional: SS
Start Date/Time:
Stop Date/Time:
Drilling Co.: ERN
Lisc. Driller: CASEY
Drilling Method: DP
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	10		/ /			Light brown sand with a little bit of fill & gravel				
				/ /							
				/ /							
				/ /							
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GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
6 ft

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	SVP-17	Drilling Co.	ESN
Project/Site Name	ER	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	1		/ /			Dark brown organic + pebbles				
	1	4		/ /			Sand				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 3.5

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PIONEER)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	SVP-16	Drilling Co.	ESN
Project/Site Name	EB	Lisc. Driller	CASEY
Field Professional	SS	Drilling Method	DP
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab
	0	4		/ /			Sand				
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
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				/ /							
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 3.5

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

Field Log: Methane Sampling

PIONEER TECHNOLOGIES CORPORATION

Site Name: EAST BAY
Date: 9/28/16
Weather: Sunny
Barometric Pressure (Pa): 30.02 " Hg

Instrument: GEM2000
Sampler Name: SHEILA SWAIN
Comments:

Samp. No	Location	Time	Pressure (Pascals)	Temp (°F)	CH_4 (%)	CO_2 (%)	O_2 (%)	H_2S (%)	Field Observations
SVP-1-092816	SVP-1	9:05	-.04"	-	1.2	3.1	9.5	0	
	SVP-1	9:35	-.04"	-	~~1.2~~	~~0.5~~ 3.7	~~7.6~~ 5.9	~~0.1~~	
	SVP-1	10:05	-.03"	-	1.5	3.7	5.7	~~0.2~~	
	SVP-1	10:35	-.03"	-	1.7	5.2	5.4	-	
	SVP-1	11:05	+.04"	-	1.5	4.9	4.8	0	
SVP-2-092816	SVP-2	10:30	0	-	~~4.4~~	1.1	9.4	-	
	SVP-2	11:00	+.04"	-	4.8	1.2	6.8	-	1½ hr -
	SVP-2	11:~~30~~	~~0~~ +.04"	-	4.6	1.2	6.7	-	One hour is sufficient per steer tool.
	~~SVP-2~~	~~12:00~~							
	~~SVP-2~~	~~12:30~~							
SVP-3-092816	SVP-3	11:13	+.04"	-	27.1	21.4	0.0	-	
	SVP-3	11:43	+.04"	-	27.9	21.6	0.0	-	
	SVP-3	12:13	+.05"	-	27.4	21.4	0.0	0	
	SVP-3	12:43	+0.14"	-	27.6	21.2	0.0	0	

Field Log: Methane Sampling

PIONEER TECHNOLOGIES CORPORATION

Site Name: EAST BAY
Instrument: Gem2000
Date: 9/20/14
Sampler Name: Swarm
Weather: Sunny
Comments:
Barometric Pressure (Pa): 30.02 "Hg - H2O

Samp No	Location	Time	Pressure (Pascals)	Temp (°F)	CH4 (%)	CO (%)	O_2 (%)	H_2S (%)	Field Observations
SVP-4-092816 (pic @ 13:11)	SVP-4	12:05	+0.08	-	0.0	7.7	6.7	Ø	Pressure appears
	SVP-4	12:35	+0.14	-	0.0	9.1	4.4	Ø	to increase
SVP-5-092816 (pic @ 13:14)	SVP-5	12:40	+0.14	-	0.0	1.2	18.6	Ø	as ambient
	SVP-5	1:10	+0.16	-	0.0	1.2	19.0	Ø	temp increases
SVP-6-092816	SVP-6	1125	+0.16	-	0.3	0.4	0.5	Ø	
	~~SVP-6~~	~~1:55~~	~~+0.19~~	~~-~~	~~0.0~~	~~0.0~~	~~21.8~~		
	SVP-6	1:55	+0.19		0.3	0.4	0.0	Ø	
SVP-7-092816	SVP-7	2:08	+0.12		0.0	5.1	10.3	Ø	
	SVP-7	2:38	+0.09		0.0	6.4	6.6		

Field Log: Methane Sampling

Site Name: EAST BAY
Instrument: GEM 2000
Date: 9/29/16
Sampler Name: SS
Weather: SUNNY
Comments:
Barometric Pressure (Pa): 29.9

Samp No	Location	Time	Pressure (Pascals)	Temp (F)	CH4 (%)	CO2 (%)	O2 (%)	H2S (%)	Field Observations
SVP-8-092916	SVP-8	9:20	-.10		30.1	7.5	Ø	Ø	
	SVP-8	9:50	-.09		30.3	7.5	Ø	Ø	
	SVP-8	10:20	-.09		30.2	7.5	Ø	Ø	
FC-1-092916	FC-1	10:10	0.3	↔	-0.09	0.1	20.9	Ø	
	FC-1	11:10	0.8	↔	-0.03	0.3	20.5	Ø	
	FC-1	12:10	0.7	↔	-0.01	0.3	20.7	Ø	
	FC-1	1:10	0.6	↔	+0.0	0.3	20.7	Ø	
	FC-1	2:10	0.5	↔	+.03	0.3	20.2	Ø	
FC-2-092916	FC-2	10:25	-0.09		Ø	0.1	20.9	Ø	
	FC-2	11:25	-0.09		Ø	0.2	21.2	Ø	
	FC-2	12:25	-0.09		Ø	0.2	21.4	Ø	
	FC-2	1:25	-0.09		Ø	0.2	21.2	Ø	
	FC-2	2:25	-0.09		Ø	0.3	20.7	Ø	
FC-3-092916	FC-3	12:30	0.0		Ø	0.1	21.2	Ø	
	FC-3	1:30	0.0		0.8	0.3	20.4	Ø	
	FC-3	2:30	+0.09		Ø	0.3	20.3	Ø	

Field Log: Methane Sampling

PIONEER TECHNOLOGIES CORPORATION

Site Name: EAST BAY
Date: 9/29/16
Weather: Sunny
Barometric Pressure (Pa): 29.9

Instrument: GEM2000
Sampler Name: SHEILA
Comments:

Samp. No.	Location	Time	Pressure (Pascals)	Temp (°F)	CH_4 (%)	CO (%)	O_2 (%)	H_2S (%)	Field Observations
FC-4-092916	FC-4	12:40	+0.03		Ø	6.4	21.2	Ø	
	FC-4	1:40	0.0		Ø	0.3	20.5	Ø	
	FC-4	2:40	+0.09		1.4	0.4	19.9	Ø	
	FC-4	3:40	+0.09		1.8	0.4	19.9	Ø	
FC-5-092916	FC-5	1:45	0.0		0.1	0.2	~~19.9~~ 20.6	Ø	
	FC-5	2:45	+0.09		1.2	0.6	19.3	Ø	
	FC-5	3:45	+0.09		1.9	0.9	18.9	Ø	
SVP-9-092916	SVP-9	1:30	Ø		19.7	4.8	13.7	Ø	
	SVP-9	2:00	Ø		27.8	6.5	10.7	Ø	
	SVP-9	2:30	+0.09		28.3	6.9	10.5	Ø	
	SVP-9	3:20	+0.09		30.3	7.6	9.5	Ø	
SVP-10-092916	SVP-10	1:45	+0.02		49.8	5.8	8.6	Ø	
	SVP-10	2:45	+0.09		9.1	1.6	17.6	Ø	
	SVP-10	3:15	+0.09		Ø0.0	0.1	21.3	Ø	
SVP-11-092916	SVP-11	3:00	+0.09		Ø	4.4	9.1	Ø	
	SVP-11	3:30	+0.09		Ø	4.5	9.3	Ø	

Field Log: Methane Sampling

Site Name: EAST BAY
Date: 9/30/16
Weather: Overcast
Barometric Pressure (Pa): 29.97" Hg (in Hg)

Instrument: Gem 2000
Sampler Name: Sheila Swan
Comments:

Samp_No	Location	Time	Pressure (Pascals)	Temp (F)	CH4 (%)	CO (%)	O2 (%)	H2S (%)	Field Observations
SVP-10_093016	SVP-10	9:05	+.03	–	0.2	0.1	20.8	Ø	High of 3 - then ↓
	~~SVP-10~~	~~9:25~~	~~+0.03~~	~~–~~	0.2	0.1			
	SVP-10	9:25	+0.3	–	0.3	0.1	20.8	Ø	High of 5 then ↓
	SVP-10	9:40	+0.03	–	0.0	0.0	21.3	Ø	
SVP-12-093016	SVP-12	9:45	+0.03	+	35	2.9	10.4	Ø	
	SVP-12	10:15	-0.02	+	34.5	2.7	10.9	Ø	
SVP-13-093016	SVP-13	10:00	+0.03	+	56.1	6.8	0.0	Ø	
	SVP-13	10:30	-0.1		55.7	6.7	0.0	Ø	
SVP-14-093016	SVP-14	10:35	-0.02		0.0	0.8	19.8	Ø	
	SVP-14	11:05	-0.07		0.0	2.2	16.9	Ø	
SVP-15-093016	SVP-15	11:15	-0.07		0.0	0.2	21.2	Ø	
	SVP-15	11:45	-0.05		0.0	0.3	21.2	Ø	
SVP-10-093016	SVP-10	1:00	+0.01		25.4	1.6	7.9	Ø	3rd reading
	SVP-10	1:30	+0.01		26.2	2.1	7.8	Ø	@ 0.2% CH4 → H2
SVP-16-093016	SVP-16 &	1:35 2:05	+0.01		10.8	0.7	13.6	Ø	H2O in tube

Field Log: Methane Sampling

Site Name: EAST BAY
Date: 9/30/16
Weather: Sunny
Barometric Pressure (Pa): 29.09 in H2O

Instrument: GEM 2000
Sampler Name: Shella
Comments:

Samp_No	Location	Time	Pressure (Pascals)	Temp (°F)	CH4 (%)	CO2 (%)	O2 (%)	H2S (%)	Field Observations
SVP-17-093016	SVP-17	1:45	-.01		0.0	0.0	20.9	Ø	
	SVP-17	2:15	+0.02		0.0	0.0	21.6	Ø	
SVP-16-093016	SVP-16	2:10	+0.02		0.0	1.9	17.8	Ø	
	~~SVP-16~~	~~2:40~~	~~+0.02~~		~~0.0~~	~~1.5~~	~~18.2~~	~~Ø~~	
	SVP-16	2:40	+0.03		0.0	1.9	17.8	Ø	

Appendix B

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Photographic Log

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Photo No. 1: Indoor Air Sampling in Cafe 2
Photo No. 2: Indoor Air Sampling in Mechanical/Electrical Shop 2
Photo No. 3: Indoor Air Sampling of Elevator Shaft 3
Photo No. 4: Sampling of a Stormwater Drain 3
Photo No. 5: Example of Soil Vapor Probe Setup 4
Photo No. 6: Example of Flux Chamber Setup 4

Photographic Log

Photo No. 1: Indoor Air Sampling in Cafe **Date:** 9/12/16 **Description:** Sampling of a utility electrical box in the café/lobby of the Hand's On Children's Museum.	

Photo No. 2: Indoor Air Sampling in Mechanical/Electrical Shop **Date:** 9/12/16 **Description:** Sampling of pipes and cracks in the slab of the Mechanical/Electrical Shop of the Hand's On Children's Museum.	

Photographic Log

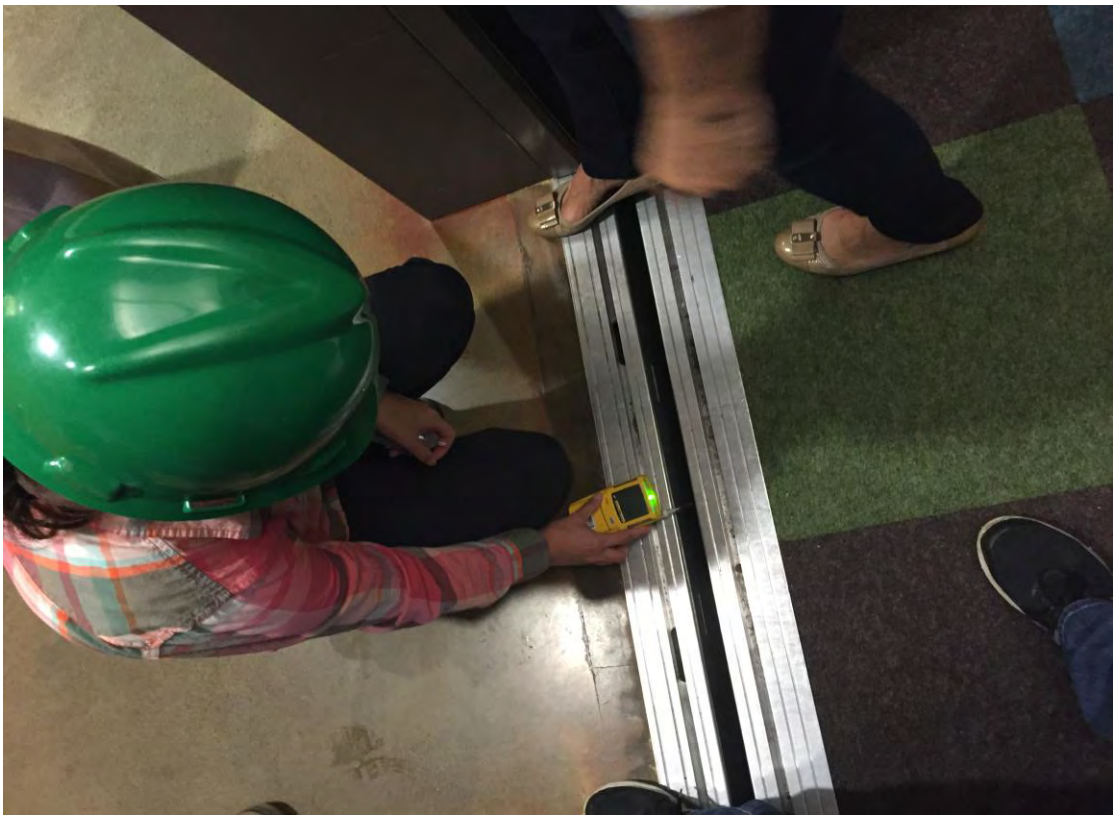
Photo No. 3: Indoor Air Sampling of Elevator Shaft **Date:** 9/12/16 **Description:** Sampling of the elevator shaft in the Hand's on Children's Museum. The tubing is lowered five feet into the shaft.	

Photo No. 4: Sampling of a Stormwater Drain **Date:** 9/12/16 **Description:** Multiple stormwater drains outside of the Hand's On Children's Museum were sampled. The wand and tubing were lowered into a hole in the manhole covers.	

Photographic Log

Photo No. 5: Example of Soil Vapor Probe Setup **Date:** 9/29/16 **Description:** An example of a soil vapor probe setup. The tubing is extended and threaded underground. The ground surface and portion of the tube aboveground are sealed with bentonite to ensure an airtight seal.	

Photo No. 6: Example of Flux Chamber Setup **Date:** 9/29/16 **Description:** An example of a flux chamber setup. The native soil was removed up to six inches above groundwater. The bucket was placed inside and then the native soil was replaced to provide an airtight seal. A hole was drilled into the top of the chamber and the tube was extended to approximately six inches above ground surface, then the hole was sealed with plumber's putty.	

Appendix C

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10/3/2016
Ms. Shella Swain
Pioneer Technologies Corporation
5205 Corporate Ctr Ct. SE Ste A

Lacey WA 98503

Project Name: East Bay Methane
Project #:
Workorder #: 1609693

Dear Ms. Shella Swain

The following report includes the data for the above referenced project for sample(s) received on 9/30/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1609693

Work Order Summary

CLIENT:	Ms. Shella Swain Pioneer Technologies Corporation 5205 Corporate Ctr Ct. SE Ste A Lacey, WA 98503	**BILL TO:**	Ms. Shella Swain Pioneer Technologies Corporation 5205 Corporate Ctr Ct. SE Ste A Lacey, WA 98503
PHONE:	360-570-1700	**P.O. #**	
FAX:	360-570-1777	**PROJECT #**	East Bay Methane
DATE RECEIVED:	09/30/2016	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/03/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SG-SVP-1-092816	Modified ASTM D-1946	3.5 "Hg	15.2 psi
02A	SG-SVP-3-092816	Modified ASTM D-1946	3.9 "Hg	15 psi
03A	SG-SVP-8-092816	Modified ASTM D-1946	4.3 "Hg	15.3 psi
04A(cancelled)	SG-SVP-10-092816	Modified ASTM D-1946		15 psi
05A	Lab Blank	Modified ASTM D-1946	NA	NA
06A	LCS	Modified ASTM D-1946	NA	NA

CERTIFIED BY:  DATE: 10/03/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
Pioneer Technologies Corporation
Workorder# 1609693

Four 1 Liter Summa Canister samples were received on September 30, 2016. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the EATL modifications.

Requirement	***ASTM D-1946***	***ATL Modifications***
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

Sample SG-SVP-10-092816 was cancelled on 09/30/16 per client's request.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SG-SVP-1-092816

Lab ID#: 1609693-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	7.9
Nitrogen	0.23	87
Methane	0.00023	1.8
Carbon Dioxide	0.023	3.5

Client Sample ID: SG-SVP-3-092816

Lab ID#: 1609693-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	2.8
Nitrogen	0.23	52
Methane	0.00023	26
Carbon Dioxide	0.023	19

Client Sample ID: SG-SVP-8-092816

Lab ID#: 1609693-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	3.4
Nitrogen	0.24	64
Methane	0.00024	26
Carbon Dioxide	0.024	6.3

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Client Sample ID: SG-SVP-1-092816

Lab ID#: 1609693-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100305**	**Date of Collection:**	**9/28/16 11:16:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**10/3/16 10:25 AM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	7.9
Nitrogen	0.23	87
Methane	0.00023	1.8
Carbon Dioxide	0.023	3.5

Container Type: 1 Liter Summa Canister

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Client Sample ID: SG-SVP-3-092816

Lab ID#: 1609693-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100306**	**Date of Collection: 9/28/16 12:52:00 PM**	
Dil. Factor:	**2.32**	**Date of Analysis: 10/3/16 10:50 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	2.8
Nitrogen	0.23	52
Methane	0.00023	26
Carbon Dioxide	0.023	19

Container Type: 1 Liter Summa Canister

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Client Sample ID: SG-SVP-8-092816

Lab ID#: 1609693-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100307**	**Date of Collection: 9/29/16 10:45:00 AM**	
Dil. Factor:	**2.38**	**Date of Analysis: 10/3/16 11:27 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	3.4
Nitrogen	0.24	64
Methane	0.00024	26
Carbon Dioxide	0.024	6.3

Container Type: 1 Liter Summa Canister

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Client Sample ID: Lab Blank

Lab ID#: 1609693-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/3/16 10:01 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: LCS

Lab ID#: 1609693-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/3/16 09:06 AM**	

Compound	%Recovery	Method Limits
Oxygen	98	85-115
Nitrogen	95	85-115
Methane	100	85-115
Carbon Dioxide	103	85-115

Container Type: NA - Not Applicable

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Shella Swain

Collected by: (Print and Sign) Stacy Munson

Company Pioneer Technologies Corporation Email SSwain@inspioneer.com

Address 5205 Corporate Ct. Ct. SE. Ste. A City Olympia State WA Zip 98503

Phone 360-570-1700 Fax

Project Info:
P.O. #
Project #
Project Name East Bay Methane

Turn Around Time:
☐ Normal
☒ Rush 24-48 hrs
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	SG-SVP-1-092816	1L2782	9/28/16	11:16am	ASTM D1946	30+	5.0		
02A	SG-SVP-3-092816	40858	9/28/16	12:52pm	ASTM D1946	30+	5.0		
03A	SG-SVP-8-092916	1L2776	9/29/16	10:45am	ASTM D1946	30+	5.0		
04A	SG-SVP-10-092916	1L1682	9/29/16	3:79pm	ASTM D1946	30+	5.0		

Relinquished by: (signature) Date/Time 9/29/16 4:00p
Received by: (signature) Date/Time 9/30/16 10:50

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
- Methane, Oxygen, Carbon dioxide, and Nitrogen only by ASTM D1946

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		N/A	good	Yes No (None)	1609693

Form 1293 rev.11

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Appendix O

Order of Magnitude Cost Estimates

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Table O-1: Comparison of Estimated Net Present Value Costs for Interim Action Alternatives

Cost Type	Institutional Controls and Engineering Controls (Alternative 1)	Targeted Soil Removal, Cover, and Controls (Alternative 2)	Total Soil Removal (Alternative 3)
Direct Capital Costs	$110,000	$800,000	$29,950,000
Indirect Capital Costs	$20,000	$160,000	$1,200,000
O&M Costs	$6,149	$6,149	$0
Periodic Costs	$0	$48,102	$0
Total Net Present Value [(1)]	**$140,000**	**$1,010,000**	**$31,150,000**

Notes:

O&M: operation and maintenance

See Tables O-3, O-5, and O-7 for the net present value costs presented in this table. See Tables O-2, O-4, and O-6 for the basis for Tables O-3, O-5, and O-7, respectively.

This is an order of magnitude cost estimate (i.e., +/- 50%). Since this estimate is based on a generalized description of the alternative and a variety of simplifying assumptions, actual implementation costs would likely vary as the remedial design and associated cost estimate were refined. Furthermore, since PIONEER has no control over the cost of labor, materials, and equipment or the nature of a particular competitive bidding process at the time the work would be performed, this estimate represents PIONEER's professional judgment based on experience with similar work. O&M costs are for an assumed duration of 30 years. No contingency is included in this estimate.

[(1)] Rounded to the nearest $10,000.

Table O-2: Order of Magnitude Costs for Institutional Controls and Engineering Controls (Alternative 1)

Cost Type	Item Description [1]	Qty	Unit	Basis for Quantity Assumption	Unit Price	Basis for Unit Price Assumption	Cost
Direct Capital Costs	Contractor mobilization	5	%	Assumed percentage of direct capital costs.	N/A	N/A	$4,650
	Miscellaneous implementation plans and permits	1	LS	Qty assumed to simplify estimate.	$25,000	Assumed based on actual Site costs for similar items during past Site IAs, scaled to the anticipated level of effort associated with the alternative.	$25,000
	Decommission MWs	18	Each	18 remaining MWs.	$1,000		$18,000
	Implement ECs during construction activities	1	LS	Qty assumed to simplify estimate.	$50,000		$50,000
	Sales tax	8.8	%	Current sales tax for Olympia.	N/A	N/A	$8,593
						Subtotal [2]	$110,000
Indirect Capital Costs	Remedial design and contracting support	3	%	Assumed percentage of direct capital costs based on anticipated level of effort.	N/A	N/A	$3,300
	Construction oversight	5	%		N/A	N/A	$5,500
	Sampling and analyses costs	0	%		N/A	N/A	$0
	Completion report	3	%		N/A	N/A	$3,300
	Port environmental staff	3	%		N/A	N/A	$3,300
	Ecology oversight and permit fees	3	%		N/A	N/A	$3,300
						Subtotal [2]	$20,000
O&M Costs	Inspections of cap/cover and ICs (and associated documentation)	30	Year	Assumed annual inspections for 30 year period.	$400	Assumed 4 hours/year at $100/hour for Port to conduct and document inspection.	$12,000
Periodic Costs	None	N/A	N/A	N/A	N/A	N/A	$0
						Total [2]	**$140,000**

Notes:

LS: lump sum, N/A: not applicable, O&M: operation and maintenance, Qty: quantity

This is an order of magnitude cost estimate (i.e., +/- 50%). Since this estimate is based on a generalized description of the alternative and a variety of simplifying assumptions, actual implementation costs would likely vary as the remedial design and associated cost estimate were refined. Furthermore, since PIONEER has no control over the cost of labor, materials, and equipment or the nature of a particular competitive bidding process at the time the work would be performed, this estimate represents PIONEER's professional judgment based on experience with similar work. O&M costs are for an assumed duration of 30 years. No contingency is included in this estimate.

[1] Costs for (1) excavating soil for redevelopment purposes, (2) on-site reuse of soil, (3) disposing of geotechnically unsuitable soil, and (4) constructing buildings, pavement, hardscapes, and softscapes are not included in this estimate since they are redevelopment costs.

[2] Rounded to the nearest $10,000.

Table O-3: Net Present Value for Institutional Controls and Engineering Controls (Alternative 1)

Year	Cost Type	Total Cost	Discount Factor at Assumed 5% Discount Rate	Net Present Value
0	Capital Costs	$110,000	1.00	$110,000
0	Indirect Capital Costs	$20,000	1.00	$20,000
1	O&M Costs	$400	0.95	$381
2	O&M Costs	$400	0.91	$363
3	O&M Costs	$400	0.86	$346
4	O&M Costs	$400	0.82	$329
5	O&M Costs	$400	0.78	$313
6	O&M Costs	$400	0.75	$298
7	O&M Costs	$400	0.71	$284
8	O&M Costs	$400	0.68	$271
9	O&M Costs	$400	0.64	$258
10	O&M Costs	$400	0.61	$246
11	O&M Costs	$400	0.58	$234
12	O&M Costs	$400	0.56	$223
13	O&M Costs	$400	0.53	$212
14	O&M Costs	$400	0.51	$202
15	O&M Costs	$400	0.48	$192
16	O&M Costs	$400	0.46	$183
17	O&M Costs	$400	0.44	$175
18	O&M Costs	$400	0.42	$166
19	O&M Costs	$400	0.40	$158
20	O&M Costs	$400	0.38	$151
21	O&M Costs	$400	0.36	$144
22	O&M Costs	$400	0.34	$137
23	O&M Costs	$400	0.33	$130
24	O&M Costs	$400	0.31	$124
25	O&M Costs	$400	0.30	$118
26	O&M Costs	$400	0.28	$112
27	O&M Costs	$400	0.27	$107
28	O&M Costs	$400	0.26	$102
29	O&M Costs	$400	0.24	$97
30	O&M Costs	$400	0.23	$93
N/A	Periodic Costs	$0	N/A	$0
			Total Net Present Value of Alternative [(1)]	**$140,000**

Notes:

See Table O-2 for cost estimate details for this alternative. The base year for the estimate was assumed to be 2015.

[(1)] Rounded to nearest $10,000.

Table O-4: Order of Magnitude Costs for Targeted Soil Removal, Cover, and Controls (Alternative 2)

Cost Type	Item Description [1]	Qty	Unit	Basis for Quantity Assumption	Unit Price	Basis for Unit Price Assumption	Cost
Direct Capital Costs	Contractor mobilization	5	%	Assumed percentage of direct capital costs.	N/A	N/A	$34,900
	Miscellaneous implementation plans and permits	1	LS	Qty assumed to simplify estimate.	$25,000	Assumed based on actual Site costs for similar items during past Site IAs, scaled to the anticipated level of effort associated with the alternative. Geotextile installation costs based on actual costs for similar items at other sites.	$25,000
	Decommission MWs	18	Each	18 remaining MWs.	$1,000		$18,000
	Excavation dewatering and disposal	1	LS	Qty assumed to simplify estimate.	$15,000		$15,000
	Excavate RL soil exceedances	94	Ton	Assumed (1) 100 square foot excavations for RL exceedances at DP04, MW24S, and DP06/SVP2-SO, (2) 5 foot excavation thicknesses, and (3) soil density of 1.7 ton/CY.	$10		$940
	Haul and off-site disposal of RL exceedances	94	Ton		$66		$6,204
	Gravel borrow, haul, and backfill RL excavations	94	Ton		$25		$2,350
	Site preparation and excavation activities prior to	1	LS	Qty assumed to simplify estimate.	$50,000		$50,000
	Install geotextile under soil cover	261,000	SF	Assumed 6 acres of remaining land to receive soil cover. Qty rounded to nearest thousand.	$0.50		$130,500
	Gravel borrow, haul, and backfill for soil cover	16,000	Ton	Assumed (1) 6 acres of remaining land to receive soil cover, (2) cover thickness of 1 foot, and (3) soil density of 1.7 ton/CY. Qty rounded to nearest thousand.	$25		$400,000
	Miscellaneous cleanup requirements (e.g., ECs)	1	LS	Qty assumed to simplify estimate.	$50,000		$50,000
	Sales tax	8.8	%	Current sales tax for Olympia.	N/A	N/A	$64,495
						Subtotal [2]	$800,000
Indirect Capital Costs	Remedial design and contracting support	3	%	Assumed percentage of direct capital costs based on anticipated level of effort.	N/A	N/A	$24,000
	Construction oversight	5	%		N/A	N/A	$40,000
	Sampling and analyses costs	3	%		N/A	N/A	$24,000
	Completion report	3	%		N/A	N/A	$24,000
	Port environmental staff	3	%		N/A	N/A	$24,000
	Ecology oversight and permit fees	3	%		N/A	N/A	$24,000
						Subtotal [2]	$160,000
O&M Costs	Inspections of cap/cover and ICs (and associated documentation)	30	Year	Assumed annual inspections for 30 year period.	$400	Assumed 4 hours/year at $100/hour for Port to conduct and document inspection.	$12,000
Periodic Costs	Soil cover maintenance	1	LS	Qty assumed to simplify estimate.	$100,000	Assumed one $100,000 repair project would be necessary within 30 year period due to earthquake, flood, etc.	$100,000
						Total [2]	**$1,070,000**

Notes:

CY: cubic yard, LS: lump sum, N/A: not applicable, O&M: operation and maintenance, Qty: quantity, SF: square feet

This is an order of magnitude cost estimate (i.e., +/- 50%). Since this estimate is based on a generalized description of the alternative and a variety of simplifying assumptions, actual implementation costs would likely vary as the remedial design and associated cost estimate were refined. Furthermore, since PIONEER has no control over the cost of labor, materials, and equipment or the nature of a particular competitive bidding process at the time the work would be performed, this estimate represents PIONEER's professional judgment based on experience with similar work. O&M costs are for an assumed duration of 30 years. No contingency is included in this estimate.

[1] Costs for (1) excavating soil for redevelopment purposes, (2) on-site reuse of soil, (3) disposing of geotechnically unsuitable soil, and (4) constructing buildings, pavement, hardscapes, and softscapes are not included in this estimate since they are redevelopment costs.

[2] Rounded to the nearest $10,000.

Table O-5: Net Present Value for Targeted Soil Removal, Cover, and Controls (Alternative 2)

Year	Cost Type	Total Cost	Discount Factor at Assumed 5% Discount Rate	Net Present Value
0	Capital Costs	$800,000	1.00	$800,000
0	Indirect Capital Costs	$160,000	1.00	$160,000
1	O&M Costs	$400	0.95	$381
2	O&M Costs	$400	0.91	$363
3	O&M Costs	$400	0.86	$346
4	O&M Costs	$400	0.82	$329
5	O&M Costs	$400	0.78	$313
6	O&M Costs	$400	0.75	$298
7	O&M Costs	$400	0.71	$284
8	O&M Costs	$400	0.68	$271
9	O&M Costs	$400	0.64	$258
10	O&M Costs	$400	0.61	$246
11	O&M Costs	$400	0.58	$234
12	O&M Costs	$400	0.56	$223
13	O&M Costs	$400	0.53	$212
14	O&M Costs	$400	0.51	$202
15	O&M Costs	$400	0.48	$192
16	O&M Costs	$400	0.46	$183
17	O&M Costs	$400	0.44	$175
18	O&M Costs	$400	0.42	$166
19	O&M Costs	$400	0.40	$158
20	O&M Costs	$400	0.38	$151
21	O&M Costs	$400	0.36	$144
22	O&M Costs	$400	0.34	$137
23	O&M Costs	$400	0.33	$130
24	O&M Costs	$400	0.31	$124
25	O&M Costs	$400	0.30	$118
26	O&M Costs	$400	0.28	$112
27	O&M Costs	$400	0.27	$107
28	O&M Costs	$400	0.26	$102
29	O&M Costs	$400	0.24	$97
30	O&M Costs	$400	0.23	$93
15	Periodic Costs [1]	$100,000	0.48	$48,102
			Total Net Present Value of Alternative [2]	**$1,010,000**

Notes:

See Table O-4 for cost estimate details for this alternative. The base year for the estimate was assumed to be 2015.

[1] Soil cap/cover repair assumed to occur in Year 15.

[2] Rounded to nearest $10,000.

Table O-6: Order of Magnitude Costs for Total Soil Removal (Alternative 3)

Cost Type	Item Description [1]	Qty	Unit	Basis for Quantity Assumption	Unit Price	Basis for Unit Price Assumption	Cost
Direct Capital Costs	Contractor mobilization	5	%	Assumed percentage of direct capital costs.	N/A	N/A	$1,310,750
	Miscellaneous implementation plans and permits	1	LS	Qty assumed to simplify estimate.	$50,000	Assumed based on actual Site costs for similar items during past Site IAs, scaled to the anticipated level of effort associated with the alternative.	$50,000
	Decommission MWs	18	Each	18 remaining MWs.	$1,000		$18,000
	Excavation dewatering and disposal	1	LS	Qty assumed to simplify estimate.	$1,000,000		$1,000,000
	Excavate CL soil exceedances	247,000	Ton	Assumed (1) 6 acres of remaining land to be excavated, (2) soil from ground surface to 15 feet bgs excavated and disposed of off-site, and (3) soil density of 1.7 ton/CY.	$10		$2,470,000
	Haul and off-site disposal of CL exceedances	247,000	Ton		$66		$16,302,000
	Gravel borrow, haul, and backfill CL excavations	247,000	Ton		$25		$6,175,000
	Miscellaneous cleanup requirements (e.g., ECs)	1	LS	Qty assumed to simplify estimate.	$200,000		$200,000
	Sales tax	8.8	%	Current sales tax for Olympia.	N/A	N/A	$2,422,266
						Subtotal [2]	$29,950,000
Indirect Capital Costs	Remedial design and contracting support	1	%	Assumed percentage of direct capital costs based on anticipated level of effort.	N/A	N/A	$299,500
	Construction oversight	1	%		N/A	N/A	$299,500
	Sampling and analyses costs	1	%		N/A	N/A	$299,500
	Completion report	0.5	%		N/A	N/A	$149,750
	Port environmental staff	0.25	%		N/A	N/A	$74,875
	Ecology oversight and permit fees	0.25	%		N/A	N/A	$74,875
						Subtotal [2]	$1,200,000
O&M Costs	None	N/A	N/A	N/A	N/A	N/A	$0
Periodic Costs	None	N/A	N/A	N/A	N/A	N/A	$0
						Total [2]	**$31,150,000**

Notes:

CY: cubic yard, LS: lump sum, N/A: not applicable, O&M: operation and maintenance, Qty: quantity, SF: square feet

This is an order of magnitude cost estimate (i.e., +/- 50%). Since this estimate is based on a generalized description of the alternative and a variety of simplifying assumptions, actual implementation costs would likely vary as the remedial design and associated cost estimate were refined. Furthermore, since PIONEER has no control over the cost of labor, materials, and equipment or the nature of a particular competitive bidding process at the time the work would be performed, this estimate represents PIONEER's professional judgment based on experience with similar work. O&M costs are for an assumed duration of 30 years. No contingency is included in this estimate.

[1] Costs for (1) excavating soil for redevelopment purposes, and (2) constructing buildings, pavement, hardscapes, and softscapes are not included in this estimate since they are redevelopment costs.

[2] Rounded to the nearest $10,000.

Table O-7: Net Present Value for Total Soil Removal (Alternative 3)

Year	Cost Type	Total Cost	Discount Factor at Assumed 5% Discount Rate	Net Present Value
0	Capital Costs	$29,950,000	1.00	$29,950,000
0	Indirect Capital Costs	$1,200,000	1.00	$1,200,000
N/A	O&M Costs	$0	N/A	$0
N/A	Periodic Costs	$0	N/A	$0
			Total Net Present Value of Alternative [(1)]	**$31,150,000**

Notes:

See Table O-6 for cost estimate details for this alternative. The base year for the estimate was assumed to be 2015.

[(1)] Rounded to nearest $10,000.

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