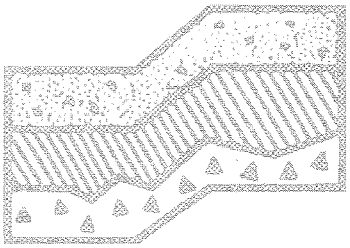
Phase II Environmental Site Assessment

5221 Ballard Avenue NW
Seattle, Washington

Project No. T-6552



Terra Associates, Inc.

Prepared for:

Halco Properties, LLC
Seattle, Washington

July 29, 2011

TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

July 29, 2011
Project No. T-6552

HALCO PROPERTIES, LLC
Janice A. Cowman, Manager
7428 Heather Avenue SW
Snoqualmie, Washington 98065

Subject: Phase II Environmental Site Assessment
5221 Ballard Avenue NW
Seattle, Washington

Dear Ms. Cowman:

As requested, we have completed our Phase II Environmental Site Assessment (ESA) of the subject site. The purpose of our work was to obtain current environmental samples from the UST cluster at 5221 Ballard Avenue North and evaluate the process for separating 5221 Ballard Avenue NW from the southern parcels of the former C&C Paint company complex.

The results of our study confirm previous testing. There are soils that are elevated with gasoline range hydrocarbons relative to both the look up MTCA Method A cleanup values and site specific cleanup values.

The attached report discusses our site observations, the results of analytical testing, and our conclusions in more detail.

We trust the information presented is sufficient for your current needs. If you have any questions or require additional information, please call.

Respectfully submitted,
TERRA ASSOCIATES, INC.

Charles R. Lie, L.H.G.
Project Manager

cc: Mr. Livingston Wernecke, Betts, Patterson & Mines, P.S.

12525 Willows Road, Suite 101, Kirkland, Washington 98034
Phone (425) 821-7777 • Fax (425) 821-4334

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Phase II Environmental Assessment
5221 Ballard Avenue NW
Seattle, Washington

1.0 EXECUTIVE SUMMARY

The following report presents the results of a Phase II Environmental Site Assessment (ESA) we performed at the subject site. We understand that you are in the process of marketing the property. The property is part of a larger complex that was formerly known as C&C Paints. This report includes groundwater information and a summary of past UST locations for three adjacent parcels that were part of the former C&C Paints complex. There have been a series of reports prepared that address UST closures, as well as soil and groundwater sampling. In most cases, the reports refer to the site as 5221 Ballard Avenue NW (5221). Most of the USTs and all of the prior groundwater testing were done on the lower parcels that front on Shilshole Avenue NW (Shilshole Parcels).

There were three USTs for the storage of paint thinner at 5221. Permits show that the USTs at 5221 were installed in 1962 and 1964. All three USTs were closed in place during the 1990s. The results of our study show that there are impacts to soils adjacent to the former paint solvent USTs at 5221. The measured levels of petroleum hydrocarbons exceed current cleanup levels. Expanded testing was done to establish site specific cleanup levels using standard Washington State Department of Ecology methodology. The results of the analysis indicate that the soils at the center UST are above the adjusted cleanup levels. The results of groundwater testing show that the current levels at 5221 are below the MTCA cleanup levels. One monitoring well on the Shilshole parcels had a level of total petroleum hydrocarbons above the cleanup level.

The results of our study are discussed in more detail later in this report.

2.0 SCOPE OF WORK

Our scope of work for this supplemental report consisted of the following:

- Review of previous reports prepared by others. The list of reports is presented in Appendix A.
- Measuring static water level in the existing wellfield on and adjacent to the Shilshole Parcels.
- Advancing four soil test borings on and adjacent to the site.
- Construction of monitoring wells in each of the borings.
- Hand excavating 3 test pits in the basement at 5221.
- Construction of dedicated vapor sampling ports in each of the test pits.
- Sampling soil from each of the test borings and test pits.
- Field screening of soil samples from the test borings.

- Sampling groundwater from three of the existing Shilshole Parcels wellfield.
- Sampling groundwater from each of the new monitoring wells constructed for this study.
- Vapor sampling from two of the test pits.
- Subcontracting analytical testing of selected vapor, soil, and groundwater samples.
- Appropriate analysis of the data.
- Preparation of this report.

3.0 SITE CONDITIONS

3.1 Surface

The site is located at 5221 Ballard Avenue NW in Seattle, Washington. The site location is shown on Figures 1 and 2. The site layout is shown on Figures 3 and 4. In general, the 5221 site consists of a two-story building with a basement level. There is a narrow parking lot along the northwest elevation of the building. The overall former C&C Paints site includes three additional parcels located along the southeast side of Shilshole Avenue NW immediately southwest of the site. The Shilshole parcels are all developed with one-story warehouse buildings. The southeastern Shilshole parcel includes a parking/open storage area.

The former UST locations on the Shilshole parcels are shown on Figure 4. The locations of the three paint thinner USTs on the 5221 site are shown on Figure 4.

The elevation of the parking lot at 5221 is approximately Elev. 36. The floor elevation in the basement at 5221 is approximately Elev. 28. The basement elevation corresponds with the general ground elevation along Shilshole Avenue NW.

3.2 Subsurface

On May 6, 2011 and June 13, 2011, we observed 4 explorations at the site. The purpose of our explorations was to obtain environmental samples for site characterization of the conditions at 5221. The borings are labeled as MW-101, MW-102, MW-103, and MW-104. Locations of the explorations are shown on Figure 4.

In general, native subsurface conditions beneath the site consist of silty sands that are dense till soils. Overlying the dense till soil are fills. The fills extend to depths of 9 to 11 feet in the parking lot. These fills represent soils that were reworked incidental to the construction of the existing building and adjacent building as well as UST backfill soils. All soils encountered in the borings are granular soils.

Logs of the individual explorations conducted for this study are presented in Appendix B of this report.

3.3 Groundwater

Groundwater seepage was encountered in the test borings. The depth to groundwater was about six to ten feet during exploration. This groundwater represents a near-surface perched groundwater condition.

To allow a detailed determination of groundwater flow beneath the site, all of the existing monitoring wells were surveyed by Jim Hart and Associates. The survey is presented in Appendix C. Measurements show that groundwater gradients are towards the south-southwest. The groundwater levels measured in June of 2011 are schematically shown on Figure 5. Table 1 summarizes the static water levels measured during 2011. The groundwater flow gradient is consistent with prior investigations by others.

Table 1
Groundwater Measurements

Monitoring Well	Surface Elev	MP Elev.	4/29/11		5/6/11		5/10/2011		6/29/2011	
			Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.
MW-1	26.44	26.11	4.6	21.51					4.78	21.33
MW-2	25.98	25.98							5.75	20.23
MW-3	26.05	26.05								
MW-4	26.21	25.90	4.89	21.01					5.26	20.64
MW-5	26.32	26.32	4.92	21.40						
MW-6	26.8	26.34	4.63	21.71					4.71	21.63
MW-7	26.89	26.60	3.38	23.22					3.09	23.51
MW-8	27.97	27.51	3.52	23.99					3.72	23.79
MW-9	30.24	29.99	4.77	25.22					4.99	25.00
MW-10	26.48	26.16	5.8	20.36					6	20.16
MW-101	36.77	36.37			10.3	26.07	10.45	25.92	10.78	25.59
MW-102	36.35	35.93			10.25	25.68	9.81	26.12	10.08	25.85
MW-103	36.13	35.79			10.25	25.54	9.38	26.41	9.74	26.05
MW-104	28.23	27.98							2.76	25.22

MP is the north side of the top of the PVC casing within the surface monument.
Ground surface elevations are from a survey by Jim Hart and Associates.

3.4 Historic Site Use

As documented in the previous reports by others, the upper floor at 5221 was used as office space. The street level and basement levels were used as warehouse space. Paint production occurred on the parcels that front on Shilshole Avenue NW. We observed that the pipes from the USTs at 5221 led towards the south into the existing building immediately south of the 5221 parcel.

The northern USTs were installed in 1962 and were 5,000- and 6,000-gallon capacity USTs. The southern UST was installed in 1964 and had a capacity of 7,000 gallons.

4.0 FIELD SAMPLING

In the parking lot at 5221, the borings were placed as close to the UST locations as was possible. Sampling was performed to assist in determining the vertical limits of impacted soils. Sampling in Borings B-1 through B-3 was done using standard penetration test samplers. Sampling in Boring B-4 was done by taking grab samples from the auger. Sampling in the hand excavated test pits was done by taking grab samples from the post hole digger used to excavate the test pits.

Standard sampling procedures were used in the field. The procedures are discussed in Appendix B and E. Appendix B contains a summary of past and current groundwater parameter measurements.

5.0 LABORATORY TESTING

5.1 General

The constituents of concern (COCs) are paint thinners, petroleum hydrocarbons including Diesel No. 2 (Heating oil), and volatile organic compounds. The COCs are based on the past use of the land and previous sampling by others documented in the reports listed in Appendix A. Selected soil, groundwater, and vapor samples were analyzed for the following analytes:

- Total petroleum hydrocarbons (TPH) in the gasoline through heavy oil range
- Volatile organic compounds

The test results are summarized in the following sections of this report.

The laboratory reports for testing of soils and groundwater done for this study are attached as Appendix D. The results of testing of vapor samples are attached in Appendix E.

5.2 Soils

The results of analytical testing for total petroleum hydrocarbons (TPH) on soil samples from the borings are summarized in Table 1. The locations of the explorations are shown on Figure 4.

Table 2
Petroleum Hydrocarbons
Soil

Well Number	Date	Depth (feet)	TPH Gasoline Range
B-101	5/6/11	9.0	82
(MW-101)		14	4.8U

Table 2
Petroleum Hydrocarbons
Soil

Well Number	Date	Depth (feet)	TPH Gasoline Range
B-102 (MW-102)	5/6/11	10	**3,900**
		15	5.7U
B-103 (MW-103)	5/6/11	10	**1,400**
		15	5.1U
B-104 (MW-104)	6/13/11	2.5	15
		5	10
VP-1	6/13/11	1.5	5.8U
VP-2	6/13/11	1.5	140
		3.5	9.7
VP-3	6/13/11	1.5	5.5U
MTCA Method A			100

Table 3
Volatile Organic Compounds
Soil

Well Number	Depth	Benzene	Ethyl Benzene	Toluene
B-101 (MW-101)	9	0.0012U	0.0012U	0.006U
	14	0.00083U	0.00083U	0.0042
B-102 (MW-102)	10	**0.058U**	0.058U	0.29U
	15	0.00095U	0.00095U	0.0047
B-103 (MW-103)	10	**0.056U**	0.056U	0.28U
	15	0.00092U	0.00092U	0.0046
B-104 (MW-104)	2.5	0.0013U	0.0013U	0.0065
MTCA		0.03	6.0	7.0

B-03-10' - 0.2612 mg/kg cPAHs
1400 - TPHg

B-102-10' - 2.251 f
3900 TPHg

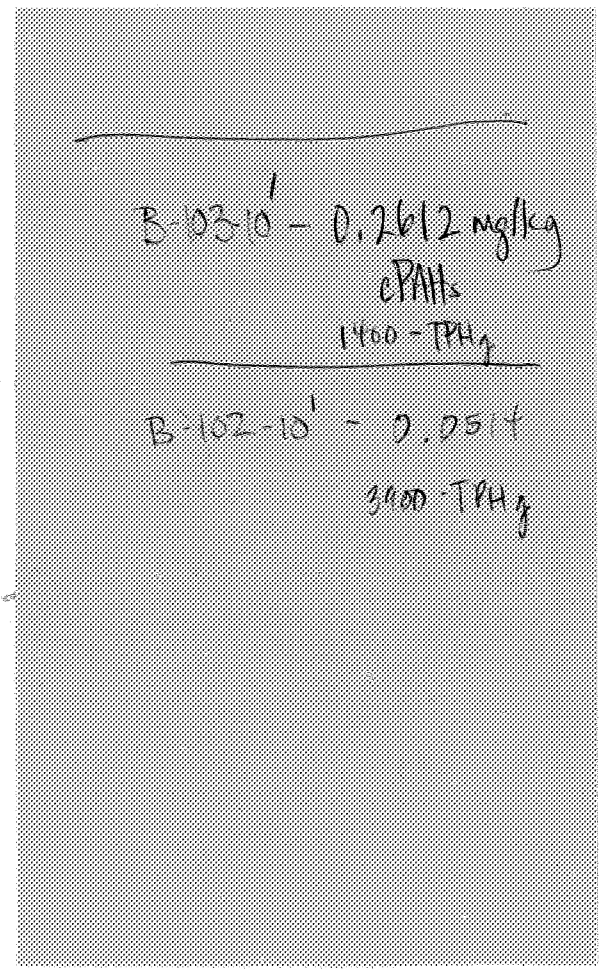

B-103-10' - 0.2612 mg/kg
cPAHs
1400 - TPHg
B-102-10' - 2.251+
3400 - TPHg

Table 2
Petroleum Hydrocarbons
Soil

Well Number	Date	Depth (feet)	TPH Gasoline Range
B-102 (MW-102)	5/6/11	10	**3,900**
		15	5.7U
B-103 (MW-103)	5/6/11	10	**1,400**
		15	5.1U
B-104 (MW-104)	6/13/11	2.5	15
		5	10
VP-1	6/13/11	1.5	5.8U
VP-2	6/13/11	1.5	140
		3.5	9.7
VP-3	6/13/11	1.5	5.5U
MTCA Method A			100

Table 3
Volatile Organic Compounds
Soil

Well Number	Depth	Benzene	Ethyl Benzene	Toluene	m,p Xylene	o-Xylene
B-101 (MW-101)	9	0.0012U	0.0012U	0.006U	0.0024U	0.0012U
	14	0.00083U	0.00083U	0.0042U	0.0017U	0.00083U
B-102 (MW-102)	10	**0.058U**	0.058U	0.29U	0.12U	0.058U
	15	0.00095U	0.00095U	0.0047U	0.0019U	0.00095U
B-103 (MW-103)	10	**0.056U**	0.056U	0.28U	0.11U	0.056U
	15	0.00092U	0.00092U	0.0046U	0.0018U	0.00092U
B-104 (MW-104)	2.5	0.0013U	0.0013U	0.0065U	0.0026U	0.0013U
MTCA		0.03	6.0	7.0	9.0	

Well Number	Depth	Acetone	isopropyl benzene	n-Propylbenzene	Sec-Butyl benzene
B-101	9	0.022	0.0035	0.0049	0.0012U
(MW-101)	14	0.013	0.00083U	0.00083U	0.00083U
B-102	10	0.29U	0.058U	0.058U	0.058U
(MW-102)	15	0.0084	0.00095U	0.00095U	0.00095U
B-103	10	0.28U	0.056U	0.056U	0.056U
(MW-103)	15	0.0082	0.0092U	0.0092U	0.0092U
B-104 (MW-104)	2.5	0.037	0.0013U	0.0013U	0.0013U
VP-2	1.5	0.0056	0.0034	0.0040	0.0048
MTCA		72,000	np	8,000	np

Notes for Tables 1 and 2:

All levels are reported in parts per million (ppm).
Modifier of U indicates that the compound was not present at the numerical PQL value.
PQL varies with the moisture content of the sample.
PQL in bold for benzene exceeds Method A cleanup value, PQL elevated due to elevated.
TPH in the individual samples.

5.3 Groundwater

The following tables are cumulative and show the results reported by prior testing by others. All testing prior to 2011 was done by other firms.

Table 3
Total Petroleum Hydrocarbons
Groundwater

Well Number	Date	TPH Gas Range	TPH Diesel Range	TPH Oil Range
MW-1	11/27/95	24,000	NT	NT
	6/20/96	210	NT	NT
	9/11/96	190	NT	NT
	12/10/96	190	NT	NT
	4/3/97	190	NT	NT
	1/31/98	310	NT	NT

Table 3 (continued)
Total Petroleum Hydrocarbons
Groundwater

Well Number	Date	TPH Gas Range	TPH Diesel Range	TPH Oil Range
	10/10/00	410	1.1	0.95
	9/25/02	34	0.91	0.5U
	11/14/03	18	11	
	6/21/06	NR	0.5U	0.5U
	12/15/06	ND	ND	ND
	1/18/07	ND	ND	ND
	6/12/07	5.8	ND	ND
	10/22/07	2.4	NR	ND
	3/19/08	2.7	ND	ND
	6/20/08	0.5U	NT	NT
	12/30/08	312	NT	NT
	6/2009	8.7	NT	NT
	10/2009	11.3	NT	NT
	2/2010	10.0	NT	NT
	7/27/10	1.2	0.5U	0.5U
	4/29/11	1.1	0.3U	0.41U
MW-2	11/27/95	ND	NT	NT
	6/20/96	1.1	NT	NT
	9/11/96	0.9	NT	NT
	12/10/96	0.9	NT	NT
	4/3/97	0.1U	NT	NT
	1/31/98	ND	NT	NT
	10/10/00	0.13	NT	NT
	9/25/02	0.5U	NT	NT
	11/14/03	0.25U	NT	NT
	6/21/06	0.25U	0.5U	X
	12/15/06	ND	ND	ND
	1/18/07	ND	ND	NR
	6/12/07	ND	ND	NR
	10/22/07	ND	NR	NR
	3/19/08	ND	ND	ND
	6/20/08	0.05U	NT	NT
	12/30/08	ND	NT	NT
	7/27/10	0.2U	0.47	1.2

Table 3 (continued)
Total Petroleum Hydrocarbons
Groundwater

Well Number	Date	TPH Gas Range	TPH Diesel Range	TPH Oil Range
MW-3	11/27/95	ND	NT	NT
	1/31/98	ND	NT	NT
	10/10/00	ND	NT	NT
	9/25/02	0.05U	NT	NT
	11/14/03	0.05U	NT	NT
	6/26/06	0.25U	0.5U	0.5U
	12/15/06	ND	0.65	ND
	1/18/07	ND	ND	NR
	6/12/07	ND	ND	ND
	10/22/07	ND	ND	ND
	3/19/08	ND	ND	ND
	6/20/08	0.052	NT	NT
	12/30/08	ND	NT	NT
	7/27/10	0.2U	0.5U	0.5U
MW-4	11/27/95	78	NT	NT
	1/31/98	14	NT	NT
	10/10/00	0.68	NT	NT
	9/25/02	0.11	NT	NT
	11/14/03	0.05U	NT	NT
	6/21/06	0.25U	0.5U	0.5U
	12/15/06	ND	ND	ND
	1/18/07	ND	ND	ND
	6/12/07	0.11	ND	ND
	10/22/07	ND	NR	ND
	3/19/08	ND	ND	ND
	6/20/08	1.57	NT	NT
	12/30/08	ND	NT	NT
	7/27/10	0.2U	0.5U	0.5U
MW-5	11/27/95	28	NT	NT
	1/31/98	1.1	NT	NT
	10/10/00	0.2	NT	NT
	9/25/02	0.25U	NT	NT
	11/14/03	0.05U	NT	NT
	12/15/06	ND	ND	ND

Table 3 (continued)
Total Petroleum Hydrocarbons
Groundwater

Well Number	Date	TPH Gas Range	TPH Diesel Range	TPH Oil Range
	1/18/07	ND	ND	ND
	6/12/07	ND	ND	ND
	10/22/07	ND	NR	NR
	3/19/08	ND	ND	ND
	6/20/08	0.05U	NT	NT
	12/30/08	ND	NT	NT
	7/27/10	0.2U	0.5U	0.5U
MW-6	1/29/96	0.68	NT	NT
	10/10/00	0.84	NT	NT
	9/25/02	0.25U	NT	NT
	11/14/03	0.05U	NT	NT
	6/26/06	0.25U	0.5U	0.5U
	12/15/06	ND	ND	ND
	1/18/07	0.29	ND	ND
	6/12/07	0.32	NR	ND
	10/22/07	ND	NR	NR
	3/19/08	ND	ND	ND
	6/20/08	0.147	NT	NT
	12/30/08	0.12	NT	NT
	7/27/10	0.11	0.5U	0.5U
	4/28/11	0.16	0.26U	0.41U
MW-7	1/29/96	61	NT	NT
	6/20/96	16	NT	NT
	9/11/96	9.0	NT	NT
	12/10/96	15	NT	NT
	4/3/97	17	NT	NT
	1/31/98	31	NT	NT
	10/10/00	4.3	NT	NT
	9/25/02	0.89	NT	NT
	11/14/03	0.72	NT	NT
	6/21/06	0.25U	0.5U	0.5U
	1/18/07	0.077	ND	ND
	6/12/07	ND	ND	ND
	10/22/07	2.4	NR	ND

Table 3 (continued)
Total Petroleum Hydrocarbons
Groundwater

Well Number	Date	TPH Gas Range	TPH Diesel Range	TPH Oil Range
	3/19/08	0.3	ND	ND
	6/20/08	0.13	NT	NT
	12/30/08	ND	NT	NT
	7/27/10	0.2U	0.5U	0.5U
	4/28/11	0.1U	0.26U	0.41U
MW-8	1/29/96	ND	NT	NT
	6/20/96	0.1U	NT	NT
	9/11/96	0.1U	NT	NT
	12/10/96	0.1U	NT	NT
	4/3/97	0.1U	NT	NT
	1/31/98	ND	NT	NT
	10/10/00	0.1U	NT	NT
	9/25/02	0.05U	NT	NT
	11/14/03	0.05U	NT	NT
	6/21/06	0.25U	0.5U	0.5U
	12/15/06	ND	ND	ND
	1/18/07	ND	ND	ND
	6/12/07	ND	ND	ND
	10/22/07	ND	ND	ND
	3/19/08	ND	ND	ND
	6/20/08	0.05U	NT	NT
	12/30/08	ND	NT	NT
	7/27/10	0.2U	0.5U	0.5U
MW-9	1/29/96	ND	NT	NT
	6/20/96	0.1U	NT	NT
	9/11/96	0.1U	NT	NT
	12/10/96	0.1U	NT	NT
	4/3/97	0.1U	NT	NT
	1/31/98	ND	NT	NT
	10/10/00	0.1U	NT	NT
	9/25/02	0.05U	NT	NT
	11/14/03	0.05U	NT	NT
	1/18/07	ND	ND	ND
	6/12/07	ND	ND	ND

Table 3 (continued)
Total Petroleum Hydrocarbons
Groundwater

Well Number	Date	TPH Gas Range	TPH Diesel Range	TPH Oil Range
	10/22/07	ND	ND	ND
	3/19/08	ND	ND	ND
	6/20/08	0.05	NT	NT
	12/30/08	ND	NT	NT
	7/27/10	0.2U	0.5U	0.5U
MW-10	1/29/96	0.93	NT	NT
	6/20/96	1.1	NT	NT
	9/11/96	0.58	NT	NT
	12/10/96	0.1U	NT	NT
	4/3/97	0.1U	NT	NT
	1/31/98	ND	NT	NT
	10/10/00	ND	NT	NT
	9/25/02	0.05U	NT	NT
	11/14/03	0.05U	NT	NT
	12/15/06	ND	ND	ND
	6/12/07	ND	ND	ND
	10/22/07	ND	ND	ND
	3/19/08	ND	ND	ND
	6/20/08	0.05U	NT	NT
	12/30/08	ND	NT	NT
	7/27/10	0.2U	0.5U	0.5U
MW-101	5/10/11	0.16	0.26U	0.41U
MW-102	5/10/11	0.5U	0.27U	0.41U
MW-103	5/10/11	0.94	**0.7U**	0.42U
MW-104	6/29/11	0.1U	0.41U	0.26U
MTCA		0.8 (1.0)	0.5	0.5

Notes: Data prior to 2011 was collected by others.
All units are ppm.
U modifier indicates that the compound was not present at the PQL.
NT indicates that the sample was not analyzed for that analyte.
ND indicates that the analyte was not detected, no detection value reported.
NR indicates that the sample result is not reported.

Table 4

Volatile Organic Compounds

Groundwater

Well Number	Date	Benzene	Ethyl benzene	Toluene	m,p-Xylene	o-Xylene
MW-1	11/27/95	**930**	550	**41,000**	**855,000**	
	6/20/96	**8.5**	**14,000**	300	**14,000**	
	9/11/96	ND	**13,000**	ND	**58,000**	
	12/10/96	**7.0**	**14,000**	270	**64,000**	
	4/3/97	**7.6**	**13,000**	260	**51,000**	NT
	1/31/98	ND	**15,000**	230	**70,000**	
	10/10/00	1.0U	**16,000**	120	**70,100**	
	9/23/02	**10U**	**11,000**	26	**19,000**	**3,900**
	11/14/03	5.0U	**1,700**	80	**5,500**	
	6/12/07	ND	240	1	280	
	12/30/08	ND	**2,900**	29	11,000	
	3/19/08	ND	150	ND	440	
	6/09	10U	**800**	10U	**2,500**	
	10/09	10U	**825**	10U	**2,700**	
	2/10	10U	**700**	10U	**1,900**	
	7/27/10	1.0U	40	1.0U	130	
	4/29/11	0.56	27	2.0U	47	2.6
MW-2	11/27/95	ND	6.6	ND	27	
	9/11/96	ND	79	23	379	
	12/10/96	ND	1.1	ND	2.3	
	4/3/97	ND	ND	3.2	ND	
	1/31/98	ND	ND	ND	ND	
	10/10/00	1.0U	1.0U	36	1.0U	NT
	9/23/02	5.0U	5.0U	5.0U	5.0U	
	11/14/03	5.0U	5.0U	5.0U	15U	
	12/30/08	ND	ND	ND	ND	
MW-3	11/27/95	ND	ND	ND	ND	
	1/31/98	ND	ND	ND	ND	
	10/10/00	1.0U	1.0U	1.0U	1.6	NT
	9/23/02	1.0U	1.0U	1.0U	1.0U	
	11/14/03	1.0U	1.0U	1.0U	3.0U	

Table 4 (continued)

Volatile Organic Compounds

Groundwater

Well Number	Date	Benzene	Ethyl benzene	Toluene	m,p-Xylene	o-Xylene
MW-4	11/27/95	4.0	4,600	40	20,800	
	1/31/98	ND	1300	3.0	3,075	
	10/10/00	1.0U	37	1.0U	30	NT
	9/23/02	1.0U	3.0	1.0U	16	
	11/14/03	1.0U	1.0U	1.0U	3.0U	
	6/12/07	ND	1.0	ND	6	
MW-5	11/27/95	4.0	1,500	11	7,400	
	1/31/98	ND	38	5.1	211	
	10/10/00	1.1	1	1.0U	4.9	NT
	9/23/02	5.0U	5.0U	5.0U	7.0	
	11/14/03	1.0U	1.0U	1.0U	3.0U	
MW-6	1/30/96	3.5	2.5	ND	112	
	1/31/98	3.7	ND	ND	1.7	
	10/10/00	1.9	1.0U	1.0U	1.7	NT
	9/23/02	5.0U	5.0U	5.0U	8.0	
	11/14/03	1.0U	1.0U	1.0U	3.0U	
	1/18/07	ND	16	ND	69	
	6/12/07	ND	ND	ND	ND	
	7/27/10	1.0U	1.0U	1.0U	3.0U	
	4/29/11	0.2U	0.2U	1.0U	0.4U	0.2U
MW-7	1/30/96	2.0	3,500	340	3,200	
	1/31/98	1.2	1,600	1.6	486	
	10/10/00	1.2	190	1.0U	360	NT
	9/23/02	5.0U	140	5.0U	130	
	11/14/03	5.0U	130	5.0U	210	
	1/18/07	ND	4.0	ND	69	
	6/12/07	ND	ND	ND	ND	
	3/19/08	ND	ND	ND	ND	
	4/29/11	0.2U	0.32	1.0U	0.4U	0.2U
MW-8	1/30/96	ND	ND	ND	1.0	
	9/11/96	ND	ND	ND	ND	
	6/12/07	ND	ND	ND	ND	
	1/31/98	ND	ND	ND	ND	
	10/10/00	1.0U	1.0U	1.0U	1.0U	NT
	9/23/02	1.0U	1.0U	1.0U	3.0	
	11/14/03	1.0U	1.0U	1.0U	3.0U	

Table 4 (continued)

Volatile Organic Compounds

Groundwater

Well Number	Date	Benzene	Ethyl benzene	Toluene	m,p-Xylene	o-Xylene
MW-9	1/30/96	ND	ND	ND	1.0	
	9/11/96	ND	ND	ND	ND	
	4/3/97	ND	ND	ND	ND	
	1/31/98	ND	ND	ND	ND	
	10/10/00	1.0U	1.0U	1.0U	1.0U	NT
	9/23/02	1.0U	1.0U	1.0U	2.0	
	11/14/03	1.0U	1.0U	1.0U	3.0U	
MW-10	1/30/96	ND	62	ND	39.7	
	9/11/96	ND	43	ND	171	
	12/10/96	ND	ND	ND	1.2	
	4/3/97	ND	2.1	ND	5.2	
	1/31/98	ND	ND	ND	ND	
	10/10/00	1.0U	1.0U	1.0U	1.0U	NT
	9/23/02	1.0U	1.0U	1.0U	2.0	
	11/14/03	1.0U	1.0U	1.0U	3.0U	
MW-101	5/10/11	1.3	0.95	1.0U	1.5	0.2U
MW-102	5/10/11	0.2U	0.2U	1.0U	0.4U	0.2U
MW-103	5/10/11	0.2U	0.2U	1.0U	0.4U	0.2U
MW-104	6/29/11	0.27	0.2U	1.0U	0.4U	0.2U
MTCA		5.0	700	1,000	1,000	

Table 4 (continued)

Volatile Organic Compounds

Groundwater

Well Number	Date	Vinyl Chloride	1,1-Dichlroethane	(cis) 1,2-Dichloroehtene	Trichloroethylene	Tetrachloroethylene
MW-1	11/27/95	NT	NT	NT	NT	NT
	6/20/96	NT	NT	NT	NT	NT
	9/11/96	NT	NT	NT	NT	NT
	12/10/96	NT	NT	NT	NT	NT
	4/3/97	NT	NT	NT	NT	NT
	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	NT
	9/23/02	10U	10U	10U	10U	10U
	11/14/03	NT	NT	NT	NT	NT
	6/12/07	NT	NT	NT	NT	NT
	12/30/08	NT	NT	NT	NT	NT
	3/19/08	NT	NT	NT	NT	NT
	6/09	NT	NT	NT	NT	NT
	10/09	NT	NT	NT	NT	NT
	2/10	NT	NT	NT	NT	NT
	7/27/10	NT	NT	NT	NT	NT
	4/29/11	0.4U	0.4U	0.4U	0.4U	0.4U
	11/27/95	NT	NT	NT	NT	NT
MW-2	9/11/96	NT	NT	NT	NT	NT
	12/10/96	NT	NT	NT	NT	NT
	4/3/97	NT	NT	NT	NT	NT
	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	
	9/23/02	NT	NT	NT	NT	NT
	11/14/03	NT	NT	NT	NT	NT
	12/30/08	NT	NT	NT	NT	NT
	11/27/95	NT	NT	NT	NT	NT
MW-3	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	NT
	9/23/02	NT	NT	NT	NT	NT
	11/14/03	NT	NT	NT	NT	NT
	11/27/95	NT	NT	NT	NT	NT

Table 4 (continued)

Volatile Organic Compounds

Groundwater

Well Number	Date	Vinyl Chloride	1,1-Dichlroethane	(cis) 1,2-Dichloroehtene	Trichloroethylene	Tetrachloroethylene
MW-4	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	NT
	9/23/02	NT	NT	NT	NT	NT
	11/14/03	NT	NT	NT	NT	NT
	6/12/07	NT	NT	NT	NT	NT
	11/27/95	NT	NT	NT	NT	NT
MW-5	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	NT
	9/23/02	NT	NT	NT	NT	NT
	11/14/03	NT	NT	NT	NT	NT
	1/30/96	NT	NT	NT	NT	NT
MW-6	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	NT
	9/23/02	NT	NT	NT	NT	NT
	11/14/03	NT	NT	NT	NT	NT
	1/18/07	NT	NT	NT	NT	NT
	6/12/07	NT	NT	NT	NT	NT
	7/27/10	NT	NT	NT	NT	NT
	4/29/11	0.2U	0.20	0.2U	0.2U	0.22
	1/30/96	NT	NT	NT	NT	NT
MW-7	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	NT
	9/23/02	NT	NT	NT	NT	NT
	11/14/03	NT	NT	NT	NT	NT
	1/18/07	NT	NT	NT	NT	NT
	6/12/07	NT	NT	NT	NT	NT
	3/19/08	NT	NT	NT	NT	NT
	4/29/11	0.2U	0.2U	0.39	0.22	0.27
	1/30/96	NT	NT	NT	NT	NT
MW-8	9/11/96	NT	NT	NT	NT	NT
	6/12/07	NT	NT	NT	NT	NT
	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	NT
	9/23/02	NT	NT	NT	NT	NT

Table 4 (continued)

Volatile Organic Compounds

Groundwater

Well Number	Date	Vinyl Chloride	1,1-Dichlroethane	(cis) 1,2-Dichloroehtene	Trichloroethylene	Tetrachloroethylene
	11/14/03	NT	NT	NT	NT	NT
	1/30/96	NT	NT	NT	NT	NT
MW-9	9/11/96	NT	NT	NT	NT	NT
	4/3/97	NT	NT	NT	NT	NT
	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	NT
	9/23/02	NT	NT	NT	NT	NT
	11/14/03	NT	NT	NT	NT	NT
MW-10	1/30/96	NT	NT	NT	NT	NT
	9/11/96	NT	NT	NT	NT	NT
	12/10/96	NT	NT	NT	NT	NT
	4/3/97	NT	NT	NT	NT	NT
	1/31/98	NT	NT	NT	NT	NT
	10/10/00	NT	NT	NT	NT	NT
	9/23/02	NT	NT	NT	NT	NT
	11/14/03	NT	NT	NT	NT	NT
MW-101	5/10/11	0.2U	0.49	0.39	0.2U	0.2U
MW-102	5/10/11	0.2U	0.2U	0.2U	0.2U	0.2U
MW-103	5/10/11	0.2U	0.2U	0.2U	0.2U	0.2U
MW-104	6/29/11	0.2U	0.23	0.2U	0.2U	0.2U
MTCA		0.2			5.0	5.0

Notes: All units are parts per billion, ppb.
For brevity, minor constituents such as trimethylbenzene are not shown and are below cleanup levels.
Cleanup values are Method A, values in italics are Method B or EPA PRG Region 9 values.
U modifier indicates that the analyte was not present at the numerical practical quantitation limit.
NT indicates that the analyte was not tested for the specific sample.

5.4 Vapor Monitoring Results

Three vapor samples were obtained on June 29, 2011. An ambient air sample was taken in the basement of 5221 and samples were drawn from VP-1 and VP-2. The results are tabulated below.

Table 5
Vapor Samples
TPH Results

Sample Designation	Date	TPHv (C5-C8) Aliphatic	TPHv (C9-C12) Aliphatic	TPHv (C9-C10) Aromatic
VP-3	6/29/11	2,200	55,000	500U
VP-2	6/29/11	5,500	90.000	500U
Ambient Basement Air	6/29/11	560	710	100U
Method B Sub slab Cleanup Value		27,000	1,400	1,800
Method B Indoor Air Cleanup Value		2,700	140	180

Table 6
Vapor Samples
Volatile Organic Compound Results

Sample Designation	Date	Acetone	Methylene Chloride	Benzene	Ethyl Benzene	Toluene	m,p-Xylene	o-xylene	Styrene	1,2,4-Trimethylbenzene
VP-3	6/29/11	570	18U	16U	22U	48	44U	22U	22U	25U
VP-2	6/29/11	850	18U	16U	23	67	51	25	22U	25U
Ambient Basement Air	6/29/11	40	10	4.5	14	48	36	13	4.7	13
Method B Sub slab Cleanup Value		NP	53	3.2	4,600	22,000	460	460	44	NP
Method B Indoor Air Cleanup Value		NP	5.3	0.32	460	2,200	46	46	4.4	NP

Notes for Table 5 and 6: All values are $\mu g/m^3$.
U indicates that the analyte was not present at the numerical reporting limit.
Cleanup levels are from Ecology draft publication No. 09-09-047, dated October 2009.

6.0 DISCUSSION

6.1 Soil

Based on the distribution of TPH in the soils, it is our opinion that the C&C Paints site may be separated into two distinct sites, the 5221 Ballard Avenue NW site and the Shilshole Parcels site. The two sites had distinct UST clusters that were not side by side. The impacts to soils that resulted in elevated levels of petroleum hydrocarbons from the former UST cluster on 5221 appear to be limited to the 5221 site.

As can be seen in the data in Table 1, there are soils elevated relative to the Method A cleanup value for TPH using the value of 100 ppm. For this project, expanded testing was done using the EPH/VPH methodology. The spreadsheets from using the standard Ecology macro are attached in Appendix D. As shown on the spreadsheets, the site specific cleanup value is 2,000 ppm. With the site specific value only the sample from B-102 at 10 feet fails the revised cleanup value.

As shown on the table, the impacted soils have been found in the saturated zone.

6.2 Groundwater

As can be seen in the tables, there is a clear distinction between the groundwater samples from the monitoring wells installed on the Shilshole parcels from the wells recently installed on the 5221 parcel. The groundwater impacts monitored in the past do not have continuity with the groundwater observed at 5221. MW-8 and MW-9 are both intermediate wells, upgradient of the UST cluster on the Shilshole parcels and down or crossgradient of the wells at 5221.

6.3 Vapor Intrusion

The sub slab values observed are consistent with the soils data from the nearby UST cluster. The indoor air sample is a screening level sample. An ambient outside air sample will be needed to complete the evaluation of the sub slab and basement air testing evaluation.

The levels of benzene are above the current cleanup value for indoor air however the benzene level is also within the range often observed in indoor air quality measurements. We reviewed a recent paper by Helen Dawson dated 2009 in Groundwater Monitoring and Remediation. This paper discusses the common presence of benzene in indoor air. In addition, it should be noted that the Method B levels summarized in Table 6 are based on residential exposures. The actual exposure periods for people using the basement would be far shorter in duration and would not include children. The remedial measures discussed in Section 7.0 will reduce the levels of hydrocarbons in the soil, groundwater, and hence in the vapors occupying the soil pores as well.

7.0 REMEDIAL OPTIONS

We have considered the following options for remedial measures. Other options may be available. The purpose of this discussion in this report is to provide conceptual options. Detailed cleanup plans and permits will be required to execute many of the active cleanup options. We have not completed a cost analysis of the options listed below:

Cleanup Option	Benefits	Risks	Permit Requirements
Monitored natural attenuation (no action)	This option is the least expensive in regards to short-term costs.	Ongoing groundwater monitoring would be needed to document site conditions. This option may not be accepted by financial institutions.	None known.

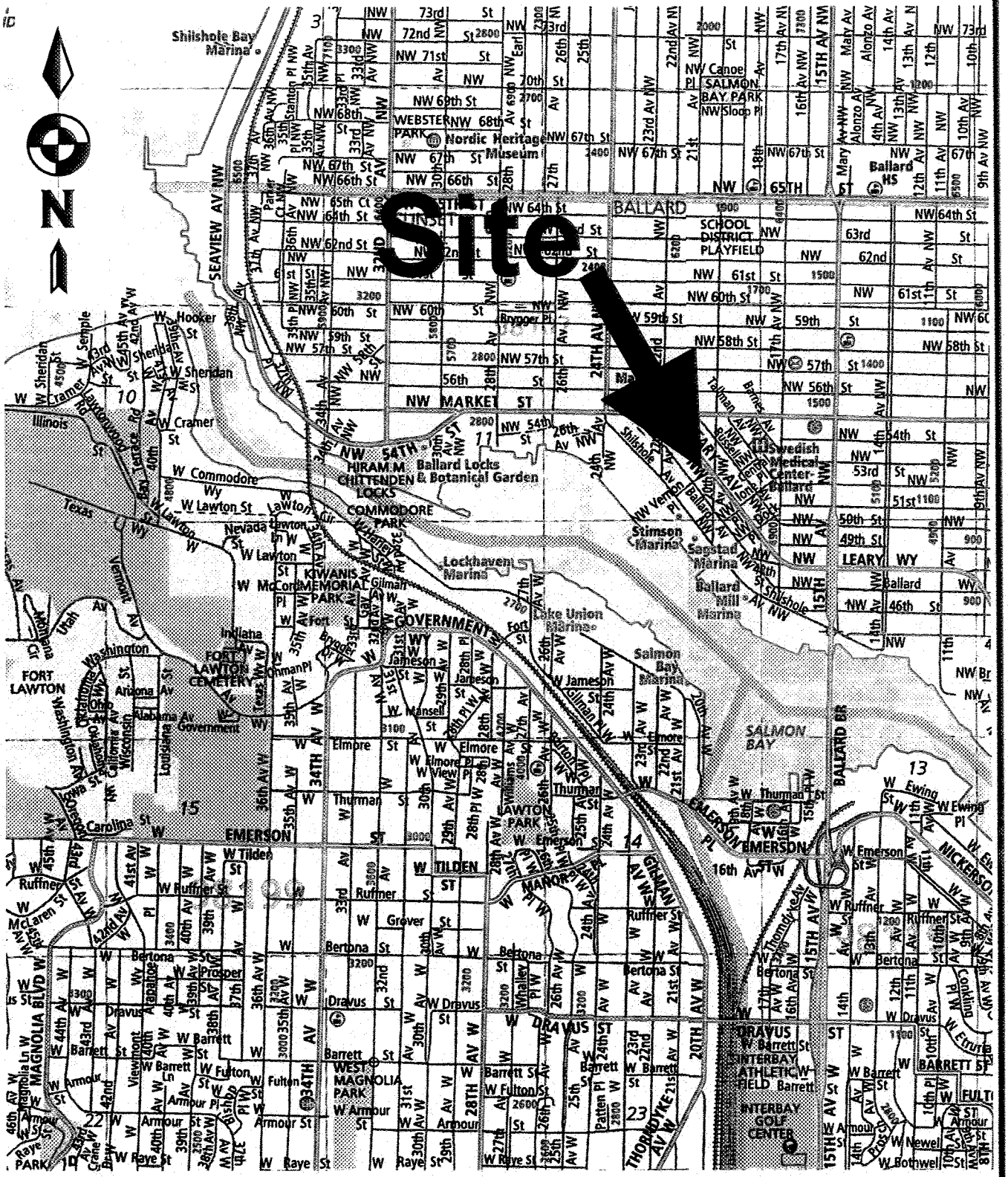
Cleanup Option	Benefits	Risks	Permit Requirements
Excavation and removal	This option would be the most expedient if no temporary shoring is needed.	Temporary shoring may be needed to support the adjacent building and public sidewalk. Parking on-site would be eliminated for a four to eight week period.	Shoring would require building permit and shoring adjacent to the sidewalk would require a permit from the city transportation department. (SDOT).
Air Sparging and Vacuum extraction	This option would address vapor intrusion issues, would reduce the levels of hydrocarbons in the soil through both volatilization, and enhanced bioremediation.	The shallow groundwater table and existing pipe network would allow short circuiting to occur reducing the effectiveness of vacuum extraction. The parking lot would require repaving. Parking on-site would be disrupted during installation for three to five days and one parking spot would be used by the equipment.	Electrical permits would be required for power outlets for the sparge and vacuum unit.
Enhanced Bio remediation-calcium peroxide injections.	This option would increase the oxygen levels in the groundwater to accelerate the natural degradation that is occurring. The high levels of TPH have created a zone that is deficient of oxygen in the UST cavity. The parking lot would be closed for at least one-half of a day for each injection period.	This option would require at least two episodes of injections. The parking lot would be needed during the injections for at least one half day for each injection and then one half day for performance soil sampling following the completion of the injections.	A permit from the UIC office of Ecology would be needed.
In situ oxidation	This option would chemically oxidize the hydrocarbons. The benefits are generally the same as the use of calcium peroxide.	This option would include the use of compounds that are corrosive and may damage existing utilities. The discussion for the enhanced bioremediation also applies.	This option would require a permit from the UIC office. The use of corrosive chemicals may require addition effort during permitting.

8.0 LIMITATIONS

This report is the copyrighted property of Terra Associates, Inc. and was prepared in accordance with generally accepted local geo-environmental engineering practices and within the limitations of time and budget. Analytical testing of samples was based on our understanding of past land uses documented in reports by others and the tax records. In the event additional information regarding site history or current site uses is found, the information should be brought to our attention, as it may affect our conclusions.

This report is intended for specific application to the 5221 Ballard Avenue NW project, and is for the exclusive use of Halco Properties, LLC and their authorized representatives. No other warranty, expressed or implied, is made.

The analyses and recommendations presented in this report are based on information prepared by others together with data obtained from explorations advanced on the site, and selected analyses of soils samples for this study. The conclusions reached in this report are our opinions based on the previous and current explorations and analytical test data summarized and discussed in this report. Subsurface conditions may vary and seasonal variations in groundwater may occur.



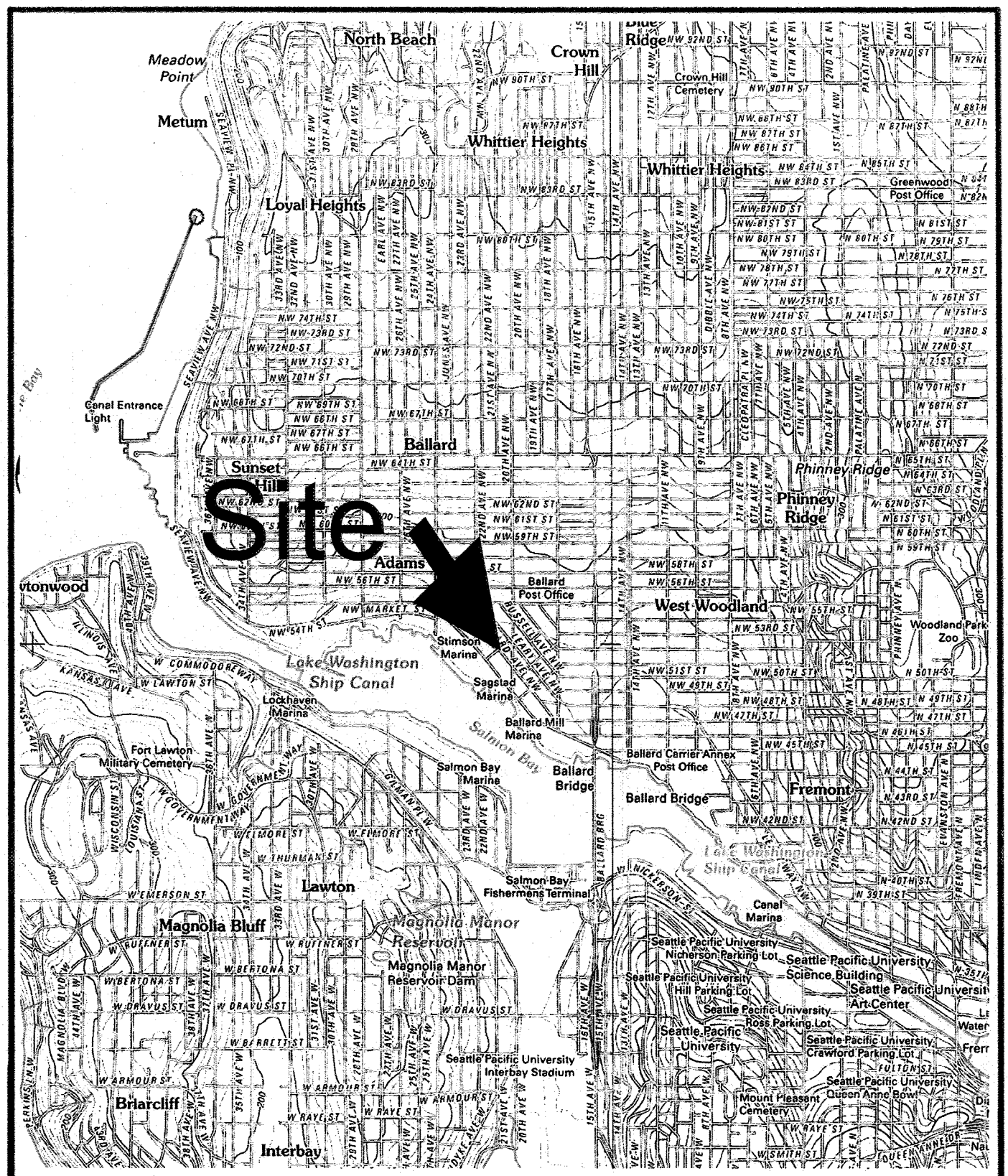
Reference: Thomas Bros King County Road Atlas. NOT TO SCALE

TERRA ASSOCIATES

Geotechnical Consultants

Vicinity Map
5221 Ballard Ave NW
Seattle, Washington

Proj. No T-6552	Date July 2011	Figure 1



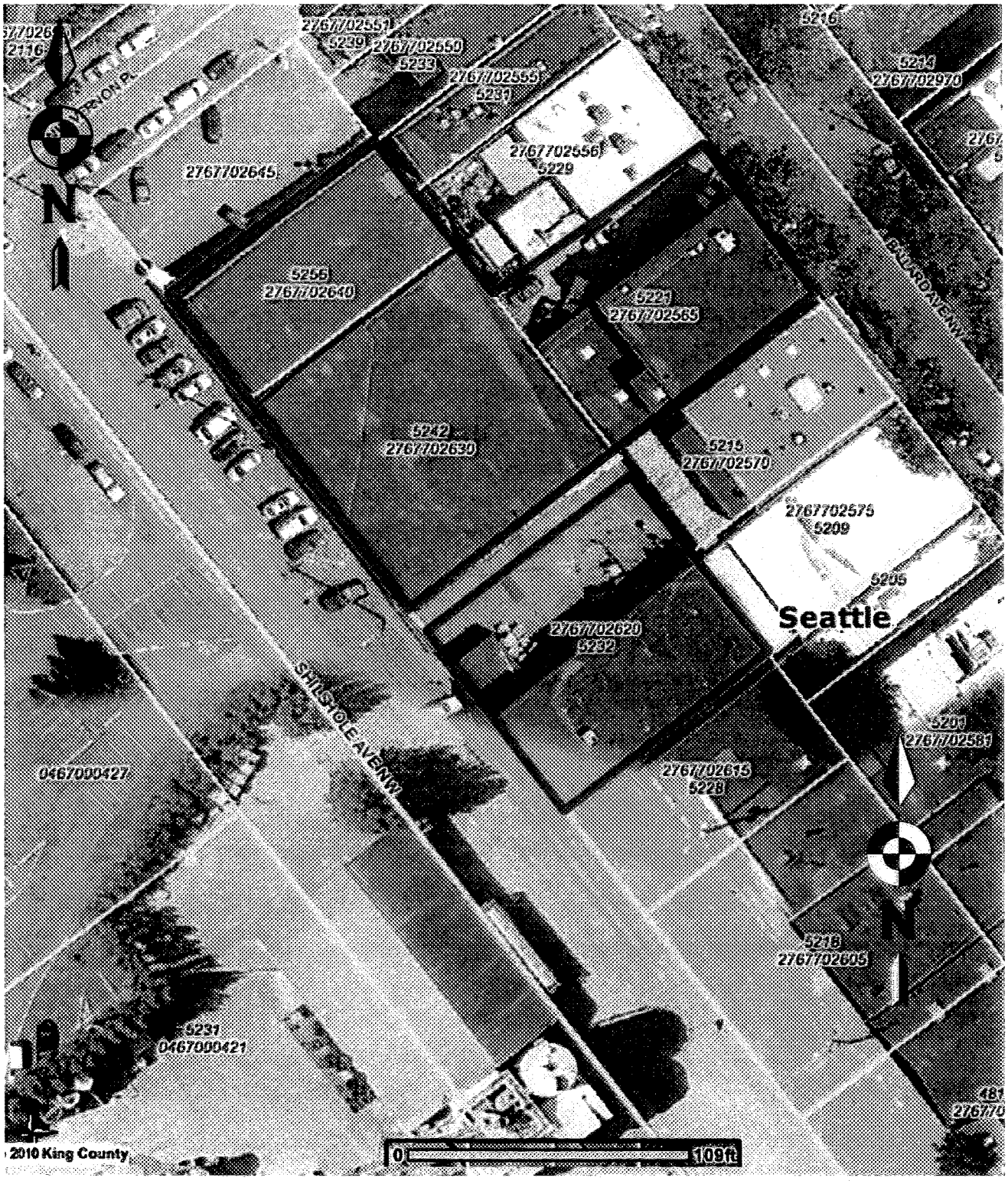
Reference: Bellevue Seattle North and Shilshole Bay USGS Quadrangles

TERRA ASSOCIATES

Geotechnical Consultants

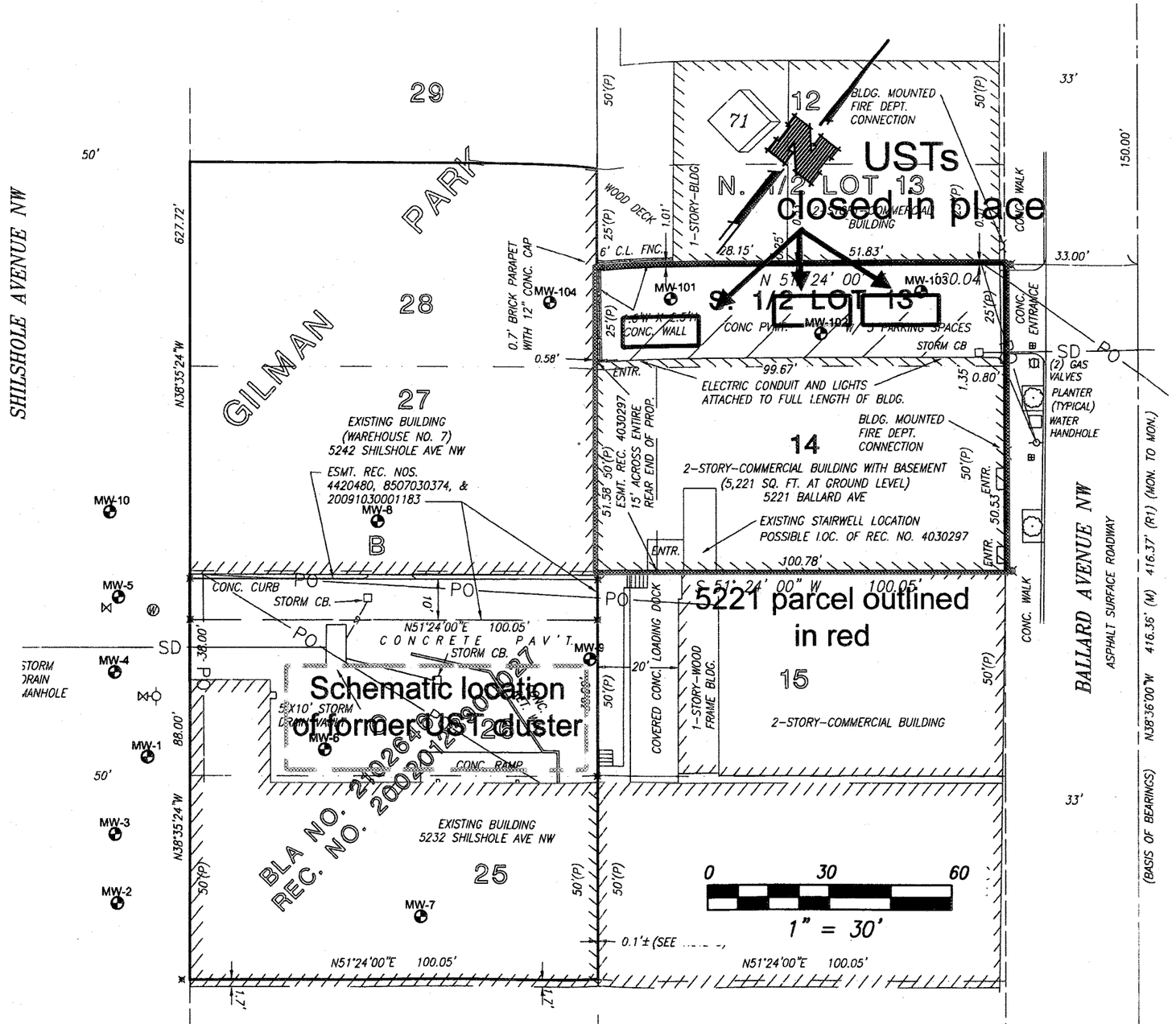
Topographic Vicinity Map
5221 Ballard Ave NW
Seattle, Washington

Proj. No T-6552	Date July 2011	Figure 2



Former C and C Paints, (current Halco) Parcels outlined in red
Base map from King County iMap web site

TERRA ASSOCIATES Geotechnical Consultants	Index Location Photo 5221 Ballard Ave NW Seattle, Washington		
	Proj. No T-6552	Date July 2011	Figure 3

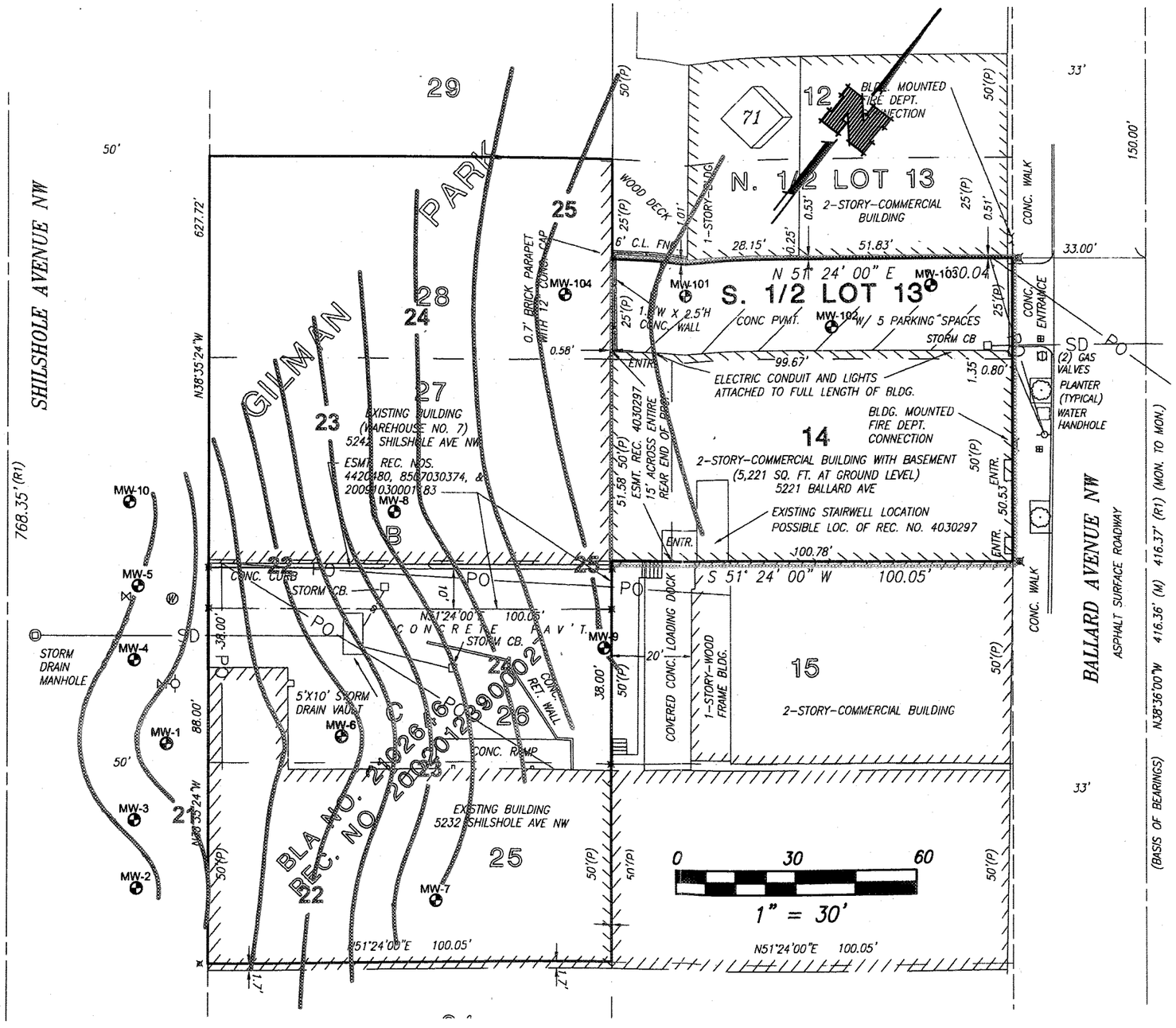


Reference: Survey by Jim Hart and Associates

TERRA ASSOCIATES
Geotechnical Consultants

Monitoring Well Location Plan
5221 Ballard Ave NW
Seattle, Washington

Proj. No. T-6552	Date July 2011	Figure 4



Groundwater contours on this sheet are an interpretation of static water levels measured in June of 2011. Groundwater measurements made by Terra Associates. Inc

Reference: Survey by Jim Hart and Associates

TERRA ASSOCIATES
Geotechnical Consultants

Groundwater Elevation Summary
5221 Ballard Ave NW
Seattle, Washington

Proj. No. T-6552	Date July 2011	Figure 5

APPENDIX A

PRIOR REPORT LIST

Appendix A – Prior Reports with Sampling by Others

Title	Author	Date	Property Covered
Site Assessment C&C Paint Company Report	Bison Environmental Northwest, Inc.	2/19/91	Shilshole
Ballard Avenue Landmark Letter	Ballard Avenue Landmark District Board	4/17/91	5221
Buried Tanks in Alley – Cracks in Ballard Hardware South Wall Letter	Pacific Testing Laboratories	4/19/91	5221
Underground Storage Tank Closure In Place Site Assessment Report C&C Paint Company	Bison Environmental Northwest, Inc.	11/30/92	5221
Groundwater Survey and Monitoring Well Installation – C&C Paint Company Property	Columbia Environmental, Inc.	12/11/95	Shilshole
Phase 2 Environmental Site Assessment – C&C Paint Company Property	Columbia Environmental, Inc.	2/12/96	Shilshole
Cleanup Proposal – C&C Paint Company Property	BPM	5/17/96	Shilshole
Quarterly Groundwater Monitoring Report – C&C Paint Company Property	BPM	7/26/96	Shilshole
Quarterly Groundwater Monitoring Report – C&C Paint Company Property	BPM	10/15/96	Shilshole
Quarterly Groundwater Monitoring Report – C&C Paint Company Property	Betts, Patterson & Mines, PS	1/21/97	Shilshole
Quarterly Groundwater Monitoring Report – C&C Paint Company Property	Betts, Patterson & Mines, PS	5/25/97	Shilshole
UST Closure in Place Site Assessment Report – C&C Paints	Nowicki & Aassociates	2/10/98	5221

Appendix A – Prior Reports with Sampling by Others

Title	Author	Date	Property Covered
October 2000 Annual Groundwater Monitoring – C&C Paints Site	Nowicki & Aassociates	10/28/00	Shilshole
300-Gallon Diesel Heating Oil UST Closure Site Assessment Report – C&C Paint	Nowicki & Aassociates	11/28/00	Shilshole
September 2002 Groundwater Annual Monitoring – C&C Paints Site	Nowicki & Aassociates	9/26/02	Shilshole
Ground Water Monitoring Quarterly Report 2ndQTR06	Morse Environmental	6/28/06	Shilshole
Ground Water Monitoring Quarterly Report 3rdQTR06	Morse Environmental	8/31/06	Shilshole
Ground Water Monitoring Quarterly Report 4thQTR06	Morse Environmental	12/12/06	Shilshole
Ground Water Monitoring Quarterly Report 1stQTR07	Morse Environmental	1/2007	Shilshole
Ground Water Monitoring Quarterly Report 2ndQTR07	Morse Environmental	7/7/07	Shilshole
Ground Water Monitoring Quarterly Report 4thQTR07	Morse Environmental	11/9/07	Shilshole
Ground Water Monitoring Quarterly Report 1stQTR08	Morse Environmental	3/27/08	Shilshole
Ground Water Monitoring Quarterly Report 2ndQTR08	Morse Environmental	7/9/08	Shilshole
Ground Water Monitoring Quarterly Report 3rdQTR08	Morse Environmental	11/13/08	Shilshole
Ground Water Monitoring Quarterly Report 4thQTR08	Morse Environmental	1/20/09	Shilshole
Ground Water Monitoring Quarterly Report 1stQTR09	Morse Environmental	3/24/09	Shilshole
Ground Water Monitoring Quarterly Report 2ndQTR09	Morse Environmental	7/2009	Shilshole
Ground Water Monitoring Quarterly Report 3rdQTR09	Morse Environmental	10/2009	Shilshole
Ground Water Monitoring Quarterly Report 4thQTR09	Morse Environmental	1/2010	Shilshole
Ground Water Monitoring Quarterly Report 1stQTR10	Morse Environmental	3/2010	Shilshole
Ground Water Monitoring Quarterly Report 3rdQTR10	Morse Environmental	8/19/10	Shilshole

APPENDIX B
SUBSURFACE EXPLORATION/FIELD SAMPLING

5221 Ballard Avenue NW
Seattle, Washington

Explorations MW-101, MW-102, and MW-103 were advanced using a drill rig owned and operated by Cascade Drilling. MW-104 was drilled using a limited access drill rig owned and operated by BoreTech. All drilling was done using hollow stem augers. In MW-101, MW-102, and MW-103, the samples were taken using a 2-inch ID sampler driven using a 300 pound hammer dropping 30 inches. Due to low overhead in the warehouse, the boom could not be raised to allow SPT samples to be taken. Soil samples were taken from the open hole using a hand auger at selected depths. Prior to taking soil samples, the drill tools were removed from the hole

The test pits in the basement of 5221 were hand excavated using a post hole digger and a hand auger.

All drilling tools were cleaned prior to starting explorations and in between explorations to reduce the potential for cross contamination.

A representative of our firm continuously monitored the drilling and kept a detailed log of each test exploration. Samples recovered during drilling were logged by our representative and placed into laboratory-prepared glassware. All samples were refrigerated pending delivery to OnSite Environmental Inc. in Redmond, Washington. We followed chain of custody protocols for all samples.

Samples were screened in the field using the head space and sheen methods. For the head space screening, a sub sample of the soil is placed in a plastic bag and allowed to reach ambient temperatures. The probe from a hand help Photo Ionization Device is then inserted to measure the air in the headspace of the bag. The sheen test consists of placing a subsample into a pan with clean water to see if sheen develops.

Groundwater monitoring wells were constructed in each of the borings conducted for this study. The wells are built with two-inch diameter PVC well materials. The screens are factory slotted with 0.01 inch openings. The screen segments were backfilled with silica sand. All wells were constructed in accordance with Washington State well construction requirements. The vapor probes were hand excavated. The logs for the vapor probes are below in Table B-1.

Table B-1
Vapor Probe Logs

VP-1

Depth (Below top of slab)	Soils Encountered	Sheen/Odor/PID
0-4"	Concrete slab	
4-12"	1" minus clean round rock	No/No/0.0
12-18"	Mottled gray and brown silty sand with gravel, moist, loose to medium dense. (SM)	No//No/0.0
18-54"	Brown silty sand with gravel sandy gravels lenses. (SM) Seepage at 3 feet.	No/No/0.0

VP-2

Depth (Below top of slab)	Soils Encountered	Sheen/Odor/PID
0-4"	Concrete slab	
4-12"	Brown sandy gravel, moist.	Light odor
12-48"	Gray/brown sandy silt with gravel, wet by 3.5 feet.	659 ppm @ 18" 45.4 ppm @ 4'

VP-3

Depth (Below top of slab)	Soils Encountered	Sheen/Odor/PID
0-5"	Concrete slab	
5-13"	Brown gravelly sand, moist.	No/No/0.0
13-54"	Gray silty sand with gravel, moist becoming wet with depth. (SM)	Light odor 24.7ppm @ 18" 0.0 ppm @ 48"

During groundwater sampling, some basic parameters were monitored. The recent and archived groundwater parameters are summarized below in Table B-2.

Table B-2
Groundwater Parameters

Well Number	Date	pH	Conductivity	DO	ORP	Temp.
MW-1	6/21/06	6.19	600	NM	NM	NM
	12/15/06	6.97	NM	NM	NM	NM
	4/29/11	NM	NM	NM	NM	15.8
MW-2	6/21/06	6.97	249	NM	NM	NM
	12/15/06	6.9	NM	NM	NM	NM
MW-3	12/15/06	6.35	NM	NM	NM	NM
MW-4	6/21/06	6.3	484	NM	NM	NM
	12/15/06	6.9	NM	NM	NM	NM
MW-5	6/21/06	6.05	430	NM	NM	NM
	12/15/06	6.85	NM	NM	NM	NM
MW-6	6/21/06	6.67	521	NM	NM	NM
	12/15/06	6.9	NM	NM	NM	NM
	4/29/11	NM	NM	NM	NM	12.6
MW-7	6/21/06	6.7	511	NM	NM	NM
	4/29/11	NM	NM	NM	NM	14.4
MW-8	6/21/06	6.6	579	NM	NM	NM
	12/15/06	7.0	NM	NM	NM	NM
MW-10	12/15/06	6.9	NM	NM	NM	NM
MW-101	5/10/11	NM	NM	NM	NM	15.3
	7/6/11	6.55	148	0.32	-10	16.0
MW-102	5/10/11	NM	NM	NM	NM	15.2
MW-103	5/10/11	NM	NM	NM	NM	16.1
	7/6/11	6.49	113	0.3	-45	16.6

Notes:
Data prior to 2011 was collected by others.
DO is measured in ppm.
ORP is measured in milli volts.
Conductivity is measured in micro Siemens.
pH is in standard units.
Temperature is in degrees Celsius.

LOG OF BORING NO. B-101

Figure No. B-1

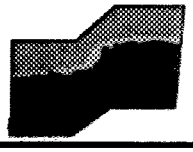
Project: 5221 Ballard Avenue North **Project No:** T-6552 **Date Drilled:** 5/6/11

Client: Halco **Driller:** Cascade Drilling **Logged By:** NRH

Location: Seattle, Washington **Approx. Elev:** N/A

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % Wp |-----x-----| Wl 10 30 50 70	Pocket Penetrometer TSF 1 2 3 4 / SPT (N) Blows/ft 10 20 30 40	Observ. Well
1–3		(3.5 inches ASPHALT SLAB) Brown silty SAND/sandy SILT, moist. (Fill)	Soft			
4–10		Dark gray sandy SILT, moist, light hydrocarbon odor. Mottled discoloration. (FIll) Becomes sandier, occasional small chunks of brick, copper. Moderate hydrocarbon odor.	Soft Medium Dense		6 17	
11–20		Gray silty SAND with gravel, moist, becomes wet by 13 feet. (Till)	Dense Dense		51 49 50	
21–25		Boring terminated at 20 feet. 2-inch PVC monitoring well installed as shown using 0.010 slotted screen from 10 to 20 feet.				

Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas of the site.



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LOG OF BORING NO. B-102

Figure No. B-2

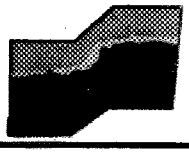
Project: 5221 Ballard Avenue North **Project No:** T-6552 **Date Drilled:** 5/6/11

Client: Halco **Driller:** Cascade Drilling **Logged By:** NRH

Location: Seattle, Washington **Approx. Elev:** N/A

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % Wp |-----x-----| Wl 10 30 50 70	Pocket Penetrometer TSF 1 2 3 4 / SPT (N) Blows/ft 10 20 30 40	Observ. Well
1–7		(7 inches ASPHALT) Brown silty SAND with gravel, moist. (Till)	Loose/Soft		4	
7–9		Pea gravel with silt and brick bits, moderate hydrocarbon odor. (Fill)	Loose			
9–20		Gray silty SAND with gravel, moist, becomes wet by 12.5 feet. (Till) Minor amount of silt by 15 feet.	Medium Dense Dense Dense		17 50 50 50 50	
20–25		Boring terminated at 20 feet. 2-inch PVC monitoring well installed as shown using 0.010 slotted screen from 10 to 20 feet.				

Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas of the site.



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LOG OF BORING NO. B-103

Figure No. B-3

Project: 5221 Ballard Avenue North **Project No:** T-6552 **Date Drilled:** 5/6/11

Client: Halco **Driller:** Cascade Drilling **Logged By:** NRH

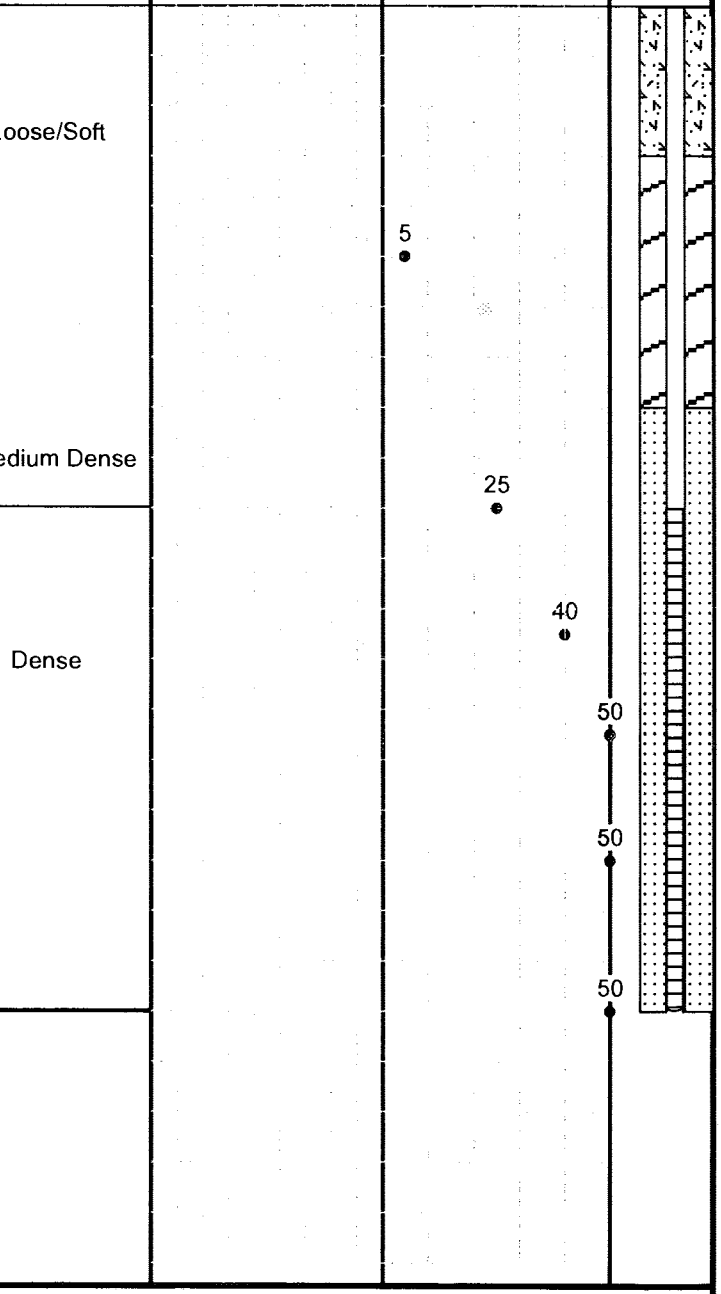
Location: Seattle, Washington **Approx. Elev:** N/A

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density
1		(5 inches ASPHALT SLAB)	
2		Brown silty SAND/sandy SILT, small brick bits, moist. (Fill)	Loose/Soft
3			
4			
5		Light hydrocarbon odor.	
6			
7			
8			
9			Medium Dense
10			
11		Gray silty SAND, moist, wet by 12.5 feet, light to moderate hydrocarbon odor, slight sheen from 10 to 14 feet. (TIII)	Dense
12			
13			
14			
15			
16			
17			
18			
19			
20			
21		Boring terminated at 20 feet. 2-inch PVC monitoring well installed as shown using 0.010 slotted screen from 10 to 20 feet.	
22			
23			
24			
25			

Moisture Content %
Wp |-----x-----| Wl
10 30 50 70

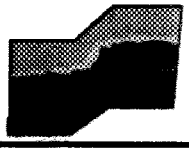
Pocket Penetrometer
△ TSF △
1 2 3 4

SPT (N)
● Blows/ft ●
10 20 30 40



Observ. Well

Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas of the site.



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LOG OF DPT NO. 104

Figure No. B-4

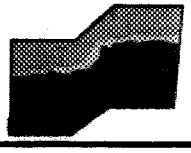
Project: 5221 Ballard Avenue North **Project No:** T-6552 **Date Drilled:** 6/13/11

Client: Halco **Driller:** Boretec **Logged By:** NRH

Location: Ballard, Washington **Approx. Elev:** N/A

Depth (ft)	Sample Interval	Soil Description	Odor/Sheen	Recovery % (20 40 60 80 120)	PID (PPM)	Observ. Well
		7-inch thick concrete slab.				
1–2		Dark brown sandy SILT, moist. Becomes gray.	Light Odor/No	98	0.0	
3–4				100	0.0	
5–9			No/No		0.0	
10–14		Saturated gray silty SAND/sandy SILT. (SM-ML)	No/No	100	0.0	
15–20		Terminated at 15 feet. 2-inch PVC monitoring well with .10 screen from 5 to 15 feet constructed as shown.				

Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas of the site.



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APPENDIX C

SITE SURVEY

GENERAL NOTES:

1. MONITORING WELLS FIELD LOCATED BY JIM ASSOCIATES, LLC ON JUNE 16, 2011.
2. WELLS NUMBERING PROVIDED BY CHUCK LI ASSOCIATES, INC.

BEARING:

E LOT BOUNDARY ADJUSTMENT NO. 2102646, BER 20020123900027 BETWEEN CENTERLINE MONUMENTS ENUE.

F SURVEY:

ATION – FIELD RUN CLOSED TRAVERSE NO ADJUSTMENT 3" TRIMBLE 5603 DR 200+ TOTAL STATION

NTATION:

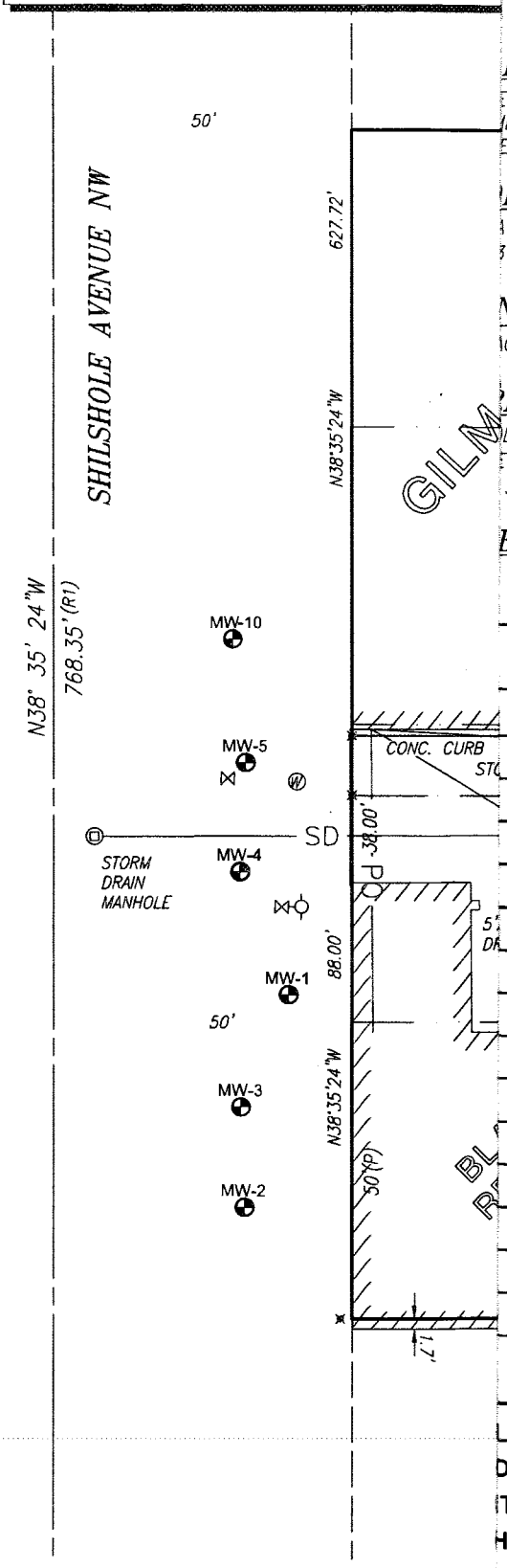
ACY MEETS OR EXCEEDS WAC 332-130-090

K:

L POINT #270 ELEV=68.43
E BRASS CAP AT THE NE QUADRANT OF THE INTERSECTION ST & 20TH AVE NW

ES:

NO. 2102646, REC. NO. 20020123900027



MONITORING WELLS TABLE

	NORTHING	EASTING	ELEVATION
	49953.40675	49720.65929	26.44
	49920.88825	49737.15635	25.98
	49933.74668	49726.23062	26.05
	49964.56995	49701.41058	26.21
	49979.48859	49690.73136	26.32
	49982.02764	49753.36246	26.80
	49964.60250	49797.35017	26.89
	50033.62448	49728.83211	27.97
	50039.93662	49790.61629	30.24
	49994.35597	49676.15005	26.48
	50121.75731	49751.40759	36.77
	50137.73850	49785.71653	36.35
	50161.02956	49798.54575	36.13
	50102.14271	49728.42416	28.23

EXHIBIT #1

LIENT : HALCO PROPERTIES, LLC
DDRESS : P.O. BOX 512
TY: AUBURN STATE: WA
HONE: (206) 910-5787 ZIP: 98071-0512

SCALE: 1" = 30'
DATE: 06/24/11
JOB NO.: 10-19

27 June 2011
\\jho1\drawing-survey\PROJECTS\10-19 Halco LLC\dwg\10-19 MW Exhibit.dwg

APPENDIX D
ANALYTICAL TESTING
SOIL AND GROUNDWATER

5221 Ballard Avenue NW
Seattle, Washington

All soil and groundwater samples were placed into laboratory-prepared glassware. Each sample was given unique sample identification. In the field and on the chain of custody, samples from Boring B-104 (MW-104) were labeled as B-201 (MW-201). All samples were kept refrigerated pending delivery to OnSite Environmental Inc. in Redmond, Washington. Chain of custody protocols were followed for all samples. OnSite Environmental Inc. has accreditation from Ecology for all of the testing performed during this project.

All testing was performed within the designated holding times. At the laboratory, standard quality control procedures were followed. The procedures consisted of sample blanks, duplicates, and matrix spikes. All testing was within normal standards.

Based on our review of the laboratory data, it is our opinion that the results are acceptable for current use.

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 24, 2011

Chuck Lie
Terra Associates, Inc.
12525 Willows Road, Suite 101
Kirkland, WA 98034

Re: Analytical Data for Project 6552
Laboratory Reference No. 1105-064

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on May 6, 2011.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

Case Narrative

Samples were collected on May 6, 2011 and received by the laboratory on May 6, 2011. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH Gx Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The chromatograms for samples B-101-9', B-102-10' and B-103-10' are not similar to those of a typical gas.

Volatiles EPA 8260B Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Some MTCA Method A cleanup levels are non-achievable for samples B-102-10' and B-103-10' due to the necessary dilution of the samples.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-101-9'**					
Laboratory ID:	05-064-02					
Gasoline	**82**	7.0	NWTPH-Gx	5-9-11	5-9-11	T
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*68-124*				
Client ID:	**B-101-14'**					
Laboratory ID:	05-064-03					
Gasoline	**ND**	4.8	NWTPH-Gx	5-9-11	5-9-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*85*	*68-124*				
Client ID:	**B-102-10'**					
Laboratory ID:	05-064-07					
Gasoline	**3900**	120	NWTPH-Gx	5-9-11	5-10-11	T
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*68-124*				
Client ID:	**B-102-15'**					
Laboratory ID:	05-064-09					
Gasoline	**ND**	5.7	NWTPH-Gx	5-9-11	5-9-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*84*	*68-124*				
Client ID:	**B-103-10'**					
Laboratory ID:	05-064-13					
Gasoline	**1400**	100	NWTPH-Gx	5-9-11	5-10-11	T
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*68-124*				
Client ID:	**B-103-15'**					
Laboratory ID:	05-064-15					
Gasoline	**ND**	5.1	NWTPH-Gx	5-9-11	5-10-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*83*	*68-124*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

NWTPH-Gx
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0509S1					
Gasoline	**ND**	5.0	NWTPH-Gx	5-9-11	5-9-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*68-124*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-069-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*96*	*93*	*68-124*			

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-101-9'**					
Laboratory ID:	05-064-02					
Dichlorodifluoromethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Chloromethane	ND	0.0060	EPA 8260	5-10-11	5-10-11	
Vinyl Chloride	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Bromomethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Chloroethane	ND	0.0060	EPA 8260	5-10-11	5-10-11	
Trichlorofluoromethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Acetone	0.022	0.0060	EPA 8260	5-10-11	5-10-11	
Iodomethane	ND	0.0060	EPA 8260	5-10-11	5-10-11	
Carbon Disulfide	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Methylene Chloride	ND	0.0060	EPA 8260	5-10-11	5-10-11	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Vinyl Acetate	ND	0.0060	EPA 8260	5-10-11	5-10-11	
2,2-Dichloropropane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
2-Butanone	ND	0.0060	EPA 8260	5-10-11	5-10-11	
Bromochloromethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Chloroform	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Carbon Tetrachloride	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,1-Dichloropropene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Benzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,2-Dichloroethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Trichloroethene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,2-Dichloropropane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Dibromomethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Bromodichloromethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
2-Chloroethyl Vinyl Ether	ND	0.0060	EPA 8260	5-10-11	5-10-11	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Methyl Isobutyl Ketone	ND	0.0060	EPA 8260	5-10-11	5-10-11	
Toluene	ND	0.0060	EPA 8260	5-10-11	5-10-11	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260	5-10-11	5-10-11	

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-101-9'**					
Laboratory ID:	05-064-02					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Tetrachloroethene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,3-Dichloropropane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
2-Hexanone	ND	0.0060	EPA 8260	5-10-11	5-10-11	
Dibromochloromethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,2-Dibromoethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Chlorobenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Ethylbenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
m,p-Xylene	ND	0.0024	EPA 8260	5-10-11	5-10-11	
o-Xylene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Styrene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Bromoform	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Isopropylbenzene	0.0035	0.0012	EPA 8260	5-10-11	5-10-11	
Bromobenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260	5-10-11	5-10-11	
n-Propylbenzene	0.0049	0.0012	EPA 8260	5-10-11	5-10-11	
2-Chlorotoluene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
4-Chlorotoluene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,3,5-Trimethylbenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
tert-Butylbenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,2,4-Trimethylbenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
sec-Butylbenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
p-Isopropyltoluene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
n-Butylbenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,2-Dibromo-3-chloropropane	ND	0.0060	EPA 8260	5-10-11	5-10-11	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Hexachlorobutadiene	ND	0.0060	EPA 8260	5-10-11	5-10-11	
Naphthalene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260	5-10-11	5-10-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*73*	*63-127*				
Toluene-d8	*85*	*65-129*				
4-Bromofluorobenzene	*81*	*55-121*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-101-14'**					
Laboratory ID:	05-064-03					
Dichlorodifluoromethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Chloromethane	ND	0.0042	EPA 8260	5-10-11	5-10-11	
Vinyl Chloride	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Bromomethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Chloroethane	ND	0.0042	EPA 8260	5-10-11	5-10-11	
Trichlorofluoromethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Acetone	0.013	0.0042	EPA 8260	5-10-11	5-10-11	
Iodomethane	ND	0.0042	EPA 8260	5-10-11	5-10-11	
Carbon Disulfide	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Methylene Chloride	ND	0.0042	EPA 8260	5-10-11	5-10-11	
(trans) 1,2-Dichloroethene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Methyl t-Butyl Ether	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Vinyl Acetate	ND	0.0042	EPA 8260	5-10-11	5-10-11	
2,2-Dichloropropane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
(cis) 1,2-Dichloroethene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
2-Butanone	ND	0.0042	EPA 8260	5-10-11	5-10-11	
Bromochloromethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Chloroform	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,1,1-Trichloroethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Carbon Tetrachloride	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,1-Dichloropropene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Benzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,2-Dichloroethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Trichloroethene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,2-Dichloropropane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Dibromomethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Bromodichloromethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
2-Chloroethyl Vinyl Ether	ND	0.0042	EPA 8260	5-10-11	5-10-11	
(cis) 1,3-Dichloropropene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Methyl Isobutyl Ketone	ND	0.0042	EPA 8260	5-10-11	5-10-11	
Toluene	ND	0.0042	EPA 8260	5-10-11	5-10-11	
(trans) 1,3-Dichloropropene	ND	0.00083	EPA 8260	5-10-11	5-10-11	

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-101-14'**					
Laboratory ID:	05-064-03					
1,1,2-Trichloroethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Tetrachloroethene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,3-Dichloropropane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
2-Hexanone	ND	0.0042	EPA 8260	5-10-11	5-10-11	
Dibromochloromethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,2-Dibromoethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Chlorobenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,1,1,2-Tetrachloroethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Ethylbenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
m,p-Xylene	ND	0.0017	EPA 8260	5-10-11	5-10-11	
o-Xylene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Styrene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Bromoform	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Isopropylbenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Bromobenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,1,2,2-Tetrachloroethane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichloropropane	ND	0.00083	EPA 8260	5-10-11	5-10-11	
n-Propylbenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
2-Chlorotoluene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
4-Chlorotoluene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,3,5-Trimethylbenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
tert-Butylbenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,2,4-Trimethylbenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
sec-Butylbenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,3-Dichlorobenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
p-Isopropyltoluene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,4-Dichlorobenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,2-Dichlorobenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
n-Butylbenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,2-Dibromo-3-chloropropane	ND	0.0042	EPA 8260	5-10-11	5-10-11	
1,2,4-Trichlorobenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Hexachlorobutadiene	ND	0.0042	EPA 8260	5-10-11	5-10-11	
Naphthalene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichlorobenzene	ND	0.00083	EPA 8260	5-10-11	5-10-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*72*	*63-127*				
Toluene-d8	*86*	*65-129*				
4-Bromofluorobenzene	*82*	*55-121*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-102-10'**					
Laboratory ID:	05-064-07					
Dichlorodifluoromethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Chloromethane	ND	0.29	EPA 8260	5-10-11	5-11-11	
Vinyl Chloride	ND	0.058	EPA 8260	5-10-11	5-11-11	
Bromomethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Chloroethane	ND	0.29	EPA 8260	5-10-11	5-11-11	
Trichlorofluoromethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,1-Dichloroethene	ND	0.058	EPA 8260	5-10-11	5-11-11	
Acetone	ND	0.29	EPA 8260	5-10-11	5-11-11	
Iodomethane	ND	0.29	EPA 8260	5-10-11	5-11-11	
Carbon Disulfide	ND	0.058	EPA 8260	5-10-11	5-11-11	
Methylene Chloride	ND	0.29	EPA 8260	5-10-11	5-11-11	
(trans) 1,2-Dichloroethene	ND	0.058	EPA 8260	5-10-11	5-11-11	
Methyl t-Butyl Ether	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,1-Dichloroethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Vinyl Acetate	ND	0.29	EPA 8260	5-10-11	5-11-11	
2,2-Dichloropropane	ND	0.058	EPA 8260	5-10-11	5-11-11	
(cis) 1,2-Dichloroethene	ND	0.058	EPA 8260	5-10-11	5-11-11	
2-Butanone	ND	0.29	EPA 8260	5-10-11	5-11-11	
Bromochloromethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Chloroform	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,1,1-Trichloroethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Carbon Tetrachloride	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,1-Dichloropropene	ND	0.058	EPA 8260	5-10-11	5-11-11	
Benzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,2-Dichloroethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Trichloroethene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,2-Dichloropropane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Dibromomethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Bromodichloromethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
2-Chloroethyl Vinyl Ether	ND	0.29	EPA 8260	5-10-11	5-11-11	
(cis) 1,3-Dichloropropene	ND	0.058	EPA 8260	5-10-11	5-11-11	
Methyl Isobutyl Ketone	ND	0.29	EPA 8260	5-10-11	5-11-11	
Toluene	ND	0.29	EPA 8260	5-10-11	5-11-11	
(trans) 1,3-Dichloropropene	ND	0.058	EPA 8260	5-10-11	5-11-11	

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-102-10'**					
Laboratory ID:	05-064-07					
1,1,2-Trichloroethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Tetrachloroethene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,3-Dichloropropane	ND	0.058	EPA 8260	5-10-11	5-11-11	
2-Hexanone	ND	0.29	EPA 8260	5-10-11	5-11-11	
Dibromochloromethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,2-Dibromoethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Chlorobenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,1,1,2-Tetrachloroethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
Ethylbenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
m,p-Xylene	ND	0.12	EPA 8260	5-10-11	5-11-11	
o-Xylene	ND	0.058	EPA 8260	5-10-11	5-11-11	
Styrene	ND	0.058	EPA 8260	5-10-11	5-11-11	
Bromoform	ND	0.058	EPA 8260	5-10-11	5-11-11	
Isopropylbenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
Bromobenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,1,2,2-Tetrachloroethane	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,2,3-Trichloropropane	ND	0.058	EPA 8260	5-10-11	5-11-11	
n-Propylbenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
2-Chlorotoluene	ND	0.058	EPA 8260	5-10-11	5-11-11	
4-Chlorotoluene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,3,5-Trimethylbenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
tert-Butylbenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,2,4-Trimethylbenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
sec-Butylbenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,3-Dichlorobenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
p-Isopropyltoluene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,4-Dichlorobenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,2-Dichlorobenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
n-Butylbenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,2-Dibromo-3-chloropropane	ND	0.29	EPA 8260	5-10-11	5-11-11	
1,2,4-Trichlorobenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
Hexachlorobutadiene	ND	0.29	EPA 8260	5-10-11	5-11-11	
Naphthalene	ND	0.058	EPA 8260	5-10-11	5-11-11	
1,2,3-Trichlorobenzene	ND	0.058	EPA 8260	5-10-11	5-11-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*63*	*63-127*				
Toluene-d8	*79*	*65-129*				
4-Bromofluorobenzene	*78*	*55-121*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-102-15'**					
Laboratory ID:	05-064-09					
Dichlorodifluoromethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Chloromethane	ND	0.0047	EPA 8260	5-10-11	5-10-11	
Vinyl Chloride	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Bromomethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Chloroethane	ND	0.0047	EPA 8260	5-10-11	5-10-11	
Trichlorofluoromethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Acetone	0.0084	0.0047	EPA 8260	5-10-11	5-10-11	
Iodomethane	ND	0.0047	EPA 8260	5-10-11	5-10-11	
Carbon Disulfide	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Methylene Chloride	ND	0.0047	EPA 8260	5-10-11	5-10-11	
(trans) 1,2-Dichloroethene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Methyl t-Butyl Ether	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Vinyl Acetate	ND	0.0047	EPA 8260	5-10-11	5-10-11	
2,2-Dichloropropane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
(cis) 1,2-Dichloroethene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
2-Butanone	ND	0.0047	EPA 8260	5-10-11	5-10-11	
Bromochloromethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Chloroform	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,1,1-Trichloroethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Carbon Tetrachloride	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,1-Dichloropropene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Benzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,2-Dichloroethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Trichloroethene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,2-Dichloropropane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Dibromomethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Bromodichloromethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
2-Chloroethyl Vinyl Ether	ND	0.0047	EPA 8260	5-10-11	5-10-11	
(cis) 1,3-Dichloropropene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Methyl Isobutyl Ketone	ND	0.0047	EPA 8260	5-10-11	5-10-11	
Toluene	ND	0.0047	EPA 8260	5-10-11	5-10-11	
(trans) 1,3-Dichloropropene	ND	0.00095	EPA 8260	5-10-11	5-10-11	

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-102-15'**					
Laboratory ID:	05-064-09					
1,1,2-Trichloroethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Tetrachloroethene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,3-Dichloropropane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
2-Hexanone	ND	0.0047	EPA 8260	5-10-11	5-10-11	
Dibromochloromethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,2-Dibromoethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Chlorobenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,1,1,2-Tetrachloroethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Ethylbenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
m,p-Xylene	ND	0.0019	EPA 8260	5-10-11	5-10-11	
o-Xylene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Styrene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Bromoform	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Isopropylbenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Bromobenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,1,2,2-Tetrachloroethane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichloropropane	ND	0.00095	EPA 8260	5-10-11	5-10-11	
n-Propylbenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
2-Chlorotoluene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
4-Chlorotoluene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,3,5-Trimethylbenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
tert-Butylbenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,2,4-Trimethylbenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
sec-Butylbenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,3-Dichlorobenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
p-Isopropyltoluene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,4-Dichlorobenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,2-Dichlorobenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
n-Butylbenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,2-Dibromo-3-chloropropane	ND	0.0047	EPA 8260	5-10-11	5-10-11	
1,2,4-Trichlorobenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Hexachlorobutadiene	ND	0.0047	EPA 8260	5-10-11	5-10-11	
Naphthalene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichlorobenzene	ND	0.00095	EPA 8260	5-10-11	5-10-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*71*	*63-127*				
Toluene-d8	*86*	*65-129*				
4-Bromofluorobenzene	*85*	*55-121*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-103-10'**					
Laboratory ID:	05-064-13					
Dichlorodifluoromethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Chloromethane	ND	0.28	EPA 8260	5-10-11	5-11-11	
Vinyl Chloride	ND	0.056	EPA 8260	5-10-11	5-11-11	
Bromomethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Chloroethane	ND	0.28	EPA 8260	5-10-11	5-11-11	
Trichlorofluoromethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,1-Dichloroethene	ND	0.056	EPA 8260	5-10-11	5-11-11	
Acetone	ND	0.28	EPA 8260	5-10-11	5-11-11	
Iodomethane	ND	0.28	EPA 8260	5-10-11	5-11-11	
Carbon Disulfide	ND	0.056	EPA 8260	5-10-11	5-11-11	
Methylene Chloride	ND	0.28	EPA 8260	5-10-11	5-11-11	
(trans) 1,2-Dichloroethene	ND	0.056	EPA 8260	5-10-11	5-11-11	
Methyl t-Butyl Ether	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,1-Dichloroethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Vinyl Acetate	ND	0.28	EPA 8260	5-10-11	5-11-11	
2,2-Dichloropropane	ND	0.056	EPA 8260	5-10-11	5-11-11	
(cis) 1,2-Dichloroethene	ND	0.056	EPA 8260	5-10-11	5-11-11	
2-Butanone	ND	0.28	EPA 8260	5-10-11	5-11-11	
Bromochloromethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Chloroform	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,1,1-Trichloroethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Carbon Tetrachloride	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,1-Dichloropropene	ND	0.056	EPA 8260	5-10-11	5-11-11	
Benzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,2-Dichloroethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Trichloroethene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,2-Dichloropropane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Dibromomethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Bromodichloromethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
2-Chloroethyl Vinyl Ether	ND	0.28	EPA 8260	5-10-11	5-11-11	
(cis) 1,3-Dichloropropene	ND	0.056	EPA 8260	5-10-11	5-11-11	
Methyl Isobutyl Ketone	ND	0.28	EPA 8260	5-10-11	5-11-11	
Toluene	ND	0.28	EPA 8260	5-10-11	5-11-11	
(trans) 1,3-Dichloropropene	ND	0.056	EPA 8260	5-10-11	5-11-11	

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-103-10'**					
Laboratory ID:	05-064-13					
1,1,2-Trichloroethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Tetrachloroethene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,3-Dichloropropane	ND	0.056	EPA 8260	5-10-11	5-11-11	
2-Hexanone	ND	0.28	EPA 8260	5-10-11	5-11-11	
Dibromochloromethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,2-Dibromoethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Chlorobenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,1,1,2-Tetrachloroethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
Ethylbenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
m,p-Xylene	ND	0.11	EPA 8260	5-10-11	5-11-11	
o-Xylene	ND	0.056	EPA 8260	5-10-11	5-11-11	
Styrene	ND	0.056	EPA 8260	5-10-11	5-11-11	
Bromoform	ND	0.056	EPA 8260	5-10-11	5-11-11	
Isopropylbenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
Bromobenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,1,2,2-Tetrachloroethane	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,2,3-Trichloropropane	ND	0.056	EPA 8260	5-10-11	5-11-11	
n-Propylbenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
2-Chlorotoluene	ND	0.056	EPA 8260	5-10-11	5-11-11	
4-Chlorotoluene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,3,5-Trimethylbenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
tert-Butylbenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,2,4-Trimethylbenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
sec-Butylbenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,3-Dichlorobenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
p-Isopropyltoluene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,4-Dichlorobenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,2-Dichlorobenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
n-Butylbenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,2-Dibromo-3-chloropropane	ND	0.28	EPA 8260	5-10-11	5-11-11	
1,2,4-Trichlorobenzene	ND	0.056	EPA 8260	5-10-11	5-11-11	
Hexachlorobutadiene	ND	0.28	EPA 8260	5-10-11	5-11-11	
Naphthalene	ND	0.056	EPA 8260	5-10-11	5-11-11	
1,2,3-Trichlorobenzene	0.086	0.056	EPA 8260	5-10-11	5-11-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*67*	*63-127*				
Toluene-d8	*82*	*65-129*				
4-Bromofluorobenzene	*80*	*55-121*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-103-15'**					
Laboratory ID:	05-064-15					
Dichlorodifluoromethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Chloromethane	ND	0.0046	EPA 8260	5-10-11	5-10-11	
Vinyl Chloride	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Bromomethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Chloroethane	ND	0.0046	EPA 8260	5-10-11	5-10-11	
Trichlorofluoromethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Acetone	0.0082	0.0046	EPA 8260	5-10-11	5-10-11	
Iodomethane	ND	0.0046	EPA 8260	5-10-11	5-10-11	
Carbon Disulfide	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Methylene Chloride	ND	0.0046	EPA 8260	5-10-11	5-10-11	
(trans) 1,2-Dichloroethene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Methyl t-Butyl Ether	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Vinyl Acetate	ND	0.0046	EPA 8260	5-10-11	5-10-11	
2,2-Dichloropropane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
(cis) 1,2-Dichloroethene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
2-Butanone	ND	0.0046	EPA 8260	5-10-11	5-10-11	
Bromochloromethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Chloroform	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,1,1-Trichloroethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Carbon Tetrachloride	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,1-Dichloropropene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Benzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,2-Dichloroethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Trichloroethene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,2-Dichloropropane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Dibromomethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Bromodichloromethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
2-Chloroethyl Vinyl Ether	ND	0.0046	EPA 8260	5-10-11	5-10-11	
(cis) 1,3-Dichloropropene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Methyl Isobutyl Ketone	ND	0.0046	EPA 8260	5-10-11	5-10-11	
Toluene	ND	0.0046	EPA 8260	5-10-11	5-10-11	
(trans) 1,3-Dichloropropene	ND	0.00092	EPA 8260	5-10-11	5-10-11	

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-103-15'**					
Laboratory ID:	05-064-15					
1,1,2-Trichloroethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Tetrachloroethene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,3-Dichloropropane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
2-Hexanone	ND	0.0046	EPA 8260	5-10-11	5-10-11	
Dibromochloromethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,2-Dibromoethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Chlorobenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,1,1,2-Tetrachloroethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Ethylbenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
m,p-Xylene	ND	0.0018	EPA 8260	5-10-11	5-10-11	
o-Xylene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Styrene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Bromoform	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Isopropylbenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Bromobenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,1,2,2-Tetrachloroethane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichloropropane	ND	0.00092	EPA 8260	5-10-11	5-10-11	
n-Propylbenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
2-Chlorotoluene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
4-Chlorotoluene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,3,5-Trimethylbenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
tert-Butylbenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,2,4-Trimethylbenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
sec-Butylbenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,3-Dichlorobenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
p-Isopropyltoluene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,4-Dichlorobenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,2-Dichlorobenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
n-Butylbenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,2-Dibromo-3-chloropropane	ND	0.0046	EPA 8260	5-10-11	5-10-11	
1,2,4-Trichlorobenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Hexachlorobutadiene	ND	0.0046	EPA 8260	5-10-11	5-10-11	
Naphthalene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichlorobenzene	ND	0.00092	EPA 8260	5-10-11	5-10-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*69*	*63-127*				
Toluene-d8	*82*	*65-129*				
4-Bromofluorobenzene	*82*	*55-121*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0510S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Chloromethane	ND	0.0050	EPA 8260	5-10-11	5-10-11	
Vinyl Chloride	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Bromomethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Chloroethane	ND	0.0050	EPA 8260	5-10-11	5-10-11	
Trichlorofluoromethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Acetone	ND	0.0050	EPA 8260	5-10-11	5-10-11	
Iodomethane	ND	0.0050	EPA 8260	5-10-11	5-10-11	
Carbon Disulfide	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Methylene Chloride	ND	0.0050	EPA 8260	5-10-11	5-10-11	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,1-Dichloroethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Vinyl Acetate	ND	0.0050	EPA 8260	5-10-11	5-10-11	
2,2-Dichloropropane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
2-Butanone	ND	0.0050	EPA 8260	5-10-11	5-10-11	
Bromochloromethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Chloroform	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Carbon Tetrachloride	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,1-Dichloropropene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Benzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,2-Dichloroethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Trichloroethene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,2-Dichloropropane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Dibromomethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Bromodichloromethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260	5-10-11	5-10-11	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260	5-10-11	5-10-11	
Toluene	ND	0.0050	EPA 8260	5-10-11	5-10-11	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260	5-10-11	5-10-11	

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0510S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Tetrachloroethene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,3-Dichloropropane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
2-Hexanone	ND	0.0050	EPA 8260	5-10-11	5-10-11	
Dibromochloromethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,2-Dibromoethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Chlorobenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Ethylbenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
m,p-Xylene	ND	0.0020	EPA 8260	5-10-11	5-10-11	
o-Xylene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Styrene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Bromoform	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Isopropylbenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Bromobenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260	5-10-11	5-10-11	
n-Propylbenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
2-Chlorotoluene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
4-Chlorotoluene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
tert-Butylbenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
sec-Butylbenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
p-Isopropyltoluene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
n-Butylbenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260	5-10-11	5-10-11	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Hexachlorobutadiene	ND	0.0050	EPA 8260	5-10-11	5-10-11	
Naphthalene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260	5-10-11	5-10-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*75*	*63-127*				
Toluene-d8	*87*	*65-129*				
4-Bromofluorobenzene	*84*	*55-121*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0510S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0488**	**0.0466**	0.0500	0.0500	98	93	70-130	5	19	
Benzene	**0.0392**	**0.0402**	0.0500	0.0500	78	80	70-125	3	15	
Trichloroethene	**0.0490**	**0.0509**	0.0500	0.0500	98	102	70-122	4	14	
Toluene	**0.0464**	**0.0466**	0.0500	0.0500	93	93	73-120	0	16	
Chlorobenzene	**0.0464**	**0.0470**	0.0500	0.0500	93	94	74-109	1	12	
Surrogate:										
Dibromofluoromethane					*69*	*69*	*63-127*			
Toluene-d8					*79*	*78*	*65-129*			
4-Bromofluorobenzene					*77*	*77*	*55-121*			

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

PAHs by EPA 8270D/SIM
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-102-10'**					
Laboratory ID:	05-064-07					
Naphthalene	**0.011**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
2-Methylnaphthalene	**ND**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
1-Methylnaphthalene	**0.0097**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Acenaphthylene	**ND**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Acenaphthene	**ND**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Fluorene	**ND**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Phenanthrene	**0.026**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Anthracene	**ND**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Fluoranthene	**0.032**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Pyrene	**0.051**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Benzo[a]anthracene	**0.0093**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Chrysene	**0.011**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Benzo[b]fluoranthene	**0.0084**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Benzo(j,k)fluoranthene	**0.0087**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Benzo[a]pyrene	**0.014**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Dibenz[a,h]anthracene	**ND**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Benzo[g,h,i]perylene	**ND**	0.0078	EPA 8270/SIM	5-18-11	5-19-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*59*	*43 - 109*				
Pyrene-d10	*72*	*38 - 128*				
Terphenyl-d14	*61*	*33 - 119*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

PAHs by EPA 8270D/SIM
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-103-10'**					
Laboratory ID:	05-064-13					
Naphthalene	**0.019**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
2-Methylnaphthalene	**ND**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
1-Methylnaphthalene	**ND**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Acenaphthylene	**ND**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Acenaphthene	**0.0084**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Fluorene	**ND**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Phenanthrene	**0.039**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Anthracene	**0.011**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Fluoranthene	**0.070**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Pyrene	**0.11**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Benzo[a]anthracene	**0.035**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Chrysene	**0.046**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Benzo[b]fluoranthene	**0.039**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Benzo(j,k)fluoranthene	**0.035**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Benzo[a]pyrene	**0.067**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Indeno(1,2,3-c,d)pyrene	**0.030**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Dibenz[a,h]anthracene	**0.0092**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Benzo[g,h,i]perylene	**0.038**	0.0076	EPA 8270/SIM	5-18-11	5-19-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*64*	*43 - 109*				
Pyrene-d10	*65*	*38 - 128*				
Terphenyl-d14	*81*	*33 - 119*				

0.1 mg/kg - MTCA A Cleanup level for all cPAHs
B-103-10' = 0.2612

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0518S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Fluorene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Anthracene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Pyrene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Chrysene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	5-18-11	5-18-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*62*	*43 - 109*				
Pyrene-d10	*65*	*38 - 128*				
Terphenyl-d14	*56*	*33 - 119*				

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

PAHs by EPA 8270D/SIM
MS/MSD QUALITY CONTROL
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	05-107-02										
	MS	MSD	MS	MSD		MS	MSD				
Naphthalene	**0.0580**	**0.0562**	0.0833	0.0833	ND	70	67	39 - 110	3	21	
Acenaphthylene	**0.0697**	**0.0674**	0.0833	0.0833	ND	84	81	47 - 124	3	21	
Acenaphthene	**0.0625**	**0.0604**	0.0833	0.0833	ND	75	73	50 - 120	3	20	
Fluorene	**0.0588**	**0.0576**	0.0833	0.0833	ND	71	69	52 - 126	2	21	
Phenanthrene	**0.0547**	**0.0536**	0.0833	0.0833	ND	66	64	41 - 130	2	22	
Anthracene	**0.0669**	**0.0656**	0.0833	0.0833	ND	80	79	48 - 124	2	23	
Fluoranthene	**0.0605**	**0.0591**	0.0833	0.0833	ND	73	71	40 - 137	2	23	
Pyrene	**0.0615**	**0.0606**	0.0833	0.0833	ND	74	73	36 - 139	1	23	
Benzo[a]anthracene	**0.0570**	**0.0561**	0.0833	0.0833	ND	68	67	43 - 127	2	21	
Chrysene	**0.0571**	**0.0561**	0.0833	0.0833	ND	69	67	41 - 133	2	19	
Benzo[b]fluoranthene	**0.0575**	**0.0554**	0.0833	0.0833	ND	69	67	40 - 132	4	25	
Benzo(j,k)fluoranthene	**0.0584**	**0.0539**	0.0833	0.0833	ND	70	65	35 - 132	8	25	
Benzo[a]pyrene	**0.0634**	**0.0627**	0.0833	0.0833	ND	76	75	37 - 131	1	26	
Indeno(1,2,3-c,d)pyrene	**0.0580**	**0.0567**	0.0833	0.0833	ND	70	68	39 - 134	2	23	
Dibenz[a,h]anthracene	**0.0591**	**0.0579**	0.0833	0.0833	ND	71	70	40 - 137	2	21	
Benzo[g,h,i]perylene	**0.0580**	**0.0568**	0.0833	0.0833	ND	70	68	35 - 135	2	22	
Surrogate:											
2-Fluorobiphenyl						*72*	*70*	*43 - 109*			
Pyrene-d10						*77*	*76*	*38 - 128*			
Terphenyl-d14						*71*	*68*	*33 - 119*			

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILE PETROLEUM HYDROCARBONS

Date Extracted:	5-9-11
Date Analyzed:	5-11-11
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	05-064-07
Client ID:	**B-102-10'**

VPH:	**Results**	**PQL**
Aliphatic C5-C6	ND	5.0
Aliphatic C6-C8	ND	5.0
Aliphatic C8-C10	ND	5.0
Aliphatic C10-C12	3400	5.8
Total Aliphatic:	3400	
Aromatic C8-C10	340	5.0
Aromatic C10-C12	820	5.8
Aromatic C12-C13	100	5.0
Total Aromatic:	1300	

Surrogate:	**Percent Recovery**	**Control Limits**
Fluorobenzene	84	68-124

Flags:

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILE PETROLEUM HYDROCARBONS

Date Extracted:	5-9-11
Date Analyzed:	5-11-11
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	05-064-13
Client ID:	**B-103-10'**

VPH:	**Results**	**PQL**
Aliphatic C5-C6	ND	5.0
Aliphatic C6-C8	ND	5.0
Aliphatic C8-C10	ND	5.0
Aliphatic C10-C12	1100	5.0
Total Aliphatic:	1100	
Aromatic C8-C10	95	5.0
Aromatic C10-C12	260	5.0
Aromatic C12-C13	52	5.0
Total Aromatic:	400	

Surrogate:	**Percent Recovery**	**Control Limits**
Fluorobenzene	79	68-124

Flags:

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILE PETROLEUM HYDROCARBONS
METHOD BLANK QUALITY CONTROL

Date Extracted:	5-9-11
Date Analyzed:	5-11-11
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0509S1

VPH:	Results	PQL
Aliphatic C5-C6	ND	5.0
Aliphatic C6-C8	ND	5.0
Aliphatic C8-C10	ND	5.0
Aliphatic C10-C12	ND	5.0
Total Aliphatic:	NA	
Aromatic C8-C10	ND	5.0
Aromatic C10-C12	ND	5.0
Aromatic C12-C13	ND	5.0
Total Aromatic:	NA	

Surrogate:	Percent Recovery	Control Limits
Fluorobenzene	91	68-124

Flags:

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

VOLATILE PETROLEUM HYDROCARBONS
DUPLICATE QUALITY CONTROL

Date Extracted: 5-9-11
Date Analyzed: 5-11-11

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 05-064-13 05-064-13 DUP

	Result	Percent Recovery	Result	Percent Recovery	PQL	RPD
VPH:						
Aliphatic C5-C6	ND	NA	ND	NA	5.0	NA
Aliphatic C6-C8	ND	NA	ND	NA	5.0	NA
Aliphatic C8-C10	ND	NA	ND	NA	5.0	NA
Aliphatic C10-C12	1080	NA	1080	NA	5.0	0
Total Aliphatic:	1080		1080			
Aromatic C8-C10	95.4	NA	95.4	NA	5.0	0
Aromatic C10-C12	255	NA	255	NA	5.0	0
Aromatic C12-C13	52.1	NA	51.9	NA	5.0	0
Total Aromatic:	403		402			

Surrogate:	Percent Recovery	Percent Recovery	Control Limits
Fluorobenzene	79	89	68-124

Date of Report: May 24, 2011
Samples Submitted: May 6, 2011
Laboratory Reference: 1105-064
Project: 6552

% MOISTURE

Date Analyzed: 5-10-11

Client ID	Lab ID	% Moisture
B-101-9'	05-064-02	22
B-101-14'	05-064-03	10
B-102-10'	05-064-07	14
B-102-15'	05-064-09	10
B-103-10'	05-064-13	12
B-103-15'	05-064-15	12

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical gas.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	OnSite Environmental Inc. 14648 NE 95th Street Redmond, WA 98052	DATE: ALS JOB#: ALS SAMPLE#:	5/18/2011 1105071 -01
CLIENT CONTACT:	Dave Baumeister	DATE RECEIVED:	5/16/2011
CLIENT PROJECT:	Proj # 6552 / Lab Ref# 05-064	COLLECTION DATE:	5/6/2011 11:32
CLIENT SAMPLE ID	B-102-10'	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	**37**	5.0	1	MG/KG	05/17/2011	EBS
>C10-C12 Aliphatics	NWEPH	**650**	5.0	1	MG/KG	05/17/2011	EBS
>C12-C16 Aliphatics	NWEPH	**120**	5.0	1	MG/KG	05/17/2011	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	05/17/2011	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	05/17/2011	EBS
>C8-C10 Aromatics	NWEPH	**5.2**	5.0	1	MG/KG	05/18/2011	EBS
>C10-C12 Aromatics	NWEPH	**18**	5.0	1	MG/KG	05/18/2011	EBS
>C12-C16 Aromatics	NWEPH	**13**	5.0	1	MG/KG	05/18/2011	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	05/18/2011	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	05/18/2011	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWEPH	**87.0**	05/17/2011	EBS
p-Terphenyl	NWEPH	**90.0**	05/18/2011	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 PHONE 425-356-2600 FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	OnSite Environmental Inc. 14648 NE 95th Street Redmond, WA 98052	DATE: ALS JOB#: ALS SAMPLE#:	5/18/2011 1105071 -02
CLIENT CONTACT:	Dave Baumeister	DATE RECEIVED:	5/16/2011
CLIENT PROJECT:	Proj # 6552 / Lab Ref# 05-064	COLLECTION DATE:	5/6/2011 14:00
CLIENT SAMPLE ID	B-103-10'	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	**46**	5.0	1	MG/KG	05/17/2011	EBS
>C10-C12 Aliphatics	NWEPH	**590**	5.0	1	MG/KG	05/17/2011	EBS
>C12-C16 Aliphatics	NWEPH	**240**	5.0	1	MG/KG	05/17/2011	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	05/17/2011	EBS
>C21-C34 Aliphatics	NWEPH	**46**	5.0	1	MG/KG	05/17/2011	EBS
>C8-C10 Aromatics	NWEPH	U	5.0	1	MG/KG	05/18/2011	EBS
>C10-C12 Aromatics	NWEPH	**9.3**	5.0	1	MG/KG	05/18/2011	EBS
>C12-C16 Aromatics	NWEPH	**9.1**	5.0	1	MG/KG	05/18/2011	EBS
>C16-C21 Aromatics	NWEPH	**33**	5.0	1	MG/KG	05/18/2011	EBS
>C21-C34 Aromatics	NWEPH	**93**	5.0	1	MG/KG	05/18/2011	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWEPH	**98.0**	05/17/2011	EBS
p-Terphenyl	NWEPH	**93.0**	05/18/2011	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	OnSite Environmental Inc. 14648 NE 95th Street Redmond, WA 98052	DATE: ALS SDG#: WDOE ACCREDITATION:	5/18/2011 1105071 C601
CLIENT CONTACT:	Dave Baumeister		
CLIENT PROJECT:	Proj # 6552 / Lab Ref# 05-064		

LABORATORY BLANK RESULTS

MBLK-5172011 - Batch R73504 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	U	5.0	1	MG/KG	05/17/2011	EBS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	05/17/2011	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	05/17/2011	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	05/17/2011	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	05/17/2011	EBS

MBLK-5182011 - Batch R73509 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aromatics	NWEPH	U	5.0	1	MG/KG	05/18/2011	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	05/18/2011	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	05/18/2011	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	05/18/2011	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	05/18/2011	EBS

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ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	OnSite Environmental Inc. 14648 NE 95th Street Redmond, WA 98052	DATE: ALS SDG#: WDOE ACCREDITATION:	5/18/2011 1105071 C601
CLIENT CONTACT:	Dave Baumeister		
CLIENT PROJECT:	Proj # 6552 / Lab Ref# 05-064		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R73504 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics - BS	NWEPH	**84.0**			05/17/2011	EBS
>C8-C10 Aliphatics - BSD	NWEPH	**83.0**	**1**		05/17/2011	EBS
>C10-C12 Aliphatics - BS	NWEPH	**90.0**			05/17/2011	EBS
>C10-C12 Aliphatics - BSD	NWEPH	**92.0**	**2**		05/17/2011	EBS
>C12-C16 Aliphatics - BS	NWEPH	**96.0**			05/17/2011	EBS
>C12-C16 Aliphatics - BSD	NWEPH	**100**	**4**		05/17/2011	EBS
>C16-C21 Aliphatics - BS	NWEPH	**95.0**			05/17/2011	EBS
>C16-C21 Aliphatics - BSD	NWEPH	**99.0**	**4**		05/17/2011	EBS
>C21-C34 Aliphatics - BS	NWEPH	**82.0**			05/17/2011	EBS
>C21-C34 Aliphatics - BSD	NWEPH	**83.0**	**1**		05/17/2011	EBS

ALS Test Batch ID: R73509 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aromatics - BS	NWEPH	**89.0**			05/18/2011	EBS
>C8-C10 Aromatics - BSD	NWEPH	**87.0**	**2**		05/18/2011	EBS
>C10-C12 Aromatics - BS	NWEPH	**91.0**			05/18/2011	EBS
>C10-C12 Aromatics - BSD	NWEPH	**91.0**	**0**		05/18/2011	EBS
>C12-C16 Aromatics - BS	NWEPH	**96.0**			05/18/2011	EBS
>C12-C16 Aromatics - BSD	NWEPH	**98.0**	**2**		05/18/2011	EBS
>C16-C21 Aromatics - BS	NWEPH	**96.0**			05/18/2011	EBS
>C16-C21 Aromatics - BSD	NWEPH	**97.0**	**1**		05/18/2011	EBS
>C21-C34 Aromatics - BS	NWEPH	**81.0**			05/18/2011	EBS
>C21-C34 Aromatics - BSD	NWEPH	**81.0**	**0**		05/18/2011	EBS

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 PHONE 425-356-2600 FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

1105071

Page 1 of 1

OnSite Environmental Inc.

14648 NE 95th Street, Redmond, WA 98052 · (425) 883-3881

Subcontract Laboratory: ALS

Contact Person:

Address:

Phone Number:

Date/Time:

Turnaround Request:

1 Day 2 Day 3 Day

(Standard)

Other:

Laboratory Reference #: 05-064

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com

Project Number: 6552

Project Name:

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Requested Analysis
1	B-102-10'	5/6/11	1132	S	1	EPH
2	B-103-10'	↓	1400	↓	↓	↓

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by:		OnSite Env.	5/16/11	1530	
Received by:		Speedy	5/16/11	1530	
Relinquished by:		ALS	5/16/11	1730	
Received by:					
Relinquished by:					
Received by:					

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Tetra Associates
Project Number: 6552
Project Name: _____
Project Manager: Chuck Lie
Sampled by: Nicolas R. Hoffman

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 05-064

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	EPH	VPH				% Moisture
1	B-101 -4'	5/6/11	8:44	S	5																					
2	B-101 -9'		8:55					X		X																X
3	B-101 -14'		9:08					X		X																X
4	B-101 -16.5'		9:28																							
5	B-101 -F6.5'		9:38																							
6	B-102 -5'		11:22																							
7	B-102 -10'		11:32					X		X			⊗								⊗	⊗				X
8	B-102 -12.5'		11:40																							
9	B-102 -15'		11:48					X		X																X
10	B-102 -17.5'		11:55																							

	Signature	Company	Date	Time
Relinquished		TAI	5/6/11	
Received			5/6/11	1730
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
~~Hold, Chuck will email copy with needed analysis.~~ DB
Follow-up highest 2 TPH Samples with EPH/VPH

Chromatograms with final report ☐ ⊗ Added 5/16/11. DB (STA)

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

Chain of Custody

Page 2 of 2

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Terra Associates
Project Number: 6552
Project Name: ———
Project Manager: Chuck Lia
Sampled by: Nicolas R. Hoffman

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 05-064

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	TEPH	VPH					% Moisture
11	B-102 -20'	5/6/11	12:55	S	5																						
12	B-103 -5'		13:53																								
13	B-103 -10'		14:00					X		X			⊗								⊗	⊗					X
14	B-103 -12.5'		14:10																								
15	B-103 -15'		14:18					X		X																	X
16	B-103 -17.5'		14:28																								
17	B-103 -20'		14:38																								

	Signature	Company	Date	Time
Relinquished		TAI	5/6/11	
Received		COE	5/6/11	1730
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
⊗ Added 5/16/11. DB (STA)

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 20, 2011

Chuck Lie
Terra Associates, Inc.
12525 Willows Road, Suite 101
Kirkland, WA 98034

Re: Analytical Data for Project 6552
Laboratory Reference No. 1106-112

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on June 13, 2011.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

Case Narrative

Samples were collected on June 13, 2011 and received by the laboratory on June 13, 2011. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH Gx and Volatiles EPA 8260B Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**VP-1-18'**					
Laboratory ID:	06-112-01					
Gasoline	**ND**	5.8	NWTPH-Gx	6-14-11	6-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*80*	*68-124*				
Client ID:	**MW-201-2.5'**					
Laboratory ID:	06-112-03					
Gasoline	**15**	6.9	NWTPH-Gx	6-14-11	6-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*81*	*68-124*				
Client ID:	**MW-201-5'**					
Laboratory ID:	06-112-04					
Gasoline	**10**	6.0	NWTPH-Gx	6-14-11	6-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*81*	*68-124*				
Client ID:	**VP-2-18"**					
Laboratory ID:	06-112-07					
Gasoline	**140**	13	NWTPH-Gx	6-14-11	6-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*83*	*68-124*				
Client ID:	**VP-2-3.5'**					
Laboratory ID:	06-112-08					
Gasoline	**9.7**	6.6	NWTPH-Gx	6-14-11	6-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*78*	*68-124*				
Client ID:	**VP-3-18"**					
Laboratory ID:	06-112-09					
Gasoline	**ND**	5.5	NWTPH-Gx	6-14-11	6-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*80*	*68-124*				

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**VP-3-4'**					
Laboratory ID:	06-112-10					
Gasoline	**ND**	5.7	NWTPH-Gx	6-14-11	6-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*81*	*68-124*				

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

NWTPH-Gx
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0614S1					
Gasoline	**ND**	5.0	NWTPH-Gx	6-14-11	6-15-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*68-124*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	06-106-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*86*	*86*	*68-124*			

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

VOLATILES by EPA 8260B
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-201-2.5'**					
Laboratory ID:	06-112-03					
Dichlorodifluoromethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Chloromethane	ND	0.0065	EPA 8260	6-14-11	6-14-11	
Vinyl Chloride	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Bromomethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Chloroethane	ND	0.0065	EPA 8260	6-14-11	6-14-11	
Trichlorofluoromethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,1-Dichloroethene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Acetone	0.037	0.0065	EPA 8260	6-14-11	6-14-11	
Iodomethane	ND	0.0065	EPA 8260	6-14-11	6-14-11	
Carbon Disulfide	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Methylene Chloride	ND	0.0065	EPA 8260	6-14-11	6-14-11	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,1-Dichloroethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Vinyl Acetate	ND	0.0065	EPA 8260	6-14-11	6-14-11	
2,2-Dichloropropane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
2-Butanone	ND	0.0065	EPA 8260	6-14-11	6-14-11	
Bromochloromethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Chloroform	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Carbon Tetrachloride	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,1-Dichloropropene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Benzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,2-Dichloroethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Trichloroethene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,2-Dichloropropane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Dibromomethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Bromodichloromethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
2-Chloroethyl Vinyl Ether	ND	0.0065	EPA 8260	6-14-11	6-14-11	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Methyl Isobutyl Ketone	ND	0.0065	EPA 8260	6-14-11	6-14-11	
Toluene	ND	0.0065	EPA 8260	6-14-11	6-14-11	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260	6-14-11	6-14-11	

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

VOLATILES by EPA 8260B
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-201-2.5'**					
Laboratory ID:	06-112-03					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Tetrachloroethene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,3-Dichloropropane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
2-Hexanone	ND	0.0065	EPA 8260	6-14-11	6-14-11	
Dibromochloromethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,2-Dibromoethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Chlorobenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Ethylbenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
m,p-Xylene	ND	0.0026	EPA 8260	6-14-11	6-14-11	
o-Xylene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Styrene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Bromoform	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Isopropylbenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Bromobenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260	6-14-11	6-14-11	
n-Propylbenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
2-Chlorotoluene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
4-Chlorotoluene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,3,5-Trimethylbenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
tert-Butylbenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,2,4-Trimethylbenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
sec-Butylbenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
p-Isopropyltoluene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
n-Butylbenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,2-Dibromo-3-chloropropane	ND	0.0065	EPA 8260	6-14-11	6-14-11	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Hexachlorobutadiene	ND	0.0065	EPA 8260	6-14-11	6-14-11	
Naphthalene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260	6-14-11	6-14-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*77*	*63-127*				
Toluene-d8	*85*	*65-129*				
4-Bromofluorobenzene	*85*	*55-121*				

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

VOLATILES by EPA 8260B
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**VP-2-18"**					
Laboratory ID:	06-112-07					
Dichlorodifluoromethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Chloromethane	ND	0.0055	EPA 8260	6-14-11	6-14-11	
Vinyl Chloride	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Bromomethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Chloroethane	ND	0.0055	EPA 8260	6-14-11	6-14-11	
Trichlorofluoromethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,1-Dichloroethene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Acetone	0.0056	0.0055	EPA 8260	6-14-11	6-14-11	
Iodomethane	ND	0.0055	EPA 8260	6-14-11	6-14-11	
Carbon Disulfide	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Methylene Chloride	ND	0.0055	EPA 8260	6-14-11	6-14-11	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Methyl t-Butyl Ether	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,1-Dichloroethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Vinyl Acetate	ND	0.0055	EPA 8260	6-14-11	6-14-11	
2,2-Dichloropropane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
2-Butanone	ND	0.0055	EPA 8260	6-14-11	6-14-11	
Bromochloromethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Chloroform	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Carbon Tetrachloride	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,1-Dichloropropene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Benzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,2-Dichloroethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Trichloroethene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,2-Dichloropropane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Dibromomethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Bromodichloromethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
2-Chloroethyl Vinyl Ether	ND	0.0055	EPA 8260	6-14-11	6-14-11	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Methyl Isobutyl Ketone	ND	0.0055	EPA 8260	6-14-11	6-14-11	
Toluene	ND	0.0055	EPA 8260	6-14-11	6-14-11	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260	6-14-11	6-14-11	

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

VOLATILES by EPA 8260B
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**VP-2-18"**					
Laboratory ID:	06-112-07					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Tetrachloroethene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,3-Dichloropropane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
2-Hexanone	ND	0.0055	EPA 8260	6-14-11	6-14-11	
Dibromochloromethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,2-Dibromoethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Chlorobenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Ethylbenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
m,p-Xylene	ND	0.0022	EPA 8260	6-14-11	6-14-11	
o-Xylene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Styrene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Bromoform	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Isopropylbenzene	0.0034	0.0011	EPA 8260	6-14-11	6-14-11	
Bromobenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260	6-14-11	6-14-11	
n-Propylbenzene	0.0040	0.0011	EPA 8260	6-14-11	6-14-11	
2-Chlorotoluene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
4-Chlorotoluene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,3,5-Trimethylbenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
tert-Butylbenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,2,4-Trimethylbenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
sec-Butylbenzene	0.0048	0.0011	EPA 8260	6-14-11	6-14-11	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
p-Isopropyltoluene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
n-Butylbenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,2-Dibromo-3-chloropropane	ND	0.0055	EPA 8260	6-14-11	6-14-11	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Hexachlorobutadiene	ND	0.0055	EPA 8260	6-14-11	6-14-11	
Naphthalene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260	6-14-11	6-14-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*76*	*63-127*				
Toluene-d8	*81*	*65-129*				
4-Bromofluorobenzene	*78*	*55-121*				

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB6014S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Chloromethane	ND	0.0050	EPA 8260	6-14-11	6-14-11	
Vinyl Chloride	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Bromomethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Chloroethane	ND	0.0050	EPA 8260	6-14-11	6-14-11	
Trichlorofluoromethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,1-Dichloroethene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Acetone	ND	0.0050	EPA 8260	6-14-11	6-14-11	
Iodomethane	ND	0.0050	EPA 8260	6-14-11	6-14-11	
Carbon Disulfide	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Methylene Chloride	ND	0.0050	EPA 8260	6-14-11	6-14-11	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,1-Dichloroethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Vinyl Acetate	ND	0.0050	EPA 8260	6-14-11	6-14-11	
2,2-Dichloropropane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
2-Butanone	ND	0.0050	EPA 8260	6-14-11	6-14-11	
Bromochloromethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Chloroform	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Carbon Tetrachloride	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,1-Dichloropropene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Benzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,2-Dichloroethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Trichloroethene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,2-Dichloropropane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Dibromomethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Bromodichloromethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260	6-14-11	6-14-11	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260	6-14-11	6-14-11	
Toluene	ND	0.0050	EPA 8260	6-14-11	6-14-11	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260	6-14-11	6-14-11	

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB6014S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Tetrachloroethene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,3-Dichloropropane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
2-Hexanone	ND	0.0050	EPA 8260	6-14-11	6-14-11	
Dibromochloromethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,2-Dibromoethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Chlorobenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Ethylbenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
m,p-Xylene	ND	0.0020	EPA 8260	6-14-11	6-14-11	
o-Xylene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Styrene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Bromoform	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Isopropylbenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Bromobenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260	6-14-11	6-14-11	
n-Propylbenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
2-Chlorotoluene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
4-Chlorotoluene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
tert-Butylbenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
sec-Butylbenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
p-Isopropyltoluene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
n-Butylbenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260	6-14-11	6-14-11	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Hexachlorobutadiene	ND	0.0050	EPA 8260	6-14-11	6-14-11	
Naphthalene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260	6-14-11	6-14-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*79*	*63-127*				
Toluene-d8	*86*	*65-129*				
4-Bromofluorobenzene	*87*	*55-121*				

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB6014S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0536**	**0.0524**	0.0500	0.0500	107	105	70-130	2	19	
Benzene	**0.0478**	**0.0476**	0.0500	0.0500	96	95	70-125	0	15	
Trichloroethene	**0.0514**	**0.0490**	0.0500	0.0500	103	98	70-122	5	14	
Toluene	**0.0498**	**0.0486**	0.0500	0.0500	100	97	73-120	2	16	
Chlorobenzene	**0.0467**	**0.0459**	0.0500	0.0500	93	92	74-109	2	12	
Surrogate:										
Dibromofluoromethane					*74*	*71*	*63-127*			
Toluene-d8					*81*	*79*	*65-129*			
4-Bromofluorobenzene					*80*	*78*	*55-121*			

Date of Report: June 20, 2011
Samples Submitted: June 13, 2011
Laboratory Reference: 1106-112
Project: 6552

% MOISTURE

Date Analyzed: 6-14-11

Client ID	Lab ID	% Moisture
VP-1-18"	06-112-01	12
MW-201-2.5'	06-112-03	16
MW-201-5'	06-112-04	14
VP-2-18"	06-112-07	15
VP-2-3.5'	06-112-08	14
VP-3-18"	06-112-09	11
VP-3-4'	06-112-10	13

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Terra Associates
Project Number: 6552
Project Name:
Project Manager: Chuck Lic
Sampled by: Nicolas R. Hoffman

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 06-112

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1	VP-1 -18'	6/13/11	9:15	S	5			X													X
2	VP-1 -4.5'		9:40																		
3	MW-201 -2.5'		10:40					X		X											X
4	MW-201 -5'		10:47					X													X
5	MW-201 -10'		10:55																		
6	MW-201 -15'		11:05																		
7	VP-2 -18"		12:12					X		X											X
8	VP-2 -3.5'		12:40					X													
9	VP-3 -18"		13:00					X													
10	VP-3 -4'	↓	13:15	↓	↓			X													↓

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished		TAI	6/13/11	15:25	
Received		OSE	6/13/11	1525	
Relinquished					
Received					
Relinquished					
Received					
Reviewed/Date		Reviewed/Date			Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 9, 2011

Chuck Lie
Terra Associates, Inc.
12525 Willows Road, Suite 101
Kirkland, WA 98034

Re: Analytical Data for Project 6552
Laboratory Reference No. 1104-219

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on April 29, 2011.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

Case Narrative

Samples were collected on April 29, 2011 and received by the laboratory on April 29, 2011. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	04-219-01					
Gasoline	**1100**	100	NWTPH-Gx	5-2-11	5-2-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*76*	*73-121*				
Client ID:	**MW7**					
Laboratory ID:	04-219-02					
Gasoline	**ND**	100	NWTPH-Gx	5-2-11	5-2-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*79*	*73-121*				
Client ID:	**MW6**					
Laboratory ID:	04-219-03					
Gasoline	**160**	100	NWTPH-Gx	5-2-11	5-2-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*75*	*73-121*				

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0502W1					
Gasoline	**ND**	100	NWTPH-Gx	5-2-11	5-2-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*77*	*73-121*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-206-02										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*77*	*77*	*73-121*			

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	04-219-01					
Diesel Range Organics	**ND**	0.30	NWTPH-Dx	5-5-11	5-5-11	U1
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	5-5-11	5-5-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				
Client ID:	**MW7**					
Laboratory ID:	04-219-02					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-5-11	5-5-11	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	5-5-11	5-5-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**MW6**					
Laboratory ID:	04-219-03					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-5-11	5-5-11	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	5-5-11	5-5-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0505W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	5-5-11	5-5-11	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	5-5-11	5-5-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				

Analyte	Result		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-219-01							
	ORIG	DUP						
Diesel Range Organics	**ND**	**ND**				NA	NA	U1
Lube Oil Range Organics	**ND**	**ND**				NA	NA	
Surrogate:								
o-Terphenyl			*90*	*97*	*50-150*			

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

VOLATILES by EPA 8260B
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	04-219-01					
Dichlorodifluoromethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Chloromethane	ND	2.0	EPA 8260	5-5-11	5-5-11	
Vinyl Chloride	ND	0.40	EPA 8260	5-5-11	5-5-11	
Bromomethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Chloroethane	ND	2.0	EPA 8260	5-5-11	5-5-11	
Trichlorofluoromethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,1-Dichloroethene	ND	0.40	EPA 8260	5-5-11	5-5-11	
Acetone	ND	10	EPA 8260	5-5-11	5-5-11	
Iodomethane	ND	2.0	EPA 8260	5-5-11	5-5-11	
Carbon Disulfide	ND	0.40	EPA 8260	5-5-11	5-5-11	
Methylene Chloride	ND	2.0	EPA 8260	5-5-11	5-5-11	
(trans) 1,2-Dichloroethene	ND	0.40	EPA 8260	5-5-11	5-5-11	
Methyl t-Butyl Ether	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,1-Dichloroethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Vinyl Acetate	ND	4.0	EPA 8260	5-5-11	5-5-11	
2,2-Dichloropropane	ND	0.40	EPA 8260	5-5-11	5-5-11	
(cis) 1,2-Dichloroethene	ND	0.40	EPA 8260	5-5-11	5-5-11	
2-Butanone	ND	10	EPA 8260	5-5-11	5-5-11	
Bromochloromethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Chloroform	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,1,1-Trichloroethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Carbon Tetrachloride	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,1-Dichloropropene	ND	0.40	EPA 8260	5-5-11	5-5-11	
Benzene	0.56	0.40	EPA 8260	5-5-11	5-5-11	
1,2-Dichloroethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Trichloroethene	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,2-Dichloropropane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Dibromomethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Bromodichloromethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260	5-5-11	5-5-11	
(cis) 1,3-Dichloropropene	ND	0.40	EPA 8260	5-5-11	5-5-11	
Methyl Isobutyl Ketone	ND	4.0	EPA 8260	5-5-11	5-5-11	
Toluene	ND	2.0	EPA 8260	5-5-11	5-5-11	
(trans) 1,3-Dichloropropene	ND	0.40	EPA 8260	5-5-11	5-5-11	

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

VOLATILES by EPA 8260B
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	04-219-01					
1,1,2-Trichloroethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Tetrachloroethene	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,3-Dichloropropane	ND	0.40	EPA 8260	5-5-11	5-5-11	
2-Hexanone	ND	4.0	EPA 8260	5-5-11	5-5-11	
Dibromochloromethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,2-Dibromoethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Chlorobenzene	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,1,1,2-Tetrachloroethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
Ethylbenzene	27	0.40	EPA 8260	5-5-11	5-5-11	
m,p-Xylene	47	0.80	EPA 8260	5-5-11	5-5-11	
o-Xylene	2.6	0.40	EPA 8260	5-5-11	5-5-11	
Styrene	ND	0.40	EPA 8260	5-5-11	5-5-11	
Bromoform	ND	2.0	EPA 8260	5-5-11	5-5-11	
Isopropylbenzene	92	0.40	EPA 8260	5-5-11	5-5-11	
Bromobenzene	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,1,2,2-Tetrachloroethane	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,2,3-Trichloropropane	ND	0.40	EPA 8260	5-5-11	5-5-11	
n-Propylbenzene	63	0.40	EPA 8260	5-5-11	5-5-11	
2-Chlorotoluene	ND	0.40	EPA 8260	5-5-11	5-5-11	
4-Chlorotoluene	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,3,5-Trimethylbenzene	0.66	0.40	EPA 8260	5-5-11	5-5-11	
tert-Butylbenzene	0.52	0.40	EPA 8260	5-5-11	5-5-11	
1,2,4-Trimethylbenzene	3.7	0.40	EPA 8260	5-5-11	5-5-11	
sec-Butylbenzene	5.6	0.40	EPA 8260	5-5-11	5-5-11	
1,3-Dichlorobenzene	ND	0.40	EPA 8260	5-5-11	5-5-11	
p-Isopropyltoluene	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,4-Dichlorobenzene	ND	0.40	EPA 8260	5-5-11	5-5-11	
1,2-Dichlorobenzene	ND	0.40	EPA 8260	5-5-11	5-5-11	
n-Butylbenzene	3.7	0.40	EPA 8260	5-5-11	5-5-11	
1,2-Dibromo-3-chloropropane	ND	2.0	EPA 8260	5-5-11	5-5-11	
1,2,4-Trichlorobenzene	ND	0.40	EPA 8260	5-5-11	5-5-11	
Hexachlorobutadiene	ND	0.40	EPA 8260	5-5-11	5-5-11	
Naphthalene	ND	2.0	EPA 8260	5-5-11	5-5-11	
1,2,3-Trichlorobenzene	ND	0.40	EPA 8260	5-5-11	5-5-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*82*	*68-107*				
Toluene-d8	*87*	*73-102*				
4-Bromofluorobenzene	*88*	*65-104*				

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	04-219-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chloromethane	ND	1.0	EPA 8260	5-5-11	5-5-11	
Vinyl Chloride	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromomethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chloroethane	ND	1.0	EPA 8260	5-5-11	5-5-11	
Trichlorofluoromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1-Dichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Acetone	ND	5.0	EPA 8260	5-5-11	5-5-11	
Iodomethane	ND	1.0	EPA 8260	5-5-11	5-5-11	
Carbon Disulfide	ND	0.20	EPA 8260	5-5-11	5-5-11	
Methylene Chloride	ND	1.0	EPA 8260	5-5-11	5-5-11	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Methyl t-Butyl Ether	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1-Dichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Vinyl Acetate	ND	2.0	EPA 8260	5-5-11	5-5-11	
2,2-Dichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
(cis) 1,2-Dichloroethene	0.39	0.20	EPA 8260	5-5-11	5-5-11	
2-Butanone	ND	5.0	EPA 8260	5-5-11	5-5-11	
Bromochloromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chloroform	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1,1-Trichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Carbon Tetrachloride	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1-Dichloropropene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Benzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Trichloroethene	0.22	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Dibromomethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromodichloromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260	5-5-11	5-5-11	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260	5-5-11	5-5-11	
Toluene	ND	1.0	EPA 8260	5-5-11	5-5-11	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-5-11	5-5-11	

Date of Report: May 9, 2011
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	04-219-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Tetrachloroethene	0.27	0.20	EPA 8260	5-5-11	5-5-11	
1,3-Dichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
2-Hexanone	ND	2.0	EPA 8260	5-5-11	5-5-11	
Dibromochloromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dibromoethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Ethylbenzene	0.32	0.20	EPA 8260	5-5-11	5-5-11	
m,p-Xylene	ND	0.40	EPA 8260	5-5-11	5-5-11	
o-Xylene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Styrene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromoform	ND	1.0	EPA 8260	5-5-11	5-5-11	
Isopropylbenzene	0.38	0.20	EPA 8260	5-5-11	5-5-11	
Bromobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2,3-Trichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
n-Propylbenzene	0.26	0.20	EPA 8260	5-5-11	5-5-11	
2-Chlorotoluene	ND	0.20	EPA 8260	5-5-11	5-5-11	
4-Chlorotoluene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
tert-Butylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
sec-Butylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,3-Dichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
p-Isopropyltoluene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,4-Dichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
n-Butylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260	5-5-11	5-5-11	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Hexachlorobutadiene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Naphthalene	ND	1.0	EPA 8260	5-5-11	5-5-11	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*81*	*68-107*				
Toluene-d8	*85*	*73-102*				
4-Bromofluorobenzene	*81*	*65-104*				

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	04-219-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chloromethane	ND	1.0	EPA 8260	5-5-11	5-5-11	
Vinyl Chloride	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromomethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chloroethane	ND	1.0	EPA 8260	5-5-11	5-5-11	
Trichlorofluoromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1-Dichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Acetone	ND	5.0	EPA 8260	5-5-11	5-5-11	
Iodomethane	ND	1.0	EPA 8260	5-5-11	5-5-11	
Carbon Disulfide	ND	0.20	EPA 8260	5-5-11	5-5-11	
Methylene Chloride	ND	1.0	EPA 8260	5-5-11	5-5-11	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Methyl t-Butyl Ether	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1-Dichloroethane	0.20	0.20	EPA 8260	5-5-11	5-5-11	
Vinyl Acetate	ND	2.0	EPA 8260	5-5-11	5-5-11	
2,2-Dichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
2-Butanone	ND	5.0	EPA 8260	5-5-11	5-5-11	
Bromochloromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chloroform	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1,1-Trichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Carbon Tetrachloride	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1-Dichloropropene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Benzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Trichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Dibromomethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromodichloromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260	5-5-11	5-5-11	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260	5-5-11	5-5-11	
Toluene	ND	1.0	EPA 8260	5-5-11	5-5-11	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-5-11	5-5-11	

Date of Report: May 9, 2011
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Project: 6552

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	04-219-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Tetrachloroethene	0.22	0.20	EPA 8260	5-5-11	5-5-11	
1,3-Dichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
2-Hexanone	ND	2.0	EPA 8260	5-5-11	5-5-11	
Dibromochloromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dibromoethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Ethylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
m,p-Xylene	ND	0.40	EPA 8260	5-5-11	5-5-11	
o-Xylene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Styrene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromoform	ND	1.0	EPA 8260	5-5-11	5-5-11	
Isopropylbenzene	3.5	0.20	EPA 8260	5-5-11	5-5-11	
Bromobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2,3-Trichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
n-Propylbenzene	2.2	0.20	EPA 8260	5-5-11	5-5-11	
2-Chlorotoluene	ND	0.20	EPA 8260	5-5-11	5-5-11	
4-Chlorotoluene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
tert-Butylbenzene	0.38	0.20	EPA 8260	5-5-11	5-5-11	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
sec-Butylbenzene	1.1	0.20	EPA 8260	5-5-11	5-5-11	
1,3-Dichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
p-Isopropyltoluene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,4-Dichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
n-Butylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260	5-5-11	5-5-11	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Hexachlorobutadiene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Naphthalene	ND	1.0	EPA 8260	5-5-11	5-5-11	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*83*	*68-107*				
Toluene-d8	*86*	*73-102*				
4-Bromofluorobenzene	*82*	*65-104*				

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0505W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chloromethane	ND	1.0	EPA 8260	5-5-11	5-5-11	
Vinyl Chloride	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromomethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chloroethane	ND	1.0	EPA 8260	5-5-11	5-5-11	
Trichlorofluoromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1-Dichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Acetone	ND	5.0	EPA 8260	5-5-11	5-5-11	
Iodomethane	ND	1.0	EPA 8260	5-5-11	5-5-11	
Carbon Disulfide	ND	0.20	EPA 8260	5-5-11	5-5-11	
Methylene Chloride	ND	1.0	EPA 8260	5-5-11	5-5-11	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Methyl t-Butyl Ether	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1-Dichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Vinyl Acetate	ND	2.0	EPA 8260	5-5-11	5-5-11	
2,2-Dichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
2-Butanone	ND	5.0	EPA 8260	5-5-11	5-5-11	
Bromochloromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chloroform	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1,1-Trichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Carbon Tetrachloride	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1-Dichloropropene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Benzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Trichloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Dibromomethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromodichloromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260	5-5-11	5-5-11	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260	5-5-11	5-5-11	
Toluene	ND	1.0	EPA 8260	5-5-11	5-5-11	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-5-11	5-5-11	

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0505W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Tetrachloroethene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,3-Dichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
2-Hexanone	ND	2.0	EPA 8260	5-5-11	5-5-11	
Dibromochloromethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dibromoethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Chlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
Ethylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
m,p-Xylene	ND	0.40	EPA 8260	5-5-11	5-5-11	
o-Xylene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Styrene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromoform	ND	1.0	EPA 8260	5-5-11	5-5-11	
Isopropylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Bromobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2,3-Trichloropropane	ND	0.20	EPA 8260	5-5-11	5-5-11	
n-Propylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
2-Chlorotoluene	ND	0.20	EPA 8260	5-5-11	5-5-11	
4-Chlorotoluene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
tert-Butylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
sec-Butylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,3-Dichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
p-Isopropyltoluene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,4-Dichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
n-Butylbenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260	5-5-11	5-5-11	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Hexachlorobutadiene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Naphthalene	ND	1.0	EPA 8260	5-5-11	5-5-11	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260	5-5-11	5-5-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*80*	*68-107*				
Toluene-d8	*85*	*73-102*				
4-Bromofluorobenzene	*83*	*65-104*				

Date of Report: May 9, 2011
Samples Submitted: April 29, 2011
Laboratory Reference: 1104-219
Project: 6552

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0505W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**10.5**	**10.7**	10.0	10.0	105	107	70-130	2	11	
Benzene	**10.2**	**10.2**	10.0	10.0	102	102	79-123	0	8	
Trichloroethene	**9.91**	**9.91**	10.0	10.0	99	99	82-113	0	9	
Toluene	**10.4**	**10.3**	10.0	10.0	104	103	84-113	1	8	
Chlorobenzene	**10.5**	**10.4**	10.0	10.0	105	104	89-111	1	8	
Surrogate:										
Dibromofluoromethane					*81*	*78*	*68-107*			
Toluene-d8					*86*	*84*	*73-102*			
4-Bromofluorobenzene					*83*	*84*	*65-104*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Terra Associates
Project Number: 6552
Project Name: _____
Project Manager: Chuck Lie
Sampled by: Nicolas Hoffman

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 04-219

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1	MW1	4/29/11	11:40	W	7			X	X	X											
2	MW7	↓	12:40	↓	↓			X	X	X											
3	MW6	↓	13:44	↓	↓			X	X	X											

	Signature	Company	Date	Time
Relinquished	[signature]	Terra Associates	4/29/11	15:57
Received	[signature]	[signature]	4/29/11	1557
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 8, 2011

Chuck Lie
Terra Associates, Inc.
12525 Willows Road, Suite 101
Kirkland, WA 98034

Re: Analytical Data for Project 6582
Laboratory Reference No. 1106-252

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on June 29, 2011.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

Case Narrative

Samples were collected on June 29, 2011 and received by the laboratory on June 29, 2011. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-201**					
Laboratory ID:	06-252-01					
Gasoline	**ND**	100	NWTPH-Gx	7-1-11	7-1-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*73-121*				

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701W2					
Gasoline	**ND**	100	NWTPH-Gx	7-1-11	7-1-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*73-121*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	06-251-02									
	ORIG	DUP								
Gasoline	**ND**	**ND**	NA	NA		NA	NA	NA	30	
Surrogate:										
Fluorobenzene						*91* *100*	*73-121*			

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-201**					
Laboratory ID:	06-252-01					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	7-5-11	7-7-11	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	7-5-11	7-7-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0705W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	7-5-11	7-6-11	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	7-5-11	7-6-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	06-267-01						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*111* *103*	*50-150*			

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

VOLATILES by EPA 8260B
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-201**					
Laboratory ID:	06-252-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Chloromethane	ND	1.0	EPA 8260	7-1-11	7-1-11	
Vinyl Chloride	ND	0.20	EPA 8260	7-1-11	7-1-11	
Bromomethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Chloroethane	ND	1.0	EPA 8260	7-1-11	7-1-11	
Trichlorofluoromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1-Dichloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Acetone	ND	5.0	EPA 8260	7-1-11	7-1-11	
Iodomethane	ND	1.0	EPA 8260	7-1-11	7-1-11	
Carbon Disulfide	ND	0.20	EPA 8260	7-1-11	7-1-11	
Methylene Chloride	ND	1.0	EPA 8260	7-1-11	7-1-11	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Methyl t-Butyl Ether	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1-Dichloroethane	0.23	0.20	EPA 8260	7-1-11	7-1-11	
Vinyl Acetate	ND	2.0	EPA 8260	7-1-11	7-1-11	
2,2-Dichloropropane	ND	0.20	EPA 8260	7-1-11	7-1-11	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
2-Butanone	ND	5.0	EPA 8260	7-1-11	7-1-11	
Bromochloromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Chloroform	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1,1-Trichloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Carbon Tetrachloride	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1-Dichloropropene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Benzene	0.27	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dichloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Trichloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dichloropropane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Dibromomethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Bromodichloromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260	7-1-11	7-1-11	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260	7-1-11	7-1-11	
Toluene	ND	1.0	EPA 8260	7-1-11	7-1-11	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260	7-1-11	7-1-11	

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

VOLATILES by EPA 8260B
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-201**					
Laboratory ID:	06-252-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Tetrachloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,3-Dichloropropane	ND	0.20	EPA 8260	7-1-11	7-1-11	
2-Hexanone	ND	2.0	EPA 8260	7-1-11	7-1-11	
Dibromochloromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dibromoethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Chlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Ethylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
m,p-Xylene	ND	0.40	EPA 8260	7-1-11	7-1-11	
o-Xylene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Styrene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Bromoform	ND	1.0	EPA 8260	7-1-11	7-1-11	
Isopropylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Bromobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2,3-Trichloropropane	ND	0.20	EPA 8260	7-1-11	7-1-11	
n-Propylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
2-Chlorotoluene	ND	0.20	EPA 8260	7-1-11	7-1-11	
4-Chlorotoluene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
tert-Butylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
sec-Butylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,3-Dichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
p-Isopropyltoluene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,4-Dichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
n-Butylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260	7-1-11	7-1-11	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Hexachlorobutadiene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Naphthalene	ND	1.0	EPA 8260	7-1-11	7-1-11	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*89*	*68-110*				
Toluene-d8	*91*	*73-110*				
4-Bromofluorobenzene	*80*	*65-110*				

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0701W2					
Dichlorodifluoromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Chloromethane	ND	1.0	EPA 8260	7-1-11	7-1-11	
Vinyl Chloride	ND	0.20	EPA 8260	7-1-11	7-1-11	
Bromomethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Chloroethane	ND	1.0	EPA 8260	7-1-11	7-1-11	
Trichlorofluoromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1-Dichloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Acetone	ND	5.0	EPA 8260	7-1-11	7-1-11	
Iodomethane	ND	1.0	EPA 8260	7-1-11	7-1-11	
Carbon Disulfide	ND	0.20	EPA 8260	7-1-11	7-1-11	
Methylene Chloride	ND	1.0	EPA 8260	7-1-11	7-1-11	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Methyl t-Butyl Ether	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1-Dichloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Vinyl Acetate	ND	2.0	EPA 8260	7-1-11	7-1-11	
2,2-Dichloropropane	ND	0.20	EPA 8260	7-1-11	7-1-11	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
2-Butanone	ND	5.0	EPA 8260	7-1-11	7-1-11	
Bromochloromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Chloroform	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1,1-Trichloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Carbon Tetrachloride	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1-Dichloropropene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Benzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dichloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Trichloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dichloropropane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Dibromomethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Bromodichloromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260	7-1-11	7-1-11	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260	7-1-11	7-1-11	
Toluene	ND	1.0	EPA 8260	7-1-11	7-1-11	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260	7-1-11	7-1-11	

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0701W2					
1,1,2-Trichloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Tetrachloroethene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,3-Dichloropropane	ND	0.20	EPA 8260	7-1-11	7-1-11	
2-Hexanone	ND	2.0	EPA 8260	7-1-11	7-1-11	
Dibromochloromethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dibromoethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Chlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
Ethylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
m,p-Xylene	ND	0.40	EPA 8260	7-1-11	7-1-11	
o-Xylene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Styrene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Bromoform	ND	1.0	EPA 8260	7-1-11	7-1-11	
Isopropylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Bromobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2,3-Trichloropropane	ND	0.20	EPA 8260	7-1-11	7-1-11	
n-Propylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
2-Chlorotoluene	ND	0.20	EPA 8260	7-1-11	7-1-11	
4-Chlorotoluene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
tert-Butylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
sec-Butylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,3-Dichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
p-Isopropyltoluene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,4-Dichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
n-Butylbenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260	7-1-11	7-1-11	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Hexachlorobutadiene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Naphthalene	ND	1.0	EPA 8260	7-1-11	7-1-11	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260	7-1-11	7-1-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*87*	*68-110*				
Toluene-d8	*92*	*73-110*				
4-Bromofluorobenzene	*82*	*65-110*				

Date of Report: July 8, 2011
Samples Submitted: June 29, 2011
Laboratory Reference: 1106-252
Project: 6582

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0701W2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**10.9**	**11.4**	10.0	10.0	109	114	70-130	4	11	
Benzene	**9.77**	**10.1**	10.0	10.0	98	101	75-123	3	8	
Trichloroethene	**10.2**	**10.0**	10.0	10.0	102	100	80-113	2	9	
Toluene	**10.1**	**10.3**	10.0	10.0	101	103	80-113	2	8	
Chlorobenzene	**10.1**	**10.2**	10.0	10.0	101	102	80-111	1	8	
Surrogate:										
Dibromofluoromethane					*82*	*88*	*68-110*			
Toluene-d8					*90*	*91*	*73-110*			
4-Bromofluorobenzene					*82*	*82*	*65-110*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Terra Associates
Project Number: 6582
Project Name: ———
Project Manager: Chuck Lie
Sampled by: Nicolas Hoffman

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 06-252

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1	MW-201	6/29/11	12:20	W	6			X	X	X											

	Signature	Company	Date	Time
Relinquished		Terra Associates	6/29/11	16:10
Received			6/29/11	1610
Relinquished				
Received				
Relinquished				
Received				

Reviewed/Date

Reviewed/Date

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Terra Associates
Project Number: 6582
Project Name: ———
Project Manager: Chuck Cia
Sampled by: Nicolas Hoffman

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 06-252

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1	MW-201	6/29/11	12:20	W	6			X	X	X											

	Signature	Company	Date	Time
Relinquished		Terra Associates	6/29/11	16:10
Received			6/29/11	1610
Relinquished				
Received				
Relinquished				
Received				

Comments/Special instructions

Reviewed/Date

Reviewed/Date

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 18, 2011

Chuck Lie
Terra Associates, Inc.
12525 Willows Road, Suite 101
Kirkland, WA 98034

Re: Analytical Data for Project 6552-1
Laboratory Reference No. 1105-082

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on May 10, 2011.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

Case Narrative

Samples were collected on May 10, 2011 and received by the laboratory on May 10, 2011. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-101**					
Laboratory ID:	05-082-01					
Gasoline	**160**	100	NWTPH-Gx	5-11-11	5-11-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*73-121*				
Client ID:	**MW-102**					
Laboratory ID:	05-082-02					
Gasoline	**ND**	500	NWTPH-Gx	5-11-11	5-11-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*73-121*				
Client ID:	**MW-103**					
Laboratory ID:	05-082-03					
Gasoline	**940**	500	NWTPH-Gx	5-11-11	5-11-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*73-121*				

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0511W1					
Gasoline	**ND**	100	NWTPH-Gx	5-11-11	5-11-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*99*	*73-121*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-082-01										
	ORIG	DUP									
Gasoline	**160**	**153**	NA	NA		NA		NA	4	30	
Surrogate:											
Fluorobenzene						*100*	*100*	*73-121*			

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-101**					
Laboratory ID:	05-082-01					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-17-11	5-17-11	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**MW-102**					
Laboratory ID:	05-082-02					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	5-17-11	5-17-11	U1
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**MW-103**					
Laboratory ID:	05-082-03					
Diesel Range Organics	**ND**	0.70	NWTPH-Dx	5-17-11	5-17-11	U1
Lube Oil Range Organics	**ND**	0.42	NWTPH-Dx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0517W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	5-17-11	5-17-11	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	05-082-01						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*100* *101*	*50-150*			

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

VOLATILES by EPA 8260B
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-101**					
Laboratory ID:	05-082-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chloromethane	ND	1.0	EPA 8260	5-12-11	5-12-11	
Vinyl Chloride	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromomethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chloroethane	ND	1.0	EPA 8260	5-12-11	5-12-11	
Trichlorofluoromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1-Dichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Acetone	ND	5.0	EPA 8260	5-12-11	5-12-11	
Iodomethane	ND	1.0	EPA 8260	5-12-11	5-12-11	
Carbon Disulfide	ND	0.20	EPA 8260	5-12-11	5-12-11	
Methylene Chloride	ND	1.0	EPA 8260	5-12-11	5-12-11	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Methyl t-Butyl Ether	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1-Dichloroethane	0.49	0.20	EPA 8260	5-12-11	5-12-11	
Vinyl Acetate	ND	2.0	EPA 8260	5-12-11	5-12-11	
2,2-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
(cis) 1,2-Dichloroethene	0.39	0.20	EPA 8260	5-12-11	5-12-11	
2-Butanone	ND	5.0	EPA 8260	5-12-11	5-12-11	
Bromochloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chloroform	1.1	0.20	EPA 8260	5-12-11	5-12-11	
1,1,1-Trichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Carbon Tetrachloride	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1-Dichloropropene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Benzene	1.3	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Trichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Dibromomethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromodichloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260	5-12-11	5-12-11	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260	5-12-11	5-12-11	
Toluene	ND	1.0	EPA 8260	5-12-11	5-12-11	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-12-11	5-12-11	

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

VOLATILES by EPA 8260B
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-101**					
Laboratory ID:	05-082-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Tetrachloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Hexanone	ND	2.0	EPA 8260	5-12-11	5-12-11	
Dibromochloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dibromoethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Ethylbenzene	0.95	0.20	EPA 8260	5-12-11	5-12-11	
m,p-Xylene	1.5	0.40	EPA 8260	5-12-11	5-12-11	
o-Xylene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Styrene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromoform	ND	1.0	EPA 8260	5-12-11	5-12-11	
Isopropylbenzene	1.1	0.20	EPA 8260	5-12-11	5-12-11	
Bromobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2,3-Trichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
n-Propylbenzene	1.1	0.20	EPA 8260	5-12-11	5-12-11	
2-Chlorotoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
4-Chlorotoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3,5-Trimethylbenzene	0.77	0.20	EPA 8260	5-12-11	5-12-11	
tert-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2,4-Trimethylbenzene	5.2	0.20	EPA 8260	5-12-11	5-12-11	
sec-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
p-Isopropyltoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,4-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
n-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260	5-12-11	5-12-11	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Hexachlorobutadiene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Naphthalene	ND	1.0	EPA 8260	5-12-11	5-12-11	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*88*	*68-107*				
Toluene-d8	*90*	*73-102*				
4-Bromofluorobenzene	*88*	*65-104*				

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

VOLATILES by EPA 8260B
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-102**					
Laboratory ID:	05-082-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chloromethane	ND	1.0	EPA 8260	5-12-11	5-12-11	
Vinyl Chloride	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromomethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chloroethane	ND	1.0	EPA 8260	5-12-11	5-12-11	
Trichlorofluoromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1-Dichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Acetone	ND	5.0	EPA 8260	5-12-11	5-12-11	
Iodomethane	ND	1.0	EPA 8260	5-12-11	5-12-11	
Carbon Disulfide	ND	0.20	EPA 8260	5-12-11	5-12-11	
Methylene Chloride	ND	1.0	EPA 8260	5-12-11	5-12-11	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Methyl t-Butyl Ether	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1-Dichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Vinyl Acetate	ND	2.0	EPA 8260	5-12-11	5-12-11	
2,2-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Butanone	ND	5.0	EPA 8260	5-12-11	5-12-11	
Bromochloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chloroform	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,1-Trichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Carbon Tetrachloride	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1-Dichloropropene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Benzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Trichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Dibromomethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromodichloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260	5-12-11	5-12-11	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260	5-12-11	5-12-11	
Toluene	ND	1.0	EPA 8260	5-12-11	5-12-11	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-12-11	5-12-11	

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

VOLATILES by EPA 8260B
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-102**					
Laboratory ID:	05-082-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Tetrachloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Hexanone	ND	2.0	EPA 8260	5-12-11	5-12-11	
Dibromochloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dibromoethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Ethylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
m,p-Xylene	ND	0.40	EPA 8260	5-12-11	5-12-11	
o-Xylene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Styrene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromoform	ND	1.0	EPA 8260	5-12-11	5-12-11	
Isopropylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2,3-Trichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
n-Propylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Chlorotoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
4-Chlorotoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
tert-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
sec-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
p-Isopropyltoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,4-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
n-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260	5-12-11	5-12-11	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Hexachlorobutadiene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Naphthalene	ND	1.0	EPA 8260	5-12-11	5-12-11	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*88*	*68-107*				
Toluene-d8	*90*	*73-102*				
4-Bromofluorobenzene	*88*	*65-104*				

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

VOLATILES by EPA 8260B
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-103**					
Laboratory ID:	05-082-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chloromethane	ND	1.0	EPA 8260	5-12-11	5-12-11	
Vinyl Chloride	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromomethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chloroethane	ND	1.0	EPA 8260	5-12-11	5-12-11	
Trichlorofluoromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1-Dichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Acetone	ND	5.0	EPA 8260	5-12-11	5-12-11	
Iodomethane	ND	1.0	EPA 8260	5-12-11	5-12-11	
Carbon Disulfide	ND	0.20	EPA 8260	5-12-11	5-12-11	
Methylene Chloride	ND	1.0	EPA 8260	5-12-11	5-12-11	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Methyl t-Butyl Ether	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1-Dichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Vinyl Acetate	ND	2.0	EPA 8260	5-12-11	5-12-11	
2,2-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Butanone	ND	5.0	EPA 8260	5-12-11	5-12-11	
Bromochloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chloroform	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,1-Trichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Carbon Tetrachloride	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1-Dichloropropene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Benzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Trichloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Dibromomethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromodichloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260	5-12-11	5-12-11	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260	5-12-11	5-12-11	
Toluene	ND	1.0	EPA 8260	5-12-11	5-12-11	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260	5-12-11	5-12-11	

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

VOLATILES by EPA 8260B
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-103**					
Laboratory ID:	05-082-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Tetrachloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Hexanone	ND	2.0	EPA 8260	5-12-11	5-12-11	
Dibromochloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dibromoethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Ethylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
m,p-Xylene	ND	0.40	EPA 8260	5-12-11	5-12-11	
o-Xylene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Styrene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromoform	ND	1.0	EPA 8260	5-12-11	5-12-11	
Isopropylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2,3-Trichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
n-Propylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Chlorotoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
4-Chlorotoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
tert-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
sec-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
p-Isopropyltoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,4-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
n-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260	5-12-11	5-12-11	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Hexachlorobutadiene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Naphthalene	ND	1.0	EPA 8260	5-12-11	5-12-11	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*84*	*68-107*				
Toluene-d8	*88*	*73-102*				
4-Bromofluorobenzene	*86*	*65-104*				

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0512W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Tetrachloroethene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3-Dichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Hexanone	ND	2.0	EPA 8260	5-12-11	5-12-11	
Dibromochloromethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dibromoethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Chlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
Ethylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
m,p-Xylene	ND	0.40	EPA 8260	5-12-11	5-12-11	
o-Xylene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Styrene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromoform	ND	1.0	EPA 8260	5-12-11	5-12-11	
Isopropylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Bromobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2,3-Trichloropropane	ND	0.20	EPA 8260	5-12-11	5-12-11	
n-Propylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
2-Chlorotoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
4-Chlorotoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
tert-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
sec-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,3-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
p-Isopropyltoluene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,4-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
n-Butylbenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260	5-12-11	5-12-11	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Hexachlorobutadiene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Naphthalene	ND	1.0	EPA 8260	5-12-11	5-12-11	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260	5-12-11	5-12-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*83*	*68-107*				
Toluene-d8	*86*	*73-102*				
4-Bromofluorobenzene	*80*	*65-104*				

Date of Report: May 18, 2011
Samples Submitted: May 10, 2011
Laboratory Reference: 1105-082
Project: 6552-1

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0512W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.43**	**9.82**	10.0	10.0	94	98	70-130	4	11	
Benzene	**9.76**	**9.65**	10.0	10.0	98	97	79-123	1	8	
Trichloroethene	**9.71**	**9.70**	10.0	10.0	97	97	82-113	0	9	
Toluene	**10.3**	**10.1**	10.0	10.0	103	101	84-113	2	8	
Chlorobenzene	**10.4**	**10.4**	10.0	10.0	104	104	89-111	0	8	
Surrogate:										
Dibromofluoromethane					*85*	*85*	*68-107*			
Toluene-d8					*90*	*86*	*73-102*			
4-Bromofluorobenzene					*85*	*82*	*65-104*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Terra Associates
Project Number: 6552-1
Project Name: ____
Project Manager: Chuck Lie
Sampled by: Nicolas R. Hoffman

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days) (TPH analysis 5 Days)
☐ ____ (other)

Laboratory Number: 05-082

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1	MW-101	5/10/11	12:55	W	7			X	X	X											
2	MW-102	↓	14:00	↓	7			X	X	X											
3	MW-103	↓	14:55	↓	7			X	X	X											

	Signature	Company	Date	Time
Relinquished		TAI	5/10/11	16:07
Received		Onsite	5-10-11	1607
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ ____

APPENDIX E
SAMPLING AND ANALYTICAL TESTING
VAPOR SAMPLES

5221 Ballard Avenue NW
Seattle, Washington

Vapor probes were installed in the 3 hand excavated test pits in the basement of 5221. The vapor probes consisted of a 6-inch length of 12-inch diameter pipe attached to a sampling barb. The test holes were backfilled with pea gravel. The pipes were placed with the top of the sampling barb just below the top of the existing slab. The pea gravel extended up to the base of the existing slab. The holes were patched with concrete. A metal electrical junction service box was placed in the concrete patch to provide a flush access box for the sampling barb. Prior to sampling, a vacuum pump was used to develop the probes.

Vapor samples were placed into laboratory-prepared400 ml Summa Canisters. The canisters were provided with a flow control to limit sampling to a rate of 500 ml per minute. Each sample was given unique sample identification. All samples were delivered to H and P Mobile Geochemistry of Carlsbad, California. Chain of custody protocols were followed for all samples.

All testing was performed within the designated holding times. At the laboratory, standard quality control procedures were followed. All testing was within normal standards.

Based on our review of the laboratory data, it is our opinion that the results are acceptable for current use.

H&P Mobile Geochemistry Inc.

14 July 2011

Mr. Chuck Lie
Terra Associates
12525 Willows Rd. #101
Kirkland, WA 98034

H&P Project: MC070611-10
Client Project: 6552

Dear Mr. Chuck Lie:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 06-Jul-11 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody

Unless otherwise noted, all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis Villarreal
Laboratory Director

H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

2470 Impala Drive, Carlsbad, California 92010 ┌ 760.804.9678 — Fax 760.804.9159
1855 Coronado Avenue, Signal Hill, California 90755
www.HandPmg.com ┌ 1-800-834-9888

Mobile Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VP-3	E107012-01	Vapor	29-Jun-11	06-Jul-11
VP-2	E107012-02	Vapor	29-Jun-11	06-Jul-11
Ambient Basement Air	E107012-03	Vapor	29-Jun-11	06-Jul-11

H&P Mobile Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

APH by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
VP-3 (E107012-01) Vapor Sampled: 29-Jun-11 Received: 06-Jul-11									
TPHv (C5 - C8) aliphatic	**2200**	500	ug/m3	5	EG11103	08-Jul-11	08-Jul-11	MA APHm	
TPHv (C9 - C12) aliphatic	**55000**	500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	500	"	"	"	"	"	"	
VP-2 (E107012-02) Vapor Sampled: 29-Jun-11 Received: 06-Jul-11									
TPHv (C5 - C8) aliphatic	**5500**	500	ug/m3	5	EG11103	08-Jul-11	08-Jul-11	MA APHm	
TPHv (C9 - C12) aliphatic	**90000**	500	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	500	"	"	"	"	"	"	
Ambient Basement Air (E107012-03) Vapor Sampled: 29-Jun-11 Received: 06-Jul-11									
TPHv (C5 - C8) aliphatic	**560**	100	ug/m3	1	EG11103	08-Jul-11	08-Jul-11	MA APHm	
TPHv (C9 - C12) aliphatic	**710**	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	100	"	"	"	"	"	"	

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Carlsbad, CA 92010
760-804-9678 Phone
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Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
VP-3 (E107012-01) Vapor Sampled: 29-Jun-11 Received: 06-Jul-11									**R-05**
Dichlorodifluoromethane (F12)	ND	25	ug/m3	5	EG11103	08-Jul-11	08-Jul-11	EPA TO-15	
Chloromethane	ND	10	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	35	"	"	"	"	"	"	
Vinyl chloride	ND	13	"	"	"	"	"	"	
Bromomethane	ND	79	"	"	"	"	"	"	
Chloroethane	ND	40	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	28	"	"	"	"	"	"	
Acetone	**570**	120	"	"	"	"	"	"	
1,1-Dichloroethene	ND	20	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	39	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	18	"	"	"	"	"	"	
Carbon disulfide	ND	32	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	40	"	"	"	"	"	"	
1,1-Dichloroethane	ND	21	"	"	"	"	"	"	
2-Butanone (MEK)	ND	150	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	20	"	"	"	"	"	"	
Chloroform	ND	25	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	28	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	21	"	"	"	"	"	"	
Benzene	ND	16	"	"	"	"	"	"	
Carbon tetrachloride	ND	32	"	"	"	"	"	"	
Trichloroethene	ND	27	"	"	"	"	"	"	
1,2-Dichloropropane	ND	47	"	"	"	"	"	"	
Bromodichloromethane	ND	34	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	23	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	41	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	23	"	"	"	"	"	"	
Toluene	**48**	19	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	28	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	41	"	"	"	"	"	"	
Dibromochloromethane	ND	43	"	"	"	"	"	"	
Tetrachloroethene	ND	34	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	39	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	35	"	"	"	"	"	"	
Chlorobenzene	ND	23	"	"	"	"	"	"	
Ethylbenzene	ND	22	"	"	"	"	"	"	
m,p-Xylene	ND	44	"	"	"	"	"	"	
Styrene	ND	22	"	"	"	"	"	"	

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Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Terra Associates	Project: MC070611-10	
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Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
VP-3 (E107012-01) Vapor Sampled: 29-Jun-11 Received: 06-Jul-11									**R-05**
o-Xylene	ND	22	ug/m3	5	EG11103	08-Jul-11	08-Jul-11	EPA TO-15	
Bromoform	ND	52	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	35	"	"	"	"	"	"	
4-Ethyltoluene	ND	25	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	25	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	25	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	61	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	61	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	61	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*98.0 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*100 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*		*77-127*	"	"	"	"	
VP-2 (E107012-02) Vapor Sampled: 29-Jun-11 Received: 06-Jul-11									**R-05**
Dichlorodifluoromethane (F12)	ND	25	ug/m3	5	EG11103	08-Jul-11	08-Jul-11	EPA TO-15	
Chloromethane	ND	10	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	35	"	"	"	"	"	"	
Vinyl chloride	ND	13	"	"	"	"	"	"	
Bromomethane	ND	79	"	"	"	"	"	"	
Chloroethane	ND	40	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	28	"	"	"	"	"	"	
Acetone	**850**	120	"	"	"	"	"	"	
1,1-Dichloroethene	ND	20	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	39	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	18	"	"	"	"	"	"	
Carbon disulfide	ND	32	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	40	"	"	"	"	"	"	
1,1-Dichloroethane	ND	21	"	"	"	"	"	"	
2-Butanone (MEK)	ND	150	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	20	"	"	"	"	"	"	
Chloroform	ND	25	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	28	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	21	"	"	"	"	"	"	
Benzene	ND	16	"	"	"	"	"	"	
Carbon tetrachloride	ND	32	"	"	"	"	"	"	

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Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
VP-2 (E107012-02) Vapor Sampled: 29-Jun-11 Received: 06-Jul-11									**R-05**
Trichloroethene	ND	27	ug/m3	5	EG11103	08-Jul-11	08-Jul-11	EPA TO-15	
1,2-Dichloropropane	ND	47	"	"	"	"	"	"	
Bromodichloromethane	ND	34	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	23	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	41	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	23	"	"	"	"	"	"	
Toluene	**67**	19	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	28	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	41	"	"	"	"	"	"	
Dibromochloromethane	ND	43	"	"	"	"	"	"	
Tetrachloroethene	ND	34	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	39	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	35	"	"	"	"	"	"	
Chlorobenzene	ND	23	"	"	"	"	"	"	
Ethylbenzene	**23**	22	"	"	"	"	"	"	
m,p-Xylene	**51**	44	"	"	"	"	"	"	
Styrene	ND	22	"	"	"	"	"	"	
o-Xylene	**25**	22	"	"	"	"	"	"	
Bromoform	ND	52	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	35	"	"	"	"	"	"	
4-Ethyltoluene	ND	25	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	25	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	25	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	61	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	61	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	61	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*92.9 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*99.7 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*77-127*	"	"	"	"	

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2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Ambient Basement Air (E107012-03) Vapor Sampled: 29-Jun-11 Received: 06-Jul-11									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EG11103	08-Jul-11	08-Jul-11	EPA TO-15	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.7	"	"	"	"	"	"	
Acetone	**40**	24	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**10**	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	30	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	**4.5**	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	**48**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	**14**	4.4	"	"	"	"	"	"	
m,p-Xylene	**36**	8.8	"	"	"	"	"	"	
Styrene	**4.7**	4.3	"	"	"	"	"	"	

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2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Ambient Basement Air (E107012-03) Vapor Sampled: 29-Jun-11 Received: 06-Jul-11									
o-Xylene	**13**	4.4	ug/m3	1	EG11103	08-Jul-11	08-Jul-11	EPA TO-15	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**13**	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*97.8 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*99.4 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*77-127*	"	"	"	"	

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Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

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12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

APH by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG11103 - TO-15										
Blank (EG11103-BLK1)				Prepared & Analyzed: 08-Jul-11						
TPHv (C5 - C8) aliphatic	ND	100	ug/m3							
TPHv (C9 - C12) aliphatic	ND	100	"							
TPHv (C9 - C10) aromatic	ND	100	"							

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Carlsbad, CA 92010
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Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG11103 - TO-15										
Blank (EG11103-BLK1)				Prepared & Analyzed: 08-Jul-11						
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3							
Chloromethane	ND	2.1	"							
Dichlorotetrafluoroethane (F114)	ND	7.1	"							
Vinyl chloride	ND	2.6	"							
Bromomethane	ND	16	"							
Chloroethane	ND	8.0	"							
Trichlorofluoromethane (F11)	ND	5.7	"							
Acetone	ND	24	"							
1,1-Dichloroethene	ND	4.0	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"							
Methylene chloride (Dichloromethane)	ND	3.5	"							
Carbon disulfide	ND	6.3	"							
trans-1,2-Dichloroethene	ND	8.0	"							
1,1-Dichloroethane	ND	4.1	"							
2-Butanone (MEK)	ND	30	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Chloroform	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.5	"							
1,2-Dichloroethane (EDC)	ND	4.1	"							
Benzene	ND	3.2	"							
Carbon tetrachloride	ND	6.4	"							
Trichloroethene	ND	5.5	"							
1,2-Dichloropropane	ND	9.4	"							
Bromodichloromethane	ND	6.8	"							
cis-1,3-Dichloropropene	ND	4.6	"							
4-Methyl-2-pentanone (MIBK)	ND	8.3	"							
trans-1,3-Dichloropropene	ND	4.6	"							
Toluene	ND	3.8	"							
1,1,2-Trichloroethane	ND	5.5	"							
2-Hexanone (MBK)	ND	8.3	"							
Dibromochloromethane	ND	8.6	"							
Tetrachloroethene	ND	6.9	"							
1,2-Dibromoethane (EDB)	ND	7.8	"							
1,1,1,2-Tetrachloroethane	ND	7.0	"							

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2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

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12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG11103 - TO-15										
Blank (EG11103-BLK1)				Prepared & Analyzed: 08-Jul-11						
Chlorobenzene	ND	4.7	ug/m3							
Ethylbenzene	ND	4.4	"							
m,p-Xylene	ND	8.8	"							
Styrene	ND	4.3	"							
o-Xylene	ND	4.4	"							
Bromoform	ND	10	"							
1,1,2,2-Tetrachloroethane	ND	7.0	"							
4-Ethyltoluene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	12	"							
1,4-Dichlorobenzene	ND	12	"							
1,2-Dichlorobenzene	ND	12	"							
1,2,4-Trichlorobenzene	ND	7.5	"							
Hexachlorobutadiene	ND	11	"							
Surrogate: 1,2-Dichloroethane-d4	*194*		"	*214*		*90.6*	*76-134*			
Surrogate: Toluene-d8	*207*		"	*207*		*100*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*357*		"	*365*		*98.0*	*77-127*			
LCS (EG11103-BS1)				Prepared & Analyzed: 08-Jul-11						
Dichlorodifluoromethane (F12)	89	5.0	ug/m3	101		88.2	65-135			
Vinyl chloride	56	2.6	"	52.0		108	65-135			
Chloroethane	61	8.0	"	53.6		113	65-135			
Trichlorofluoromethane (F11)	99	5.7	"	113		87.1	65-135			
1,1-Dichloroethene	76	4.0	"	80.8		94.6	65-135			
1,1,2-Trichlorotrifluoroethane (F113)	150	7.7	"	155		96.2	65-135			
Methylene chloride (Dichloromethane)	67	3.5	"	70.8		94.1	65-135			
trans-1,2-Dichloroethene	83	8.0	"	80.8		103	65-135			
1,1-Dichloroethane	84	4.1	"	82.4		102	65-135			
cis-1,2-Dichloroethene	78	4.0	"	80.0		97.0	65-135			
Chloroform	94	5.0	"	99.2		94.4	65-135			
1,1,1-Trichloroethane	100	5.5	"	111		91.2	65-135			
1,2-Dichloroethane (EDC)	75	4.1	"	82.4		90.8	65-135			

H&P Mobile Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
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Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG11103 - TO-15										
LCS (EG11103-BS1)				Prepared & Analyzed: 08-Jul-11						
Benzene	67	3.2	ug/m3	64.8		103	65-135			
Carbon tetrachloride	120	6.4	"	128		92.6	65-135			
Trichloroethene	110	5.5	"	110		98.6	65-135			
Toluene	74	3.8	"	76.8		96.0	65-135			
1,1,2-Trichloroethane	110	5.5	"	111		99.6	65-135			
Tetrachloroethene	130	6.9	"	138		92.3	65-135			
1,1,1,2-Tetrachloroethane	150	7.0	"	140		108	65-135			
Ethylbenzene	97	4.4	"	88.4		110	65-135			
m,p-Xylene	200	8.8	"	177		112	65-135			
o-Xylene	100	4.4	"	88.4		117	65-135			
1,1,2,2-Tetrachloroethane	180	7.0	"	140		128	65-135			
Surrogate: 1,2-Dichloroethane-d4	*193*		"	*214*		*90.2*	*76-134*			
Surrogate: Toluene-d8	*206*		"	*207*		*99.5*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*362*		"	*365*		*99.4*	*77-127*			
LCS Dup (EG11103-BSD1)				Prepared & Analyzed: 08-Jul-11						
Dichlorodifluoromethane (F12)	91	5.0	ug/m3	101		90.6	65-135	2.67	35	
Vinyl chloride	55	2.6	"	52.0		106	65-135	1.71	35	
Chloroethane	59	8.0	"	53.6		111	65-135	2.14	35	
Trichlorofluoromethane (F11)	97	5.7	"	113		85.4	65-135	1.98	35	
1,1-Dichloroethene	74	4.0	"	80.8		91.8	65-135	2.99	35	
1,1,2-Trichlorotrifluoroethane (F113)	150	7.7	"	155		95.4	65-135	0.882	35	
Methylene chloride (Dichloromethane)	64	3.5	"	70.8		90.8	65-135	3.50	35	
trans-1,2-Dichloroethene	82	8.0	"	80.8		102	65-135	1.31	35	
1,1-Dichloroethane	84	4.1	"	82.4		102	65-135	0.0488	35	
cis-1,2-Dichloroethene	81	4.0	"	80.0		101	65-135	4.16	35	
Chloroform	94	5.0	"	99.2		94.6	65-135	0.211	35	
1,1,1-Trichloroethane	100	5.5	"	111		90.9	65-135	0.272	35	
1,2-Dichloroethane (EDC)	76	4.1	"	82.4		92.2	65-135	1.53	35	
Benzene	67	3.2	"	64.8		103	65-135	0.340	35	
Carbon tetrachloride	120	6.4	"	128		93.2	65-135	0.643	35	
Trichloroethene	110	5.5	"	110		101	65-135	2.44	35	
Toluene	73	3.8	"	76.8		94.8	65-135	1.20	35	

H&P Mobile Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG11103 - TO-15										
LCS Dup (EG11103-BSD1)				Prepared & Analyzed: 08-Jul-11						
1,1,2-Trichloroethane	110	5.5	ug/m3	111		101	65-135	1.53	35	
Tetrachloroethene	130	6.9	"	138		91.5	65-135	0.865	35	
1,1,1,2-Tetrachloroethane	150	7.0	"	140		109	65-135	0.827	35	
Ethylbenzene	98	4.4	"	88.4		111	65-135	0.630	35	
m,p-Xylene	200	8.8	"	177		112	65-135	0.355	35	
o-Xylene	100	4.4	"	88.4		114	65-135	2.07	35	
1,1,2,2-Tetrachloroethane	180	7.0	"	140		130	65-135	1.12	35	
Surrogate: 1,2-Dichloroethane-d4	*197*		"	*214*		*91.8*	*76-134*			
Surrogate: Toluene-d8	*208*		"	*207*		*100*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*365*		"	*365*		*100*	*77-127*			

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Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Notes and Definitions

R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Terra Associates	Project: MC070611-10	
12525 Willows Rd. #101	Project Number: 6552	Reported:
Kirkland, WA 98034	Project Manager: Mr. Chuck Lie	14-Jul-11 13:35

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the Environmental Laboratory Accreditation Program (CA) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste for the following methods:

Certificate# 2741, 2743, 2579, 2754 & 2740 approved for EPA 8260 and LUFT GC/MS
Certificate# 2742, 2745, & 2741 approved for LUFT
Certificate# 2745 & 2742 approved for EPA 418.1

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the National Environmental Accreditation Conference Standards for the category Environmental Analysis Air and Emissions for the following analytes and methods:

1,2,4-Trichlorobenzene by EPA TO-15 & TO-14A
Hexachlorobutadiene by EPA TO-15 & TO-14A
1,2,4-Trimethylbenzene by EPA TO -14A
1,2-Dichlorobenzene by EPA TO-15 & TO-14A
1,3,5-Trimethylbenzene by EPA TO -14A
1,4-Dichlorobenzene by EPA TO-15 & TO-14A
Benzene by EPA TO-15 & TO-14A
Chlorobenzene by EPA TO-15 & TO-14A
Ethyl benzene by EPA TO-15 & TO-14A
Styrene by EPA TO-15 & TO-14A
Toluene by EPA TO-15 & TO-14A
Total Xylenes by EPA TO-15 & TO-14A
1,1,1-Trichloroethane by EPA TO-15 & TO-14A
1,1,2,2-Tetrachloroethane by EPA TO-15 & TO-14A
1,1,2-Trichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethene by EPA TO-15 & TO-14A
1,2-Dichloroethane by EPA TO-15 & TO-14A
1,2-Dichloropropane by EPA TO-15 & TO-14A
Bromoform by EPA TO-15
Bromomethane by EPA TO-15 & TO-14A
Carbon tetrachloride by EPA TO-15 & TO-14A
Chloroethane by EPA TO-15
Chloroform by EPA TO-15 & TO-14A
Chloromethane by EPA TO-15 & TO-14A
cis-1,2-Dichloroethene by EPA TO-15
cis-1,2-Dichloropropene by EPA TO-15 & TO-14A
Methylene chloride by EPA TO -15 & TO-14A
Tetrachloroethane by EPA TO-15 & TO-14A
trans-1,2-Dichloroethene by EPA TO-15
trans-1,2-Dichloropropene by EPA TO-15 & TO-14A
Trichloroethene by EPA TO-15 & TO-14A
Vinyl chloride by EPA TO -15 & TO-14A
2-Butanone by EPA TO-15
4-Methyl-2-Pentanone by EPA TO-15
Hexane by EPA TO-15
Methyl tert-butyl ether by EPA TO-15
Vinyl acetate by EPA TO-15

This certification applies to samples analyzed in summa canisters.

Chain of Custody Record

H&P Mobile Geochemistry Inc.

☐ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
☐ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date:
H&P Project # MC070611-10
Outside Lab:

Client: Terra Assoc	Collector: NH	Page 1 of 1	
Address: 12525 Willows Rd #101	Client Project # 6552	Project Contact: Chuck Lie	
Kirkland WA 98034	Location: Seattle		
Email: CLie@terra-associates.com	Phone: 425-821-7777	Fax: 425-821-4334	Turn around time: std

Geotracker EDF: Yes ☐ No ☐
Global ID:
Excel EDD: Yes ☐ No ☐

Sample Receipt
Intact: ☑ Yes ☐ No
Seal Intact: ☑ Yes ☐ No ☐ N/A
Cold: ☐ Yes ☐ No ☑ N/A
Temperature: RT

Special Instructions: UPS TRACK # 1Z 43F T61 90 4041 8881
EPA TO-15 VOC full List & APH Aliphatic & Aromatic on each sample plz
*SAMPLE RENAMED PER EMAIL

Lab Work Order # E107012

Analysis columns — SOIL/GW: 8260B Full List; 8260B ☐ BTEX/OXY ☐ TPH gas; 8015M TPH ☐ g ☐ d ☐ ext; 418.1 TRPH. SOIL VAPOR/AIR ANALYSIS: VOC's: Full List ☐ 8260B ☒ TO-15; VOC's: Short List/DTSC ☐ 8260B ☐ TO-15; VOC's: SAM, 8260B ☐ SAM A ☐ SAM B; Naphthalene ☐ 8260B ☐ TO-15; Oxygenates ☐ 8260B ☐ TO-15; TPHv gas ☐ 8260B ☐ TO-15; Ketones ☐ 8260B ☐ TO-15; Other APH Aliphatic & Aromatic; Leak Check Compound ☐ 1,1 DFA ☐ OTHER; Methane; Fixed Gases ☐ CO2 ☐ O2 ☐ N2; CAN #; VAC

Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	VOC's: Full List TO-15	Other APH	CAN #	VAC
VP-3		–	1032	6-29	gas	6 L	1	X	X	150	-2
VP-2			1015	6-29	"	"	1	X	X	048	-2
* ~~TRIP BLANK~~ AMBIENT BASEMENT AIR			956	6-29	"	"	1	X	X	021	-6

Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time
CL/NH	TAI	Via UPS		6/30/11	1100
		[signature]	H+P	7/6/11	0925

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

APPENDIX F

MTCA TPH 11.1 SUMMARIES

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 05/24/11
Site Name: 5221 Ballard Ave
Sample Name: B-103 at 10 feet

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	2.5	0.13%
AL_EC >6-8	2.5	0.13%
AL_EC >8-10	46	2.33%
AL_EC >10-12	1100	55.76%
AL_EC >12-16	240	12.17%
AL_EC >16-21	2.5	0.13%
AL_EC >21-34	46	2.33%
AR_EC >8-10	95	4.82%
AR_EC >10-12	260	13.18%
AR_EC >12-16	52	2.64%
AR_EC >16-21	33	1.67%
AR_EC >21-34	93	4.71%
Benzene	0	0.00%
Toluene	0	0.00%
Ethylbenzene	0	0.00%
Total Xylenes	0	0.00%
Naphthalene	0.019	0.00%
1-Methyl Naphthalene	0.0038	0.00%
2-Methyl Naphthalene	0.0038	0.00%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.035	0.00%
Benzo(b)fluoranthene	0.039	0.00%
Benzo(k)fluoranthene	0.035	0.00%
Benzo(a)pyrene	0.067	0.00%
Chrysene	0.046	0.00%
Dibenz(a,h)anthracene	0.0092	0.00%
Indeno(1,2,3-cd)pyrene	0.038	0.00%
Sum	1972.7958	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:

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 Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	1,000	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 5/24/2011
Site Name: 5221 Ballard Ave
Sample Name: B-103 at 10 feet
Measured Soil TPH Concentration, mg/kg: 1,972.796

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	2,171	8.01E-07	1.97E+00	Fail
	Method C	36,138	1.99E-07	5.46E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	129	2.13E-10	1.50E+00	Fail
	Target TPH GW Conc. @ 1000 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	2,171.22	36,137.90
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	2.17E+03	4.07E-07	1.00E+00	YES	3.61E+04	3.64E-06	1.00E+00
Total Risk=1E-5	*NO*	5.33E+04	1.00E-05	2.46E+01	*NO*	9.91E+04	1.00E-05	2.74E+00
Risk of Benzene= 1E-6	NA	NA	NA	NA				
Risk of cPAHs mixture= 1E-6	*NO*	5.33E+03	1.00E-06	2.46E+00				
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	HI=1
Protective Ground Water Concentration, ug/L	249.93
Protective Soil Concentration, mg/kg	128.73

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	2.50E+02	2.50E-10	1.00E+00	1.29E+02
Total Risk = 1E-5	*NO*	4.27E+02	2.10E-10	1.55E+00	100% NAPL
Total Risk = 1E-6	*NO*	4.27E+02	2.10E-10	1.55E+00	100% NAPL
Risk of cPAHs mixture= 1E-5	*NO*	4.27E+02	2.10E-10	1.55E+00	100% NAPL
Benzene MCL = 5 ug/L	NA	NA	NA	NA	NA
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 69000 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 = 1000 ug/L	4.27E+02	2.10E-10	1.55E+00	100% NAPL

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 05/24/11
Site Name: 5221 Ballard Ave
Sample Name: B-102 at 10 feet

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	2.5	0.05%
AL_EC >6-8	2.5	0.05%
AL_EC >8-10	37	0.77%
AL_EC >10-12	3400	70.36%
AL_EC >12-16	120	2.48%
AL_EC >16-21	2.5	0.05%
AL_EC >21-34	2.5	0.05%
AR_EC >8-10	340	7.04%
AR_EC >10-12	820	16.97%
AR_EC >12-16	100	2.07%
AR_EC >16-21	2.5	0.05%
AR_EC >21-34	2.5	0.05%
Benzene	0	0.00%
Toluene	0	0.00%
Ethylbenzene	0	0.00%
Total Xylenes	0	0.00%
Naphthalene	0.011	0.00%
1-Methyl Naphthalene	0.0039	0.00%
2-Methyl Naphthalene	0.0097	0.00%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.0093	0.00%
Benzo(b)fluoranthene	0.0084	0.00%
Benzo(k)fluoranthene	0.0087	0.00%
Benzo(a)pyrene	0.014	0.00%
Chrysene	0.011	0.00%
Dibenz(a,h)anthracene	0.0039	0.00%
Indeno(1,2,3-cd)pyrene	0.0039	0.00%
Sum	4832.0838	100.00%

Notes for Data Entry | Set Default Hydrogeology
Clear All Soil Concentration Data Entry Cells
Restore All Soil Concentration Data cleared previously

REMARK:

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:	1	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	1,000	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 5/24/2011
Site Name: 5221 Ballard Ave
Sample Name: B-102 at 10 feet
Measured Soil TPH Concentration, mg/kg: 4,832.084

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	2,136	1.69E-07	2.26E+00	Fail
	Method C	40,772	4.20E-08	1.19E-01	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protectior	2	3.68E-10	3.78E+01	Fail
	Target TPH GW Conc. @ 1000 ug/L	9	NA	NA	Fail

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	2,136.42	40,771.51
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	2.14E+03	7.48E-08	1.00E+00	YES	4.08E+04	3.54E-07	1.00E+00
Total Risk=1E-5	*NO*	2.86E+05	1.00E-05	1.34E+02	*NO*	1.15E+06	1.00E-05	2.82E+01
Risk of Benzene= 1E-6	NA	NA	NA	NA				
Risk of cPAHs mixture= 1E-6	*NO*	2.86E+04	1.00E-06	1.34E+01		NA		
EDB	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	HI=1
Protective Ground Water Concentration, ug/L	237.49
Protective Soil Concentration, mg/kg	2.19

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	2.37E+02	7.21E-10	1.00E+00	2.19E+00
Total Risk = 1E-5	*NO*	1.08E+04	3.65E-10	3.82E+01	100% NAPL
Total Risk = 1E-6	*NO*	1.08E+04	3.65E-10	3.82E+01	100% NAPL
Risk of cPAHs mixture= 1E-5	*NO*	1.08E+04	3.65E-10	3.82E+01	100% NAPL
Benzene MCL = 5 ug/L	NA	NA	NA	NA	NA
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 67000 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 = 1000 ug/L	1.00E+03	2.99E-09	4.21E+00	9.24E+00